

MARC MILLER'S
TRAVELLER®





IMPERIUM GAMES, INC.
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Marc Miller's
TRAVELLER 4TH EDITION

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M A R C M I L L E R ' S **TRAVELLER**[®]



Science-Fiction Adventure in the Far Future

Unravel the secrets of man's conquest of the stars on page 7.

Create a heroic character to adventure throughout the known universe on page 15.

Learn how adventurers fight for survival in deep space and hostile planets on page 51.

Create and design new starships for your characters to explore the stars on page 89.

Learn to unlock the powers of the mind on page 123

Discover new alien life forms as one interacts in strange new environments on page 137.

Explore the possibilities of trading with other planets on page 165.

The Future is Around The Corner

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All the fans who keep this product alive in the past, present
and beyond.

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THE HISTORY OF *TRAVELLER*

This volume is the basic rules set for the **Traveller** science-fiction game system. It contains the essential rules and background for a player to understand and participate in **Traveller** games as well as basic materials that enable a **Traveller** referee to administer a variety of adventures. The materials in this volume have a long history in print and in game play:

Classic Traveller

The original **Traveller** science-fiction game rules were published in 1977 as three 5.5 by 8.5 inch books in a distinctive black cover highlighted with a characteristic red stripe. Book 1 detailed the creation of characters and resolution of personal combat. Book 2 dealt with starships (including interstellar travel, starship design and construction, and starship combat). Book 3 included a system for describing worlds and how to adventure on them. This original edition (now called **Classic Traveller**) was envisioned as a generic or universal game system in which any situation or adventure could be played out. Each individual referee was expected to create and administer his or her own adventures. Its innovative rules introduced the concept of skills for characters and detailed random generation tables for characters, animals, and worlds.

The game was an immediate success, filling the then-yet unfilled need for a science-fiction (and more sophisticated) equivalent to the fantasy-oriented *Dungeons & Dragons*. For more than a year, the three black books in a box were the only items in the game system. But player response during that period demanded additional game support in the form of additional rules and an expanded, more specific background. For the rules, Game Designers' Workshop began a tradition of issuing Books numbered in series with the first three: **Mercenary** (Book 4; by Frank Chadwick) appeared in 1978 and detailed military characters and operations. **High Guard** (Book 5) appeared in 1979 and detailed naval characters and space combat. **Scouts** (Book 6) appeared in 1983 and detailed interstellar scout characters, star system and world generation. **Merchant Prince** (Book 7) appeared in 1985 to handle the merchant characters and provide a trade and commerce system. **Robots** (Book 8; by Joe Fugate and Gary Thomas) appeared in 1986 and dealt with robots and their place in the universe.

For a more specific background, Game Designers' Workshop began a concerted effort to publish materials which defined the interstellar society of the future. In more than 60 additional volumes, extensive details of the vast Third Imperium were revealed to followers of the **Traveller** game system. This milieu of the Late Imperium became the foundation of the **Traveller** universe.

At the same time players and referees wanted to publish their own materials, and a series of licensed materials were authorized. Judges Guild, Digest Group, and Seeker produced numbers of materials. FASA, it is interesting to note, began its existence as a **Traveller** licensee.

MegaTraveller

In 1987, the **Traveller** game system was revised to consolidate the materials of the past ten years and, in the process, became a more detailed and somewhat complex game system. To its credit, it introduced a task system capable of resolving a range of situations.

MegaTraveller also paved the way for violent change in the **Traveller** universe by introducing the Rebellion Milieu, which chronicled the assassination of the Emperor who ruled the Third Imperium and the deterioration of the empire into a number of competing states embroiled in rebellion and civil war.

Traveller: The New Era

In 1992, Game Designers' Workshop decided that all of its role-playing game rules systems should be consolidated under a house rules system, which was essentially the rules set for **Twilight: 2000**. A thorough re-write of the game system by Dave Nilsen produced **Traveller: The New Era**, which again advanced the timeline one step into the future—the increasingly chaotic aftermath of the Rebellion called the Virus Era. Although the game won the Origins Award for best role-playing game and has a devoted following, it also added another level of complexity to the system.

Traveller

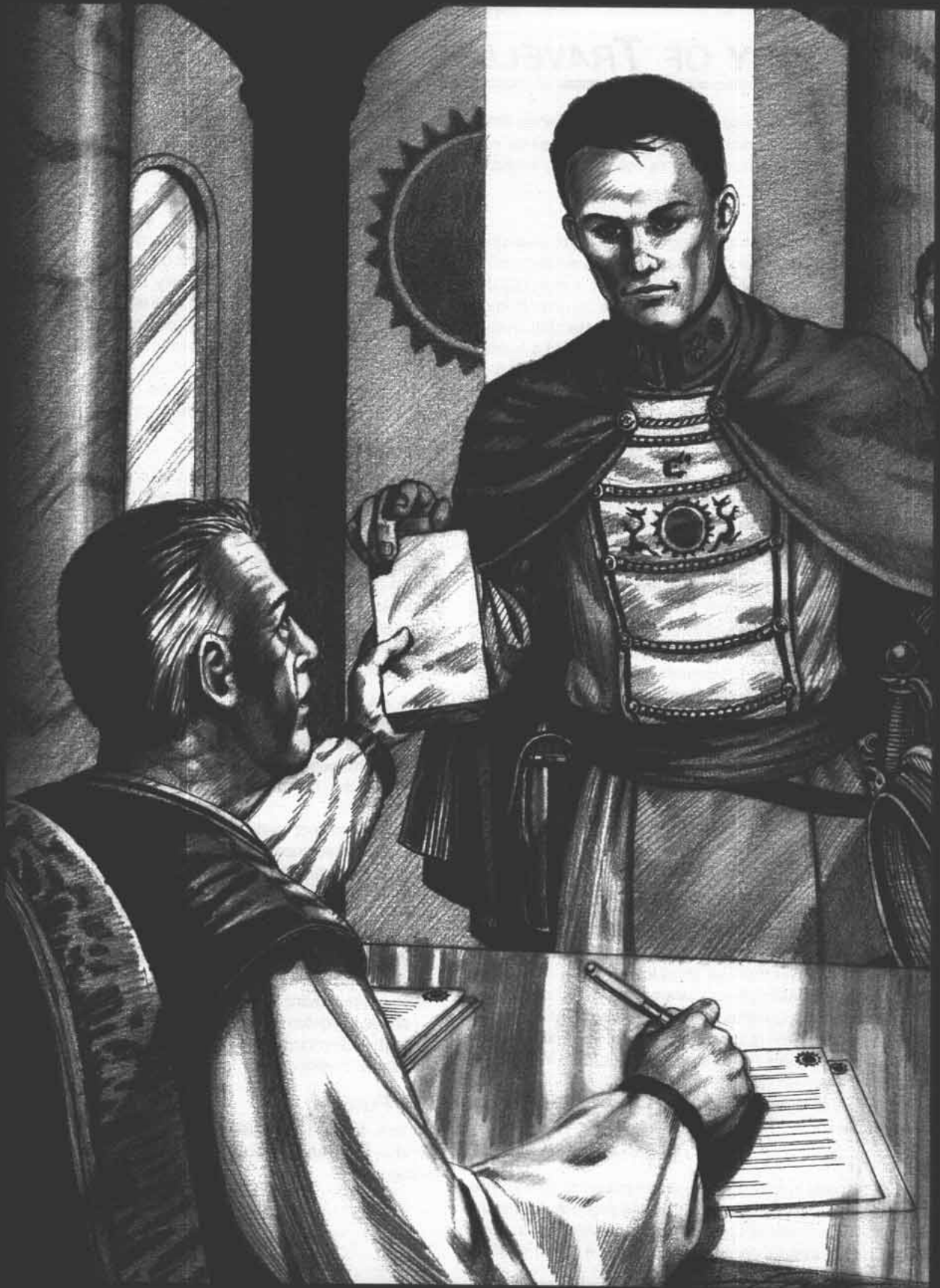
In 1996, after more than 20 years as a major force in the adventure game industry, Game Designers' Workshop fell upon hard times and was forced to close its doors. As an intellectual property, the **Traveller** science-fiction game system (including **Classic Traveller**, **MegaTraveller**, **Traveller: The New Era**, and a variety of unpublished materials) reverted to the original designer, Marc Miller. As a result, the game system was presented with a golden opportunity to restate itself in light of twenty years of role-playing experience. Marc expressed five goals for the new edition (which is this book):

1. A return to the simpler structure of **Classic Traveller** while allowing for multiple levels of complexity depending on the needs and interests of individual players and referees.
2. The production of a game design that encourages and promotes the fun of playing with an enjoyable, exciting background.
3. The opening of multiple eras or milieus to facilitate playing the **Traveller** science-fiction game system throughout the span of history, from 300,000 BC to 5,000 years in the future.
4. Remaining consistent with previous editions in regards to historical events and game system results. Previous history as provided in any edition of **Traveller** stays largely the same in this edition, with certain details clarified or re-stated for consistency.
5. Explicitly stating a standard of quality that promotes wholesome adventure and eliminates sexually-flavored art or content, unacceptable or vulgar language, and gratuitous, unnecessary violence.

The Future

We look forward to exciting times as we expand the **Traveller** game system and chronicle the history of the future. Thanks for joining us.

-Kenneth E. Whitman Jr.



The future of the Imperium rests on the shoulders of capable, trustworthy individuals. Noble houses rise and fall by the actions of their members. While older nobles oversee the affairs of significant worlds, their younger counterparts often serve as couriers of critical information.

THE FOUNDATIONS OF THE *TRAVELLER* UNIVERSE

Traveller is a comprehensive science-fiction future with origins in the distant past. Fundamental to the **Traveller** science-fiction game system are answers to a myriad of questions about life, society, civilization in the universe. Yet everything is part of a cohesive structure that gradually unveils itself to the participants and observers (whether they be readers, viewers, or players)...

Traveller is firmly grounded in technological and social science, each lends realism to the game's background while enhancing its adventure potential. The universe itself encompasses a vast future wherein mankind has already reached the stars and conquered thousands of worlds, but still faces the never-ending struggle to control more worlds and uncover more secrets of the universe.

Technological Science

The technological basis for **Traveller** provides a common ground from which all extrapolations and story ideas can spring:

A Spectrum of Available Technology: Technology is not evenly distributed throughout the universe. Instead, world and cultures are classified by their current technology level, ranging from 0 (equivalent to the Stone Age) to 9 (rudimentary interstellar travel) to 15 (forefront of extremely sophisticated scientific progress) to 20 (which to some is practically magic).

The Jump Drive: The secret of interstellar travel is the jump drive. While in normal space, travel is limited to the speed of light (and it takes years to go from one star to another), jump drive leaps around space: a jump covers one parsec (3.26 light years; the average distance between stars) in about a week. Improved ships can reach speeds of more than 1,000 times the speed of light.

Communication: The universe is so vast that even the mega-speeds of jump drive can't work miracles. No one has yet (or ever) invented a hyper communicator that will send messages faster than light-speed. Communication is limited to the speed of transportation. A message to the edge of the empire needs to be carried there. For an empire 300 parsecs to the border that message takes more than a year to deliver, even under the best of circumstances. News of war, conflict, invasion, disaster, or even peace takes just as long to get back to the center of government.

Consequently, folks governing "out there" have a lot of independence. A war can be over before the news of it reaches the Capital, or for orders to return, so Dukes, Archdukes, and commanders of ships (exploring or warring) have to act on their own. The characters have to think on their own. If they work for a merchant company, opening new markets, they cannot "phone home" every time negotiations break down (which can lead to the company accepting all sorts of wacky contracts and stipulations!)

Gravity Manipulation: The advance of technology has produced practical methods of gravity manipulation. Gravity manipulation expresses itself in three ways: as artificial gravity, as inertial dampers, and as thrusters. **Artificial gravity** is built into the deck plates of starships, rendering a natural environment most like that of a planet surface. **Inertial dampers** eliminate the extremes of inertia which can pull and push people and equipment as it maneuvers. Although such dampers are imperfect, they do create a normal environment on starships, as well as allowing extreme physical movement on small craft during high-G maneuvers. Thrusters are the final aspect of gravity manipulation: they move vehicles forward without the necessity of reaction mass (as required for rockets). **Thrusters** work like rockets, but without the requirements for large amounts of rocket fuel. Thrusters (as an aspect of gravity manipulation) are more effective close to masses than in deep interstellar space (that is to say, they push against existing gravity fields in order to create thrust).

Fusion Power: Cheap fusion power means that the inhabitants of this universe are not tied to gas stations or complex fuel systems. Hydrogen taken from water, ice, even the methane of

gas giants like Jupiter is all that is required to produce abundant electricity. Once a culture rises to the minimum required Tech Level, its civilization usually draws upon electricity produced by efficient, pollution-free fusion power. Starships draw their fuel from the worlds they visit.

Social Science

By emphasizing the effects on the different societies, social science infuses a unique flavor into this universe. Psychology, sociology, anthropology, history, and economics all influence the activities of the people and the worlds around them.

A Cosmopolitan Universe: **Traveller** is a diverse, heterogeneous universe composed of many different groups, concepts, races, communities, and individuals. People (and the term is used to refer to "beings") come in many different forms, all of whom interact in one way or another. So naturally, there is conflict, antagonism, friction, and strife between various factions, but the universe itself allows any with talent to rise to the top.

A Human Dominated Universe: Through a combination of fortuitous accident and strong-willed effort, humanity has reached a position of dominance in the universe. Three distinct groups of humans (the Vilani, the Solomani, and the Zhodani) have each governed empires that span thousands of stars and trillions of citizens. In addition, more than a hundred additional human societies are scattered among the stars, each is, in its own way, a commentary on the strengths and the particular weaknesses of the human condition.

Duty, Honor, and Loyalty: Interstellar society values people (human or not) it can depend on. Those who are loyal and faithfully serve their duty are the ones to shoulder important responsibilities, and a natural nobility arises from those innovative leaders of society who unwaveringly and honorably follow the orders of their superiors.

There Is No "Prime Directive:" Interstellar governments have never felt it their duty to impede development, especially economic development. As a result, no government has ever promulgated the "Prime Directive" (that undeveloped cultures and societies be allowed to develop without interference until they can enter the community of interstellar civilizations). Instead, economic forces have driven the development of those worlds rich in natural or exploitable resources, while retarding the development of infertile worlds.

Everything Is Driven By Economics: Regardless of the pronouncements of political, moral, or cultural leaders, every incident in this universe takes place with the specific intention to gain economic advantage. Economic advantage generally means rewards in a monetary sense, but it can also translate to political or social power. Simply put, the foundation of all actions is economics.

Wheels Within Wheels: The quest for meaning is always fruitful in the **Traveller** universe. Events, ideas, concepts, and beliefs are shaped not only by environments, but also by the

thinkers themselves. As those thinkers (be they readers, players, or viewers) learn and mature, they will have new insights into their beliefs. For example, the uninformed consider the Zhodani, a race with extraordinary mental abilities, an evil empire intent on destroying the Imperium. Only with time is it possible for them to see these Zhodani as humans with families, goals, and desires just like other humans. And only with time is it possible to see that some Zhodani are evil. In the **Traveller** system, "Wheels within Wheels" constantly shows new ideas and new facets of old ideas to the participants.

Adventure!

Above all, this universe is filled with adventure. Individuals can own starships and travel on their own to distant worlds. Individuals can undertake literally world-shattering missions whose results depend on their personal courage and resources. Individuals are the key to discovery, progress, and the turning points in history.

The **Traveller** system addresses adventure through three specific areas:

Casual Players: Anybody can play **Traveller**. The concepts are intuitive: travel, exploration, interaction, negotiation, combat, and all kinds of actions. Individuals can role-play diverse characters or they can play themselves. Casual players can be so casual that they know nothing about the game system at all.

Detailed Role-Players: **Traveller** provides dedicated gamers the opportunity to role-play complex characters with strong motivations and intricate backgrounds. The **Traveller** system can be as informal or as rich as the participants want it to be.

Systems Engineers: The **Traveller** system presents referees the materials necessary to explore **Traveller** universe in detail. Aspects such as starship design, world generation, vehicle descriptions, trade and commerce, animal generation, and encounters, are designed to meet two specific goals: as a prod to the imagination, and for creating custom equipment or information.

Characters

The central focus of **Traveller** is its vast array of characters. While every person in this universe of the future is a potential character to be played by a participant, **Traveller** concentrates on the exciting potential of explorers, powerful negotiators, military leaders, and intelligent academics. Each player assumes the alter ego of one or more characters and it is through these characters that the adventures of **Traveller** unfold.

Money: At the elementary level, characters (and their players) are interested in economic benefits and in the adventures and means that bring them wealth and fascinating devices.

Power: Once a certain level of economic independence is reached and money declines in importance as a personal goal, the individual characters tend to focus on power and the means of achieving power. Power is expressed in many different ways: corporate power, political power, social reputation, private conquest, etc.

Understanding: When a certain level of power has been achieved, the individual characters move on to the next step of personal development: understanding the many aspects of the universe that surrounds them. Again, **Traveller** satisfies this goal with its fertile, varied universe rich in information and the potential for discovery.

Ultimately, the player behind the character reaches the next level of achievement within the **Traveller** universe: he or she becomes a referee devoted to administering the **Traveller** universe for other players.

History of the Universe

The universe as we know it was irrevocably influenced by a meek pastoral intelligent race (called the Droyne) that evolved some 200 parsecs from Earth some 300,000 years ago. The activities of these people continues to be felt throughout time and space.

Grandfather (300,000 BC): One of the Droyne was born a mutation... incredibly intelligent and incredibly talented. In his first few years, he realized the full import of his talents and used them to conquer his world and his people (not that they really resisted). This super-genius Droyne (dubbed *Grandfather* by modern anthropologists) then turned his attention to space, inventing spaceships and then starships with jump drive. He and his people ventured out into the universe. He also raised a family of super-genius children (nearly as smart as he), who scattered to settle hundreds of worlds and each engaged in one form of scientific research or another. *Grandfather* numbered in his inventions immortality (for himself only, it seems, although he shared a less potent version of it with his children), energy sources, world shattering weapons, mind-boggling transportation systems, and pocket universes. Much of what he conceived is still unattainable to modern man.

At some point, he and his children had a dispute that escalated into a full-blown galactic war. It completely destroyed the Ancients and their thousands of cities on hundreds of worlds. The modern universe can see the fossil remnants of this feud on worlds and Ancient sites that still bear the scars of this devastating super-high-tech war.

But there is another, less obvious, reminder of the Ancients. At some time in their travels, the Ancients visited Earth and carried away several thousand near-intelligent cavemen. *Grandfather's* children must have found them useful in some way because they took them to hundreds of worlds. At the end of the Ancient War, the Ancients were dead, but humanity lived on. Each of those planets became a new world conquered by humans, creating a unique yet human culture.

The Vilani Era (4700 BC to 2300 AD): The first of these many human races to reach the stars was the Vilani. About 5,000 BC, they began to establish a star-spanning empire through their monopoly on the jump drive. Only they had the secret of faster-than-light travel, and they used it to control trade and dominate both human and non-human cultures for dozens of light-years around. Eventually, the *Ziru Sirka* (as the Vilani Empire was called) became a rigid, brittle culture dedicated to maintaining the status quo. Laws, politics, social pressure all emphasized conformity and resistance to change. Innovation and technological change were prohibited. Their four-thousand year empire was drawing to an end.

The Terran Confederation (2100 to 2300 AD): Around 2100, humans on earth invented their own jump drive and reached the stars, only to find them already taken. Fortunately for tiny Earth, the Vilani Empire ignored the Terran upstarts long enough for them to gain a foothold among the stars. Over the course of 200 years, the Vilani and the Terrans fought a dozen interstellar wars, each one seemingly inconclusive, but edging the Vilani Empire closer to collapse. In 2299, the Vilani were defeated so soundly that they surrendered unconditionally.

The Rule of Man (2300 to 2750 AD): Terra, with perhaps a hundred worlds in its confederation, now faced the immense task of ruling, as a conquered territory, the now collapsed *Ziru Sirka*, with 11,000 worlds. Terra created the Rule of Man—the Second Imperium, to govern these conquered worlds, often assigning mere lieutenants as governors of worlds, and naval captains to rule subsectors of 30-40 worlds. It was a losing battle. Nothing, not technological innovation, not social change, not new blood, not threat of outside invasion, was sufficient to raise the former

Vilani worlds from their cultural lethargy. Slowly, over the course of 400 years, the worlds of the Rule of Man drifted into a dark age.

The Long Night (2750 AD to 4550 AD): When interstellar trade shut down, the Rule of Man ceased as an interstellar government. Each world found itself on its own, living or dying on its own resources. Outpost worlds dependent on food or supplies shipped in from agricultural worlds simply died. Scattered starship trade kept other worlds alive, but after a few centuries, even the starships stopped running. Each world found itself alone in a sea of space, completely dependent on its own resources. This Long Night lasted for more than 1700 years.

The Third Imperium (4521 to 5637 AD): One world tenuously held on to its technology, its resources, and its knowledge to remain a beacon of hope throughout the Long Night. Ultimately, it began its own conquest of the worlds belonging to the former empire under the Starburst Banner of the Third Imperium. From a base of a dozen worlds, the Third Imperium began a systematic effort to recontact the 11,000 worlds of the old Ziru Sirka and bring them under one rule. Some accepted immediately; others resisted, but none could resist the combined military might and economic incentives that the Imperium could offer. Over the next 500 years, the empire reached out to absorb tens of thousands of worlds.

The Aslan Border Wars (3400 to 4900 AD): The conflict of the Aslan against the Imperium along their common border.

The Vargr Campaigns (4700 to 4900 AD): The conflict between the Vargr and the Imperium along their common border.

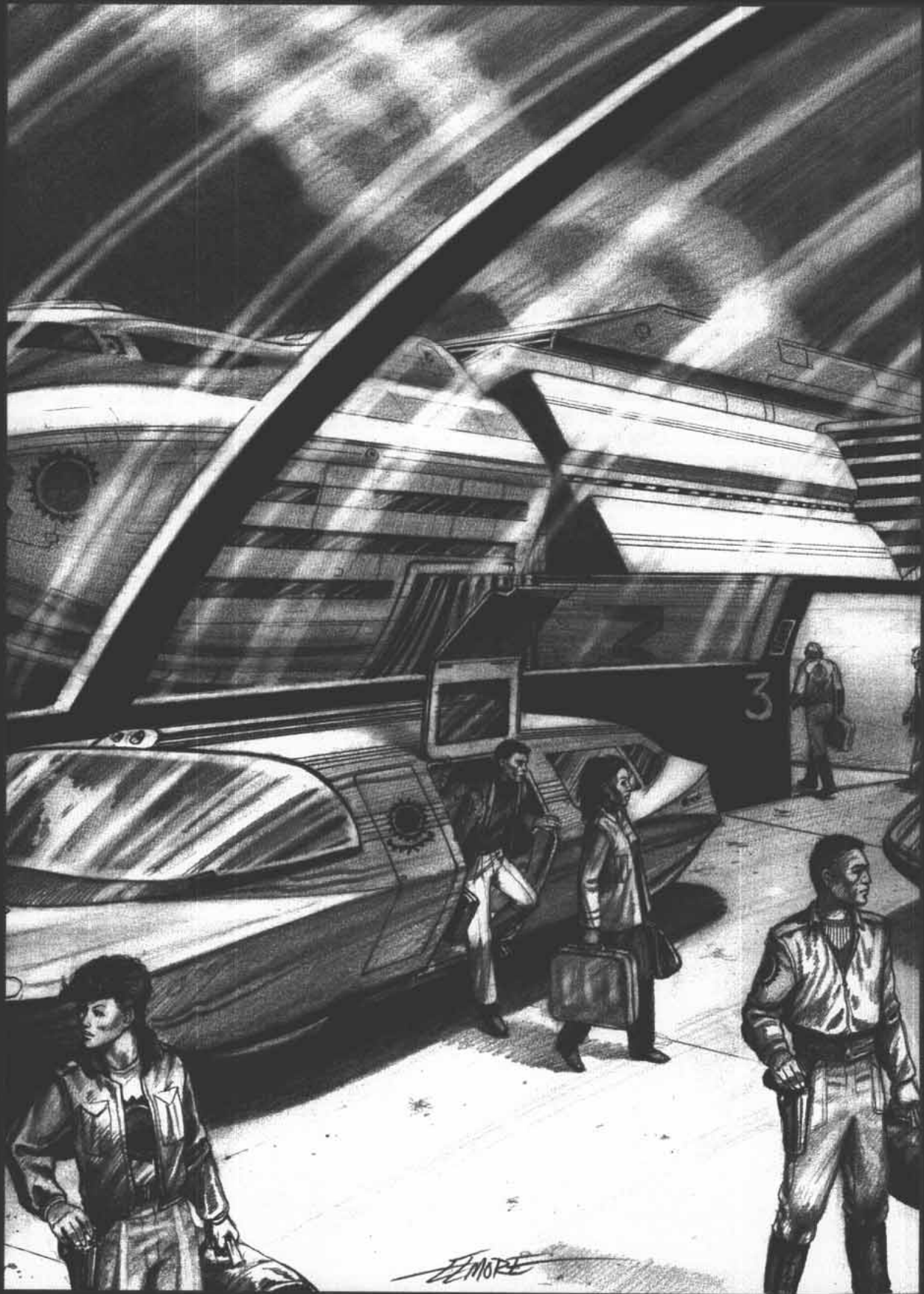
The Barracks Emperors (5100 to 5140 AD): The defining power struggle of the military hierarchy and the ruling noble families of the Imperium as competing factions fight to be the ones that rule the interstellar empire.

The Solomani Expansion (5121 AD to 6500 AD): The struggle of the Solomani worlds (both within and outside the Imperium) as they endeavor to establish a community of worlds.

The Rebellion (5367 AD): The Imperium, now more than a thousand years old, is split asunder as competing factions fight to create the next Emperor, or to chart their own path outside the established Imperium.

There's More!

There is so much more to the **Traveller** universe than can be touched on here: The Zhodani expeditions to the core of the galaxy, the PsionicSuppressions, the Julian War, the Ilish Revolt, the First Survey, the Solomani Rim Wars, the Hiver Interventions, the Virus Era, the Regency, the Far Far Future, the Expeditions to the Rim, the Heat Death of the Universe... Each of these milieus (or eras) is a new opportunity for exciting adventures and insight into the human condition as characters explore the comprehensive science-fiction universe that is **Traveller**.



Many young nobles cultivate friends from the ranks of artists and entertainers. Travelling from star system to star system in the company of a singer and her band, for example, provides excellent cover for a covert diplomatic mission.

The *Traveller* game portrays a distant future, in which humanity has reached the stars. It presents an opportunity to explore an entire universe of adventure, where any situation from science-fiction novels, movies, and short stories—or any idea you may have—can be depicted and played. Anything and everything can happen in *Traveller*!

But the *Traveller* universe also spawns its own adventures: it has a unique history all its own. In the many thousands of years since humanity first reached the stars, vast civilizations have risen and fallen, and strange alien races have been discovered. In places, humans and aliens together still maintain leagues of worlds, with interstellar travel as their one means of trade and communication. In others, planetary civilizations have lost the technology for interstellar flight. Some have regressed completely to Stone Age technology. Others have died out entirely, leaving only ruins as a clue to their origins.

One Possible Milieu. The primary interstellar civilization in the galaxy is now the Imperium. It is a young civilization, built upon the ashes of far older ones. Launched by Emperor Cleon, the Imperium is setting out to revive the galaxy from the "Long Night," a period of collapse that has lasted more than a thousand years! Established as an economic powerhouse, the Imperium encourages individual adventurers to explore beyond its borders, to make contact with both new worlds and forgotten ones, to sell them goods and bring back information, to extend the rule of the Imperium across all the galaxy.

Given the vast distances between stars, however, interstellar voyages can take weeks or months (sometimes even years). Still, this is much faster than the speed of radio communications from star to star. Maintaining an interstellar civilization, then, depends upon communications being carried by ship from world to world. It also depends upon having trustworthy people to govern each individual planet according to the wishes of the capital world, Sylea.

As on Earth in the eighteenth century, then, communication is limited to the speed of travel, and the stage is set for high adventure. While nobles plot and scheme in a grand dance of intricate politics and diplomacy, merchants and pirates sail the depths of space, and individual heroes decide the fate of entire worlds, scribing their names in bold letters across the pages of history! In the *Traveller* game, you can play the part of such a hero, visiting strange worlds, meeting alien civilizations, facing dangerous situations, and living a life of exciting adventure!

What is a Role-Playing Game?

Most types of games have a limited scope. Designed to be played in one setting, they have a limited focus, with limited rules, and specific conditions for winning or losing.

The *Traveller* system is different. It is a *role-playing game*. Role-playing games are like a cross between a regular game and a novel or drama.

The Players

Like a novel author or an actor in a drama, each player in a role-playing game creates a persona, or character, to portray in the game. (See Chapter 2 to find out how to make character.) With this character in mind, the player responds to the adventure situation as it unfolds, deciding what that character would say and do in the situation. The player may describe the character's actions, as a novelist would, or actually portray them, as an actor would. In either case, the player's enjoyment comes from identifying with the character and vicariously experiencing the situation with that character, just as the reader of a novel and the viewer of a movie identify with the characters in that story. But role-players have an added advantage in that they are closer to the action, because they aren't just passive observers. They don't just watch the character; they choose the character's actions.

The Rules

As in a regular game, there are rules by which to conduct the action. But in a role-playing game, these rules are more of a foundation from which to launch the action than a structure to fence it in. Role-playing rules tell players how their characters can attempt their actions, but they do not limit what actions a character may attempt.

In a board game, the rules may limit a player to moving a piece around the board and buying property. There are no other rules, because these two actions are the way the game is won.

But in a role-playing game, there are no specific rules for "winning" or "losing." The point of the game is to watch your character grow and develop through his adventures. There is no specific end to these adventures, so there can be no specific rules for winning. Even if a character dies in the course of the game, he will be remembered fondly, and a new character can be generated to continue play. Winning in a role-playing game is simply having fun.

And the number of different actions that can be attempted is effectively infinite. The only limit is the imagination of the players. The game rules define the most common situations and actions, but others may be extrapolated from these rules.

The Referee

Management of the game is performed by a special player known as the *referee*. While the other players each concentrate upon portraying their specific character, the referee portrays all of the places they go and creatures they meet. Like the director of a movie, the referee judges what can and cannot be accomplished in a particular scene. Like the umpire of a sports event, he decides how the game rules apply to the particular situation, and makes rulings based on the spirit of those rules when the action strays outside those boundaries. And like the host of a party, he makes sure that all of the players are involved in the fun and have a good time. Being a role-playing referee is not an easy thing to do. Portions of this book give instructions and advice to prospective *Traveller* referees, and many other areas of the book provide special tips concerning specific situations.

The Point of It All

A role-playing game provides players with the opportunity to gather together, have some fun, exercise their imaginations, vicariously experience exciting situations, and gain a sense of accomplishment as their characters grow through their continuing adventures and bond together. If everyone has a good time, and learns a bit more about his fellow players, then everybody wins!

Adventures, Sessions, and Campaigns

Role-playing adventures can usually be thought of as stories. The referee invents a basic situation and plots its likely course of events. Then he describes the initial scene to the players, and their characters respond, becoming involved in the story. Because the referee cannot always predict just what actions those characters will take, nor how successful they might be, he will not know with certainty exactly how the story will proceed from there. As a consequence, he adapts the story as the characters proceed, changing his planned events according to their accomplishments. In effect, just as the players respond as individual characters to the situation the referee presents, the situation responds to their actions, and the referee depicts that response. When the situation is resolved, that story reaches its end, and that adventure is over.

Each time the referee and players assemble to role-play, that is a session. A single adventure may last for one session or many sessions, depending upon its complexity and how quickly the player characters resolve the situation.

Just because an adventure is completed, that doesn't mean that the game is over. Far from it! Like a hero depicted in a whole series of movies or novels, player characters finish one adventure only to begin a new one. Play continues from adventure to adventure in this way, forming an on-going *campaign*, for as long as the group wants to continue.

What's in this Book

This book contains all rules needed to play **Traveller**, plus enough introductory background material and scenarios to permit even beginners to start playing as soon as possible. Other books in the **Traveller** line expand upon various segments of the universe, treating certain topics in more detail. But this book contains all the rules you will need to play. Everything else is supplementary.

The Character Generation System

Unlike most other role-playing games, **Traveller** does not simply dump inexperienced 18-year-olds into the world and let them fend for themselves. In **Traveller** it is possible for a character to gain experience for up to 28 years in one of ten careers prior to beginning active adventuring. In practical terms, this means a band of adventurers need not consist entirely of striplings. Some characters may be inexperienced, but there will also be others from all levels of experience, and from all walks of life.

This character generation system also provides each player with a sense of his character's past, rather than just a series of numbers on a sheet of paper. A character picks up skills (like computer programming or navigation) during character generation, more expertise being accumulated the longer the time served. But there are a number of trade-offs to be made. The older characters are, the more skills they will begin the game with, but the more they suffer from the effects of aging, losing points off their physical attributes in battle against Father Time.

The Task System

Actions in the game involve both innate ability and training. The **Traveller** Task system incorporates both attributes and skills into attempts to accomplish these actions. The actions themselves can range in difficulty from things a trained character accomplishes automatically (such as driving a ground car) to nearly impossible feats (like breaking into a protected Imperial computer system).

The Combat System

Naturally, not everyone (or everything) the player characters meet will be friendly, and it will occasionally be necessary for them to resort to violence. The **Traveller** combat rules allow for fights ranging from simple bare-knuckles fisticuffs to engagements between starfleets, and everything in between. The rules are designed with an eye toward high action, but still in keeping with reality. The basics of the system are simple and straightforward, with optional sections allowing for more player character heroics.

Equipment and Vehicles

Because the **Traveller** universe involves worlds ranging in technology from Stone Age to Jump Drive, the items with which player characters may come in contact range from simple clubs to interstellar vessels. The equipment and vehicles chapters provide a broad, sufficient range of items for any adventure setting.

Starship construction rules are also provided, so that referees and players can design and build their own spacecraft, ranging in size from one-passenger fighter craft to giant starships, both military and civilian. The design and construction sequence is a game in itself. (The struggle to fit every component desirable into the smallest possible hull seems never-ending.)

Psionics

A common theme of science-fiction adventure is the use of psionic abilities by humans or aliens. For players who feel that no game is complete without a sixth (or seventh) sense, a full chapter detailing psionics is included. Clairvoyance, telekinesis, telepathy, and other abilities are defined, regulated, and smoothly integrated into the game rules.

The Referee Section

Several chapters of the book are devoted to preparing the referee to design and run **Traveller** adventures. Besides providing instructions about the moment-to-moment task of refereeing, this book also includes a detailed economic system for carrying on trade from world to world, as well as full chapters on world design and encounters—human, animal, and alien.

Economics: A detailed but simple system allows the intricacies of interplanetary and interstellar trade to be represented, without dominating the referee's attention. Trade and commerce can be accomplished with a few rolls of the dice, and the system is simple enough to allow players to handle most of it if the referee desires. Players can attempt to establish mighty trading corporations, spanning many star systems, or simply ply the space-lanes with a single decrepit free trader, desperately trying to keep one step ahead of their creditors while dreaming of that deal to end all deals.

Encounters: The referee is provided with ample details of generating encounters, and several sample alien races are provided. The rules for animal encounters are especially noteworthy. The various animal lifeforms which players are likely to encounter on their voyages are described not in terms of terran analog (lionoid, bear-like, pseudewolf, etc) but in terms of their size, behavior, and the ecological niche which they fill on their particular world. Physical descriptions are also possible, but this ecological system is a universal approach that deals with relatively constant essentials of animal life. Referees will note that the resultant creatures seem truly alien.

Flexibility

The basic rules of **Traveller** contained in this book are flexible enough to recreate nearly any science-fiction theme. The basic rules deal only with the major aspects of the way the universe

works, allowing the referee to fashion details to suit individual preferences. The technological levels of the various cultures players will contact in the course of play can be set at any level desired from the primal past through present day Earth to the barely conceivable wonders of the distant future.

Referees can adjust the complexities of their universes to their own and their players' abilities, gradually moving upward in complexity as more expertise with the various systems is gained. Playing **Traveller** can be a challenge to all ages, all intellects, and all levels of role-playing experience.

Required Materials

This book contains all the rules necessary to begin playing **Traveller**. The rules provide for many types of solitaire and unsupervised play (starship design, trade and commerce, and combat encounters, for instance), but the highest form of the game, the one that is most fun, requires that someone act as referee. Traditionally, this person is the one most familiar with the rules.

Traveller is a conversational game, and as such has no board or playing surface, but it does require certain materials in order to play.

- The **Traveller** main book (This book in your hands.)
- A number of six-sided dice
- Writing instruments (Pencils, pens and etc.)
- Paper

Scattered throughout several chapters are various prepared forms. One is used to record the specifics of a character, for instance, Another records data about a starship. The forms provided are intended for use by the referee and the players as they generate information during the game. They have been printed on the page for maximum ease of photocopying. Once two copies have been made, they can be positioned side by side on the photocopier and multiple copies can be run off.

The most important requirement, however, is imagination. With imagination, **Traveller** can be a vehicle to carry you beyond the limits of the universe.

Definitions of Terms

The **Traveller** game uses certain words and abbreviations in a unique manner, and in order to be able to properly understand the rules, players and referees should acquire some familiarity with these terms.

Character: In the **Traveller** game, a character is a fictional role. Player characters (PCs) are portrayed by the players; non-player characters (NPCs) are portrayed by the referee.

Die or Dice: The **Traveller** game uses standard six-sided dice as random number generators to resolve uncertain events. Dice rolls may be called for to determine a result from a table, to resolve the use of some skill, to generate a number of wounds, and so forth. Sometimes players may be instructed to roll one die (abbreviated 1D); at others they may roll two or more (2D, 3D, etc.). On occasion, they may be instructed to roll a "half" die, usually in combination with one or more normal dice (1.5D, 2.5D, etc.). A half die is represented by rolling a normal die of a different color than the others, and dividing the result in half, rounding up. In other words, a roll of 1 or 2 is treated as a result of 1, a roll

of 3 or 4 is treated as a result of 2, and a roll of 5 or 6 is treated as a result of 3.

When dice are rolled, the results are added together for a total. A 2D roll, for instance, might result in a 3 on one die and a 5 on the other, for a total of 8.

DM (Difficulty Modifier or Dice Modifier or Die Modifier): Game rules often call for die rolls for the resolution of situations, and often call for modifications to those die rolls. The abbreviation DM refers to any of the following: Difficulty Modifier, Die Modifier, or Dice Modifier, as determined by the situation.

It is an easy matter to recognize which is which in any situation:

- Whenever a dice roll is made against a specific *target number* (see Chapter 4: Task Resolution), DM means Difficulty Modifier, and it adjusts the target number. (For example, a target number of 7, with a DM +3, would become a target number of 10.)

- Whenever a die or dice roll is made *without* a specific target number (rolling for results on a table, for instance), DM means Dice Modifier, and it adjusts the rolled result. (For example, a 2D roll result of 4, with a DM -1, would become a result of 3.)

In general, positive DMs (DM +1, DM +2, etc.) are beneficial and negative DMs (DM -1, DM -2, etc.) are detrimental.

Encounter: The meeting of player characters with one or more persons, things, or events. Encounters may or may not result in significant interaction with player characters. An encounter with a clerk in a store is not likely to be of great importance, and it may not even be mentioned to the players. On the other hand, an encounter with a band of cut-throats late at night, or a pack of wild animals, could permanently affect the characters, and is dealt with in detail. A large part of a referee's job is the administration of encounters.

Patron: A non-player character used by the referee to create an encounter for player characters. Patrons are usually used to motivate players to move in a particular direction, or to provide income or diversion for player characters.

Player: A person participating in the game through the role of one particular character.

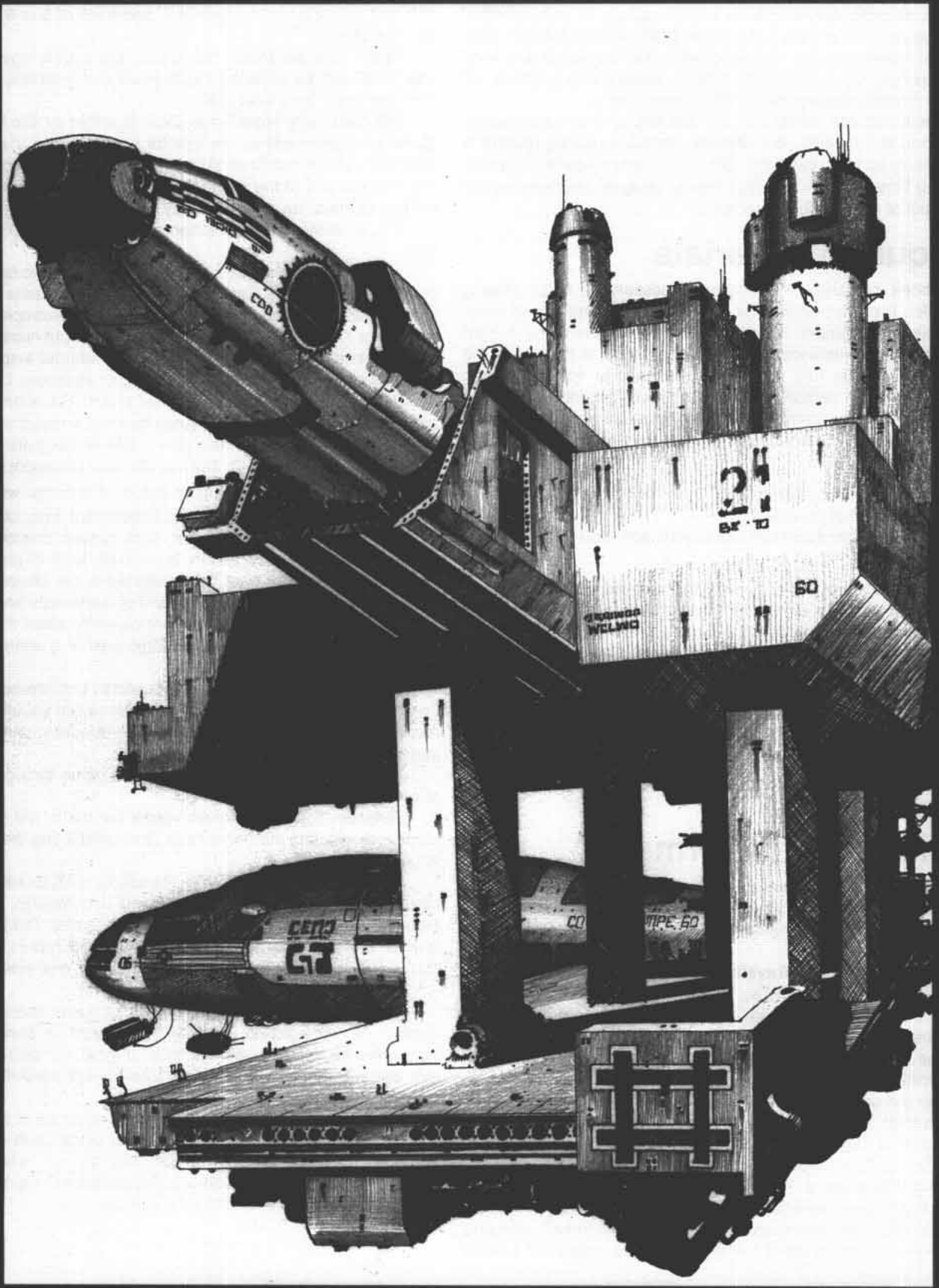
Referee: The individual who plays the role of the game universe, adjudicating the game rules, and conducting the action of each game session.

Skill: An ability to perform a set action, such as navigating a starship, firing a rifle, or programming a computer. Skills are attained in levels (Navigation-1, Computer-2, etc). The higher the level of a skill, the more expertise a character has in that area. Many different individual skills are available to characters.

Throw: Another term for a die or dice roll.

Universe: The totality of existence for player characters, the mythos, the background created by a referee. In **Traveller**, the term universe refers to game "reality" in which the player characters interact with various characters and forces controlled by the referee.

World: Any inhabited body. A world could be a planet like Earth, a satellite of a planet, an airless planet with domed or underground cities, a hollowed-out planetoid, an artificial construct such as a space station or L-5 type colony, or a more complex artifact such as a rosette (see Chapter 12).



With the Imperial thrust to reclaim the worlds of the galaxy, the starport of Sylea—the Imperial homeland—sees constant traffic, at both its surface and orbital facilities. Starships dock just long enough to off-load their cargoes and take on new goods before leaving to jump to new destinations.

Characters are the central focus of the **Traveller** game. All activity centers on them. They are the players' alter egos and, in the case of non-player characters, the referee's minions. Each character is a person within the game universe, and has characteristics and skills that affect his or her actions and reactions.

A player character (abbreviated PC) is a persona portrayed by a player. A non-player character (NPC) is a persona portrayed by the referee to provide interaction between the PCs and the game universe.

Once a PC is generated, that character continues to live an exciting life of adventure in the **Traveller** universe. This life ends only with death, disability, or retirement. NPCs appear, disappear, and reappear as the referee needs them.

Player characters are assumed to be humans of the far future. (Aliens will be covered in other books in the **Traveller** game system.) PCs may be of any gender or race.

Characteristics: Characters are essentially described by six primary characteristics indicating their physical, mental, and social abilities. These characteristics are Strength (Str), Dexterity (Dex), Endurance (End), Intelligence (Int), Education (Edu), and Social Standing (Soc). Each characteristic initially ranges from 2 to 12 (7 being average), which is the result of the throw of two six-sided dice.

Skills: Characters have skills to indicate their level of competence in various activities. Skill level is used in the resolution of tasks as the character adventures. The list of all possible skills is provided on page 38 of Chapter 3.

Careers: Ten basic careers are available to player characters. They include military pursuits (Army, Navy, and Marines), exploration (Scouts), business activities (Merchants), academics (Scholars), and several others (Entertainers, Agents, Nobles, and Rogues).

Character Generation: In order to determine the life experience of a character prior to the time he begins adventuring, a detailed character generation process is used. This process determines what the individual has done in life prior to beginning adventuring, and it establishes a store of skills and abilities for the individual. All characters begin the character generation process inexperienced, untrained, and roughly 18 years of age. The initial characteristics are determined, a career path is selected, and various details of that career are resolved. Character generation ends when the character is ready for play in an adventure.

Step 1: Initial Character Generation

The six primary characteristics of each character can be generated in one of three ways:

- **In Order.** Roll two dice for each characteristic in order. The first roll becomes the character's Strength rating, the second his Dexterity, and so on. This method is the fastest of the three systems. It is especially good for beginning players who are unsure of what type of character to play. It also serves well for extremely experienced players who want the challenge of playing a character different from their usual choice.)
- **Best Order.** Roll two dice six times, assigning each roll to the characteristic you desire. If you wish to play a very intelligent character and roll a 7, 8, 7, 10, 12, and 5, you would want to assign the 12 to Intelligence and the 10 to Education, before assigning the other rolls to the remaining characteristics. This method is relatively fast while allowing the player to channel the character in a desired direction.
- **Best Rolls.** Roll one die twelve times, then pair the rolls up to create six scores and assign them to the characteristics in any order you desire. Let's say you want a character who is quick and strong, but has little schooling and a very low social class, and you roll a 6, 6, 5, 5, 5, 4, 4, 1, 1, 1, 1, and 1. You could pair two of the 1s for an Education of 2, another two 1s for a Social

Standing of 2, a 5 and a 6 for an Dexterity of 11, and another 5 and 6 for a Strength of 11, leaving a 5, two 4s, and a 1 to be divided among the remaining characteristics. This is the slowest method, but it allows the most freedom in creating a character.

Whatever system you choose, once primary characteristics have been generated, record them on the character sheet.

While the values for all primary characteristics range initially from 2 to 12, various modifications may occur during later stages of the generation process. As a result, final characteristic values may range from 1 to 15. For PCs, the values of these characteristics may never exceed 15, nor can they drop below 1 except from injury or aging.

Don't be dismayed if one or more starting characteristics seems hopelessly low. Further steps of character generation can enhance a character's abilities. Keep in mind as well that, as in any other type of fiction, the most entertaining characters are those with a mix of strengths and weaknesses.

The Universal Personality Profile: The Universal Personality Profile (UPP) is a way to quickly and easily show the essential characteristics of a character. The UPP lists the primary characteristics in a specific sequence, using hexadecimal (base 16) numbers to avoid any confusion of two-digit numbers. In hexadecimal notation, the numbers 0 through 9 are represented by the common Arabic numerals, but the numbers 10 through 15 are denoted by the letters A through F. The highest single-digit number in base 16 notation is 15 (F). In the UPP, primary characteristics are listed as a string of six digits, in the order originally generated: Strength, Dexterity, Endurance, Intelligence, Education, and Social Standing.

For example, a character who is totally average in all respects would have a UPP of 777777. If, instead, the individual were highly intelligent, his UPP might be 777B77 (the B in the fourth position indicates an Intelligence of 11).

The UPP allows the referee and players to tell at a glance the characteristics of persons in the game. Because the hexadecimal notation uses single digits or letters for each of the six characteristics, numbers that are normally two digits cannot be confused.

PRIMARY CHARACTERISTICS

Strength	measures a character's physical power.
Dexterity	includes both overall body and hand coordination.
Endurance	indicates personal determination and physical stamina.
Intelligence	represents natural mental ability.
Education	measures amount of schooling.
Social Standing	notes social class and level of society from which the character comes.

Naming: Every character needs a name, and there are several schools of thought on choosing a name for a character.

One holds that the character should carry the player's name, so that the referee can then refer to John or Marsha, and everyone knows exactly who's who. While convenient, this method doesn't always mesh well with the flavor of the campaign.

A second school of thought calls for the use of fanciful names or pseudonyms such as Alexander Lascelles Jamison, or Timothy Fairweather, to extremes like Seeker or Starkiller.

Some people choose a name before generating anything else about the character, then create a character to match. Others wait until basic characteristics have been determined. Still others choose a name last, after all other steps of character creation have been completed.

Whatever the manner in which you choose, make sure that it fits well with the rest of your gaming group and is fun for everyone.

Titles: The Social Standing characteristic shows a character's relative position within society. Characters with a Social Standing of B+ (11 or greater) are considered to be of noble birth, and may bear their family's hereditary title. For example, a knight (Social Standing B) is entitled to use sir (or dame) before his (or her) name. Social Standing C grants the individual the title of baron or baroness. In lieu of this title, characters may use the prefix *von* or *haut* or *hault* (denoting baronial nobility) with their surname.

Noble titles are commonly used in day-to-day interactions, even if the individual is not involved in local government. At the discretion of the referee, the character may have some ancestral lands or fiefs on his homeworld.

The Noble Ranks Table shows the range of noble titles by corresponding social levels.

Age: Many people find it difficult to identify with a character whose age varies by decades from their own. For this reason, most players prefer to generate a character within a particular age range. Before proceeding with the next steps of character generation, then, choose a target age for your character, something you will feel comfortable playing. After training, the character's actual age may vary slightly from this, but it gives a mark to aim for.

As an alternative, you may choose to follow the character generation system without deciding upon a target age beforehand. You can let the Pursuing a Career stage (Step 4) determine his age at the start of play. To do this, simply follow the normal stages of character generation, but allow the character only one career. Once an injury or continuance roll is failed in that career, the character ends the career at that age and begins adventuring.

Other Characteristics And Skills

In the course of character generation, characters acquire rank, money, skills, and possessions, all of which are recorded on the character's sheet. As a result of career training, some primary characteristics may be raised, and aging may cause some primary characteristics to decrease. The mechanics for these various gains and losses are described later in this chapter, where appropriate.

Acquiring Skills: Characters gain skills as they progress through the character generation process. Some are a result of a character's background. Others are acquired during advanced education and career training.

The first time a skill is acquired, simply list it on the character sheet. A skill can be obtained more than once; list a "1" beside a skill the first time it is acquired, a "2" the second time, and so on. (Examples: Computer-1, Vac Suit-2.)

NOBLE RANKS

<i>Social Standing</i>	<i>Rank</i>
B	Knight (Sir, Dame)
C	Baron/Baroness (von, haut, hault)
D	Count/Countess
E	Marquis/Marquese
F	Duke/Duchess
G	Archduke/Archduchess
H	Emperor/Empress

Some skills appear in bold on the various tables in this chapter, indicating that they are headings for a group of skills. The player may choose for his character any single skill from that group. The individual skills within each group are listed on the full skill list on page 38.

Step 2: Homeworld And Background Skills

Place of origin has a profound effect on a person's abilities, attitudes, and opportunities. Knowing the homeworld for a character makes developing the character's background and motivation both quicker and easier. Therefore, it is important to determine the type of world where each PC grew up.

The player must determine the details of the character's homeworld. It may be selected by the player, assigned or created by the referee, generated randomly using the Homeworld Generation Table, or the character may come from Sylea, a standard star-faring world that is also the capital of the Third Imperium in the **Traveller** universe.

Even a teenager has substantial life experience. To represent that knowledge, roll for (or choose) four skills from the Background Skills Table, and note them on the character sheet.

Common Skills: Certain skills are learned as a matter of course by characters from a particular type of homeworld. The average person growing up in an asteroid community, for instance, knows how to use a vacuum suit. To take this into account, consult the Common Skills Table to determine those skills automatically received based on the character's homeworld. The character gains each skill for which he qualifies. For example, a PC from a homeworld of tech level 5 would gain both Ground Craft and Computer skills.

Step 3: Advanced Education

On many worlds, it is common for a person to obtain an advanced education before entering a career. After all, the technological wonders of a star-faring culture can be maintained only by well-trained individuals. A broad education also prepares a person for dealing with the wide range of cultures that make up the many worlds of the Imperium, and of its neighboring realms.

Prior to launching a career, then, a **Traveller** character may attempt to pursue advanced schooling, whether that be college, a military academy, or some more specialized learning institution. There are eight options of higher education for the characters: College, Graduate School, Military Academy, Commando School, Naval Academy, Flight School, Merchant Academy, and Medical School.

Prerequisite: Each school has listed prerequisite a character must meet before he can attempt enrollment.

Admission: After meeting the prerequisite, successfully rolling the listed admission number or lower on two dice enters



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BREATHING LIFE INTO YOUR CHARACTER

Role-playing is all about imagining a character—your alter ego—in his current situation, and then deciding his reaction to that situation. The **Traveller** character generation process provides a wonderful place to start that imagination. As you work the character through this process, let the die rolls speak to you about the character's life events, and let your creative side suggest his resulting attitudes and personality.

Imagine, for example, that during Step 1, you roll up a character with moderate Strength and Endurance, high Intelligence and Dexterity, and low Education and Social Standing. During Step 2, homeworld generation and background skill, you find that he is from a high-tech world with a highly advanced starport but only millions of inhabitants. You also learn that his background skills are Brawling, Computer, Grav Craft, Pistol (Gun Combat), Short Blade (Blade Combat), and Ground Craft.

Letting your mind play with these factors, you might decide that your character begins life as a troubled inner-city youth—as suggested by his low Education on a high-tech world, despite a high Intelligence. His Strength and Dexterity, and several close-combat skills, could indicate that he is something of a street tough. The relatively low population of the world suggests that there aren't many big cities, so you decide to make him native to the capital, which holds the starport. Contrasted with the high-tech, high-gloss imagery of the nearby starport, the character's street tough image becomes all the more poignant.

With this in mind, you decide that he wouldn't even consider an advanced education in Step Four, but instead goes directly to Step 4, beginning a career as a Rogue. With his low Social Standing and high Intelligence, he has no trouble joining that career. Two years into his adult life, however, you roll an injury for him, which ends his criminal career. You decide to submit the character to the draft, imagining that an Imperial court has offered him a choice: join the military or go to jail.

As you can see, the character is quickly becoming a personality in your mind, not merely a set of statistics. Your imagination is working hand in hand with the die rolls to generate a unique individual, someone who will be interesting and fun to play.

the character into that program. Each admission roll has difficulty modifications for characters who have one or more characters of a certain level or higher. These DMs are cumulative, if a character has more than one qualifying characteristics.

Example: The admission roll for college is 5 -, DM of +1 for Intelligence 8+, +1 for Social Standing 9+, and +2 for Education 9+. Toman Darrow, UPP 67977A (Intelligence 7, Education 7, and Social Standing 10), attempts to enroll in college. He is allowed a DM of +1 (for his Social Standing). A character normally needs to roll 5 -, but Darrow's DM +1 makes it 6 -. However, the player rolls a 9, so college has turned down Toman for enrollment.

Failed Admission: A failed admission roll normally carries no age penalty unless specifically stated otherwise. So, the character remains at age 18 (or current age) and may either try to enroll in another institute of higher learning or proceed to pursue a career. Characters from a service academy, or from a college OTC/NOTC program, must proceed to their respective service.

Preferential Enrollment: Any character with two or more qualifying characteristics at two points or more above the number necessary for the enrollment DMs gains automatic admission to that school without having to roll. (This favors players who choose to assign specific dice to specific characteristics in Step One, to build characters specifically suited for a particular type of training.)

For example, Toman's wealthy cousin Alberto, UPP 657A9B, exceeds the minimum DMs for Intelligence and Social Standing by two points. He gains automatic admission into college.

Perseverance: If the admission roll is successful, the character must then make a perseverance roll on 2D to determine if he remains for the full term of study or "washes out." Again, apply any DMs allowed, and these DMs are cumulative if the character has more than one qualifying characteristic.

Failing a perseverance roll means the character quits before completing the full course. Roll one die and divide the result by two, rounding down (1D3). This is the number of years the character remained in study before leaving. For each year spent, add one to the character's Education, roll once the institution's Academic Skill Table, and age the character by one year. He can now attempt enlistment in a career (Step Four) or begin adventuring (Step Five).

Academic Skills: For each year in an institute, roll once (unless stated otherwise) on the Academic Skills Table for the character.

Honors: Any character who finishes the full term of schooling may roll for honors (representing a high level of achievement in the education process). Apply the listed DMs to the 2D honor roll. If this roll is successful, the character receives the designation *Honor Graduate*. A honor graduate receives +1 Edu.

Graduation: Graduation confers upon a graduate the listed benefit: an academic degree, automatic enlistment in a career, or both. The graduate also add +1 to his Edu per year for the full term, and ages by the same amount of years. For example, a college graduate adds +4 to his Edu and ages four years.

For academic degree, the character's major should be the highest level attained in a Science or Performance skill. For enlistment, the character immediately joins.

College

For most people, attending college is the pathway to greater success in life. It is the most common choice for advanced education.

OTC and NOTC: while in college, a student may elect to attend reserve military officer training: OTC (Officer Training Corps) or NOTC (Naval Officer Training Corps).

A student successfully joining OTC is automatically enlisted in the Army upon graduation and receives Rank 1. If the student joins NOTC, then he is automatically enlisted in the Navy upon graduation and receives Rank 01. A NOTC Honor Graduate may apply for Flight School.

Honors: A honors graduate gains one point in Education and may apply for Medical School.

Graduate: The character receives a BS (Bachelor of Science) for a science major, BFA (Bachelor of Fine Arts) for a performance major, or BA (Bachelor of Arts) for a Liberal Arts major (if the character is equally versed in both areas).

Graduate School

Some individuals like the academic environment and continue to pursue their education beyond the end of their college term.

A character may attend graduate school once or twice, each time requiring a separate admission roll to enter the program. Each term of Graduate School lasts two years. A character completing his first term at Graduate School receives an MS (Master of Science), MA (Master of Arts), or MFA (Master of Fine Arts) and adds two years to the age. A character completing his second Graduate School term receives a Ph. D, is accorded the title Doctor or Professor, and adds two years to the age.

The Military Academy

In military services, the distinction between officer and enlisted personnel is as dramatic as it is age-old. While some few enlisted persons receive a commission for exemplary performance during service, most officers are commissioned directly out of school.

Perseverance: A character washing out of the Military Academy is automatically enlisted in the Army and begins the Army career as an enlistee.

Graduation: A graduate of the Military Academy is automatically enlisted in the Army and receives Rank 01, and may apply for Graduate School after service.

Honors: Honors may be achieved at the Academy, as at college, for scholastic and martial achievement. Characters with honors gain one point in Education and may seek to enroll in Medical School or Commando School.

Commando School

A Military Academy honors graduate who chooses to attend Commando School does so during his first year of active service.

Perseverance: Roll only once on the Academic Skills Table, and age the character by one year. Roll for the remaining three years on Army Tables immediately.

Academic Skills: Rather than rolling for a skill from the Army Tables during the first year, roll for *two skills* on the Academic Skills Table.

The Naval Academy

The interstellar Navy recruits and trains its finest officers at the Naval Academy.

Perseverance: A character washing out of the Naval Academy is automatically enlisted in the Navy and begins a Navy career as an enlistee.

Graduation: A graduate of the Navy Academy is automatically enlisted in the Navy and receives Rank 01, and may apply for Graduate School after service.

Honors: An Honors Graduate may apply for Medical School or Flight School, or both.

Flight School

One of the most prestigious occupations in the galaxy is that of the pilot. Humans have a seemingly universal fascination with speed, and nothing travels faster than an interstellar vessel. There is a considerable competition for admission to Flight School, and only the very best of individuals are accepted.

Admission: Automatic admission for Honors graduates of the Naval Academy. All other qualified applicants must roll for admission.

Perseverance: A character washing out of the Flight School gets only one Academic Skill, and ages one year. He then finishes the next three years as a Navy officer, rolling for injury, promotion, skills, and reenlistment as usual (see Step Four).

Academic Skills: A character gets *two skills* from the Academic Skills Table. He then finishes the next three years as a Navy officer as normal (see Step Four).

The Merchant Academy

The Merchant Service fulfills an essential role in the workings of the Imperium, and because of that, it is underwritten and overseen by offices of the Imperial government. While merchant companies range from single-owner free traders to megacorporate lines serving the entire Imperium, all are important. But for characters who wish to rise to the highest ranks in the Merchant Service, training at the Merchant Academy is virtually essential.

Merchant Academy lasts for four years. A character passing perseverance roll continues in the academy for four years, adds four years to his Education. Roll four times on the Academic Skills Table.

Prerequisite: Attendance at a Merchant Academy is possible only for characters from a homeworld with a starport of class C or better.

Perseverance: A character washing out of the Merchant Academy is automatically enlisted in the Merchant Service as an enlistee and begins a Merchant career.

Graduation: The character becomes an officer of the Merchant Service and automatically begins a new term of duty in Merchant career, working for a megacorporate or sector-wide line, with a commission at Rank 1.

Honors: An Honors Graduate of the Merchant Academy may apply for Medical School.

Medical School

Most services maintain a medical staff for the care of their personnel. Depending upon whether a character comes to medical school from college or an academy, he may end up as an Army doctor, a Navy doctor, a Merchant doctor, or a civilian doctor. The Marines use Navy doctors, rather than maintaining a medical corps of their own. In *Traveller* terms, a civilian doctor is a type of Scholar. Regardless of their service, medical experts have much reason to travel among the stars, and they are typically well-respected wherever they go.

Medical School lasts for four years. A character passing the perseverance roll continues in the school for four years, adding four years to his age, and adds +2 to his Education. Roll four times on the Academic Skills Table.

Prerequisite: Any character who graduates with honors from college or a service academy may apply for admission to medical school.

Graduation: A graduate of Medical School receives a Medical Doctor (MD) degree. The character may take a direct commission, at Rank 03, in the Navy, Army, or Merchants (in accordance to the character's attending academy prior to Medical School) automatically, or he may enlist in the Scholar career automatically, indicating that he is a civilian doctor.

Honors: If the character succeeds at the honors roll, he graduates medical school with special recognition of his academic achievement. The character gains an additional level of Computer and Medicine skills, as well as one extra point of Education.

Step 4: Pursuing A Career

A character may attempt to enroll in the player's choice of careers: Agent, Army, Entertainer, Marine, Merchant, Navy, Noble, Rogue, Scholar, and Scout. These are fields that provide a character with both a reason for and means of traveling among the stars.

Characters with an advanced education (Step 3) may, by virtue of their choice of schooling, be obligated to a particular service. Characters without such a commitment are open to any career.

Some of the careers listed cover a wide range of possible job titles. For example, an "Agent" might be an Imperial Marshal or intelligence operative just as easily as a bounty hunter, a private detective, an investigative journalist, or even a claims adjuster for a megacorporation. Use your imagination in deciding the exact occupation represented by your character's career.

(If desired, the referee can extrapolate other careers from those listed—to create planet-bound NPCs, for instance. With the referee's approval, players can do the same for their characters.)

Enlistment: The careers tables show the enlistment roll necessary and any other requirements for signing on in each of the careers. Successfully rolling that number or lower on two dice allow the character to enroll in that service. For many careers—such as Army, Marines, and Navy, for instance—this 2D6 roll indicates a literal enlistment in that service. For some few, it represents an opportunity to become involved in the career, whether that be through recruitment by a local business, acceptance to a technical or trade school, or simply—in the case of Noble—being born into the right family.

Most enlistment rolls allow difficulty modifications if the character has one or two characteristics of a certain level or higher. If both characteristics are of the appropriate level, the modification is cumulative.

Example: The enlistment roll for the Navy is 6 -, with a DM +1 is for Intelligence 8+, and DM +2 for Education of 9+. If a character named Hylan Vincent, with UPP of 8946A8 (Intelligence of 6 and Education of 10), attempts to enlist in the Navy, he adds DM +2 for his Education. The normal 6- enlistment roll is now 8 - for Hylan. The player rolls 2D6 and gets a 10, so it still isn't good enough. The Navy rejects Hylan's enlistment.

Preferential Enlistment: Any character with two qualifying characteristics at least two points above the number necessary for the enlistment difficulty modifier may automatically enlist in that career, without making a roll. (In this way, a player who chooses to assign specific dice to specific characteristics in Step 1 may build specifically for a career.)

Example: Eneri Johansen, with a UPP of 836BC4 (Intelligence of 11 and Education of 12), wants to be a Scholar. Because Eneri's Intelligence and Education are both at least two points higher than the listed DMs of Int 9+ and Edu 10+, he would be accepted automatically without an enlistment roll.

Rejection: Should an individual fail to make the enlistment roll in his chosen career, note the rejection on his character sheet. The character must then choose another career and attempt to enlist in it. If this enlistment fails as well, note it, choose another career, and try again. Continue this process until the character is either accepted into a career, has been rejected by them all, or rolls *exactly 12* on an enlistment roll. In either of the last two events, the character has been selected by the draft.

The Draft: A character becomes subject to the draft if 1) If he fails to pass every enlistment roll, 2) if his enlistment roll is ever a 12 exactly, 3) he volunteers for the draft.

Each military career has a draft number on the Draft Table. The draftee rolls one die and enters the service corresponding to that number. (It is even possible for characters to be drafted into a service that had previously rejected their enlistment.)

Unlike enlistees, draftees are not eligible for commission as an officer during their first term of service. They do become eligible during their second and subsequent terms if they reenlist.

Terms of Service: Upon enlistment (or upon being drafted), a character embarks on a term of service lasting for four years. This adds four years to the character's age. Each time a character reenlists, it is for an additional four-year term of service (the length of a standard military term, and a convenient length for any civilian contract).

Injury: The life of an interstellar traveller can be hazardous, especially for those in the military. During each term of service, a character must successfully roll his career's injury number or less to avoid being injured in the line of duty. Each service also has DMs that may apply.

Failure to successfully pass the injury roll results in an honorable discharge. Roll one die and divided it by two, rounding up. This reveals the number of years the character completed in the

current four-year term. The character leaves the service (recovered from the injury) having served less than the full term. This short term is not counted for the mustering out benefits explained on page 22.

Enlisted Ranks: Characters who enter a career as enlisted persons join that career at rank 1, with the title listed on the career's table of ranks. At the end of one year's service, they rise to rank 2 automatically, and at the end of the next year, they rise to rank 3. From that point forward, they rise in rank by one step at the beginning of each new term. Consequently, after two years of service, an enlisted character's rank can always be determined by adding two to his current term of service. A character in his second term is rank 4, for instance, while a character in his fifth term of that career is rank 7. Enlisted ranks never rise above 9.

Commissions: Each military service has a commission number. In order for an enlistee to become commissioned as an officer, the character must roll the stated number or below. DMs may apply to the roll. If the commission is achieved, the character receives Rank 01 in the service. A character may attempt to acquire a commission once per term of service until successful (but a draftee may not attempt to acquire a commission in the first term of service).

Promotions: Each service has a promotion number and DMs affecting that promotion roll. If a promotion is achieved, the character advances to the next higher rank in the service. A character is eligible for one promotion per term of service. A character may attempt to be promoted in the same term of service that a commission is received and in each subsequent term of service.

Commissions and promotions are not available in the Scout service, but Scout characters do receive additional skills.

Skills and Training: During each term of service, a character has the opportunity to acquire personal skills and expertise. Allowances are made for the acquisition of new skills based on service, duty, commission, and promotion.

Skills are acquired by rolling on the acquired skills tables, once for each skill allowed, using one die. There are six tables for each career, each containing different general types of skills. Players may determine skills on these tables in one of four ways:

- Roll one die for the table number, then one die for the specific skill.
- Roll one die for the table number, then select the skill from the designated table.
- Select one table, then roll one die for the specific skill.
- Select one table, then select one skill from that table.

During each year of his service in a career, a character becomes eligible for one skill. Upon receiving a commission, he becomes eligible for an additional skill. Upon being promoted, the character also becomes eligible for an additional skill. Thus, a character who joins the Navy, receives a commission, and then receives a promotion during the initial term of service becomes eligible for six skills (one for each of four years, one for commission, and one for promotion). The same character, in the next term, is eligible for four skill (one for each year) if he does not receive another promotion.

A character acquires certain skills automatically (without using eligibility) by virtue of rank or service. These automatic skills are listed on the Rank and Service Skills Table. At the point when the character achieves the indicated rank or service, he gets the indicated skill.

The Scout service is an exception to the normal eligibilities. Because the service has no rank or promotion, scout characters

do not become eligible for extra skills during their careers. Instead, however, scouts receive one additional skill roll for each two years of service (a total of six skills for each full term of service).

Continuance: Generally, at the end of a full term of service, a character is free to leave the service or to remain for another term, depending on the individual's goals and desires. As always, the possibilities of war, peace, and other considerations loom ever-present over the character's life, and may force other persons to decide the course of the career. Each service has a continuance number; in order to undertake a subsequent term of service, a character must roll that number or less (with no DMs). If the roll is not successful, the character's request to continue has been denied, and he must leave the service. If the roll is 2 (exactly), the needs of the service require that the character serve another term, regardless of his personal desires. The continuance roll is required at the end of each term of service.

Changing Careers: Sometimes, at one point in life or another, a person may change his chosen occupation. For most people this is not an easy thing to accomplish. Often, it is not so much a result of choice as of necessity: a mandatory retirement due to injury, or a failure to continue. Still, some people simply choose to quit their current career in order to attempt a new one.

During character generation, when a Traveller character leaves a career for any reason, he may choose to pursue a different one, going through the enlistment process all over again. There is a penalty for doing this, however. The enlistment roll for a second career is subject to a DM of -2, for a third career it is a DM of -3, and so on. All other DMs, qualifications, and preferences still apply.

A character with a commission in a previous career automatically receives a commission in the new career at one rank less than the highest rank obtained previously. Commissioned characters who voluntarily leave a service and return to that same service also retain their commission, but lose one level of rank. The minimum rank in either case is still 1: a commissioned character is not reduced to enlisted rank.

Retirement: A character may serve up to seven terms of service voluntarily, and may leave service after any term (provided mandatory continuance due to a continuance roll of *exactly* 2 does not occur). A person who remains in any one career for five full terms may draw retirement pay from that service. Retirement pay is an annual income (in addition to any mustering out benefits); rates of retirement pay are shown in the Retirement Pay table.

Service beyond the seventh term is normally impossible, and retirement is mandatory for an individual who has completed a seventh term of service. However, even persons completing a seventh term must serve another if they roll mandatory re-enlistment. Given the possibility of mandatory re-enlistment, it is theoretically possible for an individual to be required to serve a ninth term, or even a tenth term, and beyond.

Aging: Because each term of service is four years in length, a character can potentially age twenty years or more before venturing into the adventure portion of the game. This aging may even have a detrimental effect on a character's Strength, Dexterity, Endurance, and even Intelligence.

When a character reaches 35 years of age, aging begins to take its toll. At that age, and at each five-year interval thereafter, a check must be made for each of the listed attributes (Strength, Dexterity, Endurance, and Intelligence), to determine if it is reduced due to aging. Roll 2D versus a target number equal to the tens digit of the character's age. If the roll is less than or equal to that target number, reduce the attribute by one point.

For example, imagine that a character with Strength 7,

Dexterity 9, Endurance 5, and Intelligence 11 just turned 50 years old. The player begins checking for attribute deterioration due to aging. The tens digit of the character's age is 5, so this becomes the target number for the checks. The player begins making 2D rolls, once for each listed attribute. For Strength, he rolls an 8, so there is no reduction to that attribute—the character remains Strength 7. For Dexterity, he rolls a 5, so that attribute is reduced from Dexterity 9 to Dexterity 8. For Endurance, he rolls a 10, so that attribute is safe. Checking for Intelligence, he rolls a 6, so it suffers no reduction.

In some situations, the use of drugs (to speed up or slow down the body chemistry) or low passage (suspended animation for low-cost travel) will make the character age faster or slower than a strict game calendar would indicate. It is therefore quite important that each player maintain careful records on his character's apparent physical age versus chronological age.

Aging Crisis: If, as a result of aging, any characteristic is reduced to zero, the character is considered to have had an aging crisis and become quite ill. An Endurance roll against Difficult task level (modified by the medical expertise of any attendant) is needed to avoid death. If the character survives, recovery is made immediately (under slow drug, which speeds up the body chemistry). The character ages immediately (one die equals the number of months in added apparent age under slow drug), but also returns to play without delay. The characteristic that was reduced to zero automatically becomes 1. This process occurs each time a characteristic is reduced to zero (and for each characteristic so reduced). In the event that slow drug is not available, the individual is incapacitated for the number of months indicated if the roll is successful.

Step 5: Mustering Out

A character may end the character generation process in one of three ways:

- If the player chose the single-career option, the character ends the process as soon as he fails an injury or continuance roll. He begins the adventure portion of that game at his current age, checking to determine what money and equipment he gains upon leaving that service, as explained below.
- If the player chose a target age at the beginning of the process, the character may end the process at exactly this age. If this falls in the middle of an educational or career term, he begins the adventure portion of the game still attending that school or involved in that occupation. A character at the end of a term must roll for the possibility of mandatory continuance (as explained under **Continuance**). If the character does not continue, he begins the adventure portion of the game unemployed. Otherwise, he begins it still assigned to that career.
- Instead, a player who chose a target age may choose to end character generation at the end of the term just prior to or just after that age. As above, the player must still roll for the possibility of mandatory continuance, which determines whether the character begins the adventure portion unemployed or still a member of that career.

Mustering Out Benefits

When a character leaves a service after completing at least one term, he is eligible for mustering out benefits. The two Mustering Out Tables for each career indicate the nature of these benefits. One provides travel, education, and material benefits, while the other provides cash severance pay. Each table is matrixed by service and a single die roll. When mustering out of a service, a character is allowed to consult these tables based on total complete terms of service and on final rank.



Even the best kept secrets are sometimes leaked, and what may have seemed a simple courier assignment can turn into a nightmare. To prevent delivery of a package, a hostile party may choose to strike during the last hours of an interstellar voyage, before the ship reaches the safety of its destination world.

One benefit roll is allowed for each full term served (if a character serves only a partial term, that term is not counted toward mustering out). Additionally, a character who has received rank 1 or 2 in the service receives one extra roll. A character who has received rank 3 or 4 receives two extra rolls. A character who has rank 5 or 6 receives three extra rolls, and in addition may apply a DM of +1 to die rolls on the Benefits Table. Any character who has the skill Gambling may add +1 to the die roll on the Cash Table.

A character is free to choose between the Benefits Table and the Cash Table, but no one may consult the Cash Table more than three times during the mustering-out process.

Example: An un-commissioned character who has served four terms of service is eligible for four mustering out benefits. She may roll a total of four times, distributing the rolls as she desires between the two tables, provided only that she may roll no more than three times on the cash table. The player must designate the table being used before rolling the die.

Benefit Descriptions: In addition to the skills acquired while actually in service, the following skills and substantial rewards can be acquired through the mustering out procedures.

Retirement Pay: Any character who leaves the service at the end of the fifth or later term of service is considered to have retired, and receives retirement pay. This pension is paid at the beginning of each year, effective upon leaving the service, and may be collected at any class A or B starport. The table indicates the rate of pay, which is dependent on the character's total terms of service. Service beyond the eighth term adds Cr2000 per additional term. Retirement pay is not available to characters who have served in the Scout or another service.

Travel Allowances: The mustering out procedure makes benefits available generally called travel allowances. Such allowances take three basic forms: money, passages, and Travellers' Aid.

Money: The Cash Table indicates specific amounts of money that become available. Some portion of the money should be considered severance pay or life's savings.

Passages: The Benefits Table includes passages, or tickets, for travel. They are acquired in blank, and represent one passage, or trip, between one world and the next world visited by the starship. They are available in three forms: high passage, middle passage, and low passage. Passages may be retained and used as needed, or they may be cashed in at 90% of their face value.

High Passage includes first-class accommodations and excellent cuisine, and allows up to one ton of baggage. High passage costs Cr10,000 when purchased.

Middle Passage includes second-class accommodations (although still of reasonably good quality) and passable food and drink, and allows up to 100 kilograms of baggage. The passenger is expected to tend to his or her own affairs (maid service, laundry, cleaning, etc.) during the voyage. Middle passage costs Cr8000 when purchased, and is subject to stand-by conditions; the ticket holder may be bumped if a high passenger appears.

Low Passage involves travel in cryogenic capsules (cold sleep, or suspended animation), and the traveller is unconscious for the course of the journey. A character does not age while in cold sleep. Because of the intrinsic dangers of this method of travel, a basic roll of 9- is required when the journey is over and the low passenger is revived. Failure of the roll results in death. Allow a DM of +1 if there is an attending medic-2 or better, DM -1 if the low passenger has Endurance of 6 or less. Low passage costs Cr1000 if purchased, and includes a baggage allowance of 10 kilograms.

Travellers' Aid: The Travellers' Aid Society is a private organization which maintains hotels and services at all class A and B starports in human space.

Travellers' Aid Society membership may be acquired upon mustering out on the Benefits Table. Only one membership per character. The receipt of membership upon mustering out may be construed as a reward for heroism or extraordinary service to the Society, rather than an official benefit of the service.

Membership in the Society may also be purchased, involving first avoiding a "blackball" (roll 10-), then an initiation fee of Cr1,000,000. Only one application per person is allowed. Membership is for the life of a character, and is not transferable. The Travellers' Aid Society invests its membership fees and other income, then it uses its capital and return to provide benefits to its members. Every two months, it pays dividends in the form of one high passage to each member. This passage may be used, retained, or sold.

Weapons: If the Benefits Table indicates as results blade or gun, a character may choose any weapon that qualifies within the category. If, while mustering out, the same benefit is received again, the character has the option of taking another example of the same weapon, selecting a different weapon, or taking the benefit as +1 in skill in the weapon previously received. For example, the benefit "Blade" entitles the character to select any blade weapon, and he chooses a broadsword. On the next benefit roll, he again receives "Blade" as a benefit. At this point, he could select a different blade (perhaps a dagger), choose broadsword again (giving him two broadswords), or elect to take expertise in the weapon he has already received (giving an expertise of Blade Combat-1).

Starships: Two types of starships are available as mustering out benefits: type **S** scout/couriers and type **A** free traders. Each is more fully explained in Starship Design and Construction.

The type **A** free trader is a 200-ton cargo vessel equipped to handle both freight and passengers. Receipt of this ship as a benefit confers possession of the ship, but also liability for monthly payments of about Cr150,000 for the next forty years. Fuel, crew, and other expenses must also be handled by the character. If the ship benefit is received more than once, each additional receipt is considered to represent actual possession of the ship for a ten-year period. The ship is thus ten years older, and the total payment term is reduced by ten years. It is possible for a character to own a ship, free and clear, by successively rolling the ship benefit five times (once to obtain it, and four times to pay off the four 10-year sequences of payment). The ship is also forty years old.

The type **S** scout/courier is a 100-ton dispatch vessel of a type very common within human space. It is the policy of the scout service to make available such surplus scout ships to selected individuals on a reserve basis. The vessels are (hopefully) put to good use while they are not required in service, and both the ship and its pilot are available for recall to duty when needed. Only one scout ship may be acquired by a character; further receipt of this benefit has no effect. Possession of the scout ship is at the pleasure of the scout service, and it cannot be sold or mortgaged by the character. The ship may be used for travel, limited commerce, or pleasure. Fuel is free at scout bases. Maintenance is free at the scout bases at class B starports. The character is responsible for all other costs (berthing, upkeep, and etc..) as the ship is used.

Characteristic Alterations: Finally, the skills and benefits tables makes provision for some characteristic alterations. These tend to be increases in Education or Intelligence, and are applied to the character immediately.

MERCHANT CAPTAIN ALEXANDER L. JAMISON

The following example is given to illustrate the process of character generation. Actual die throws are shown in brackets, as are comments on the application of game rules.

Alexander Lascelles Jamison

After taking stock of himself and his personal qualities [generate all six personal characteristics, rolling, consecutively, 6, 8, 8, 12, 8, 9 for UPP of 688C89], Jamison decides he has a good chance of winning his fortune in the universe. He did not come from a particularly big world [planetary size roll of 8] or immensely populated one [population roll of 4], and its technology is behind that of most other worlds [tech level 6, which gives him only Ground Craft as his common skill]. As a youth, he managed to learn to ride the family horse, bandage himself after being thrown from horseback, and program a laptop computer, and he always had a knack for noticing details [background skill rolls of 5 and 6 = Equestrian, 3 and 6 = First Aid, 5 and 2 = Computer, 4 and 4 = Perception].

Jamison's high Intelligence makes college seemingly a natural choice. However, he neglects to study and fails the entrance exam miserably [basic admission roll required is 5-, add a DM of +1 for his Intelligence; he rolls 12]. He then tries the Merchant Academy but is turned away there as well [admission roll of 5-, or 6- with a DM of +1 for Int; he rolls 8]. Somewhat frustrated, he heads straight to the nearest starport and is just barely able to persuade a merchant captain to sign him on [required roll of 7- to enlist, with a DM of +2 allowed for Int of greater than 6, making it a 9- roll; he rolls 9 exactly].

First Term: During his first term of service [injury roll required is 9-, or 11- with a DM of +2 allowed for Int; he rolls 3] he faces no great dangers, merely the humdrum of day-to-day events. His application for a commission [required roll of 10-, DM of +1 allowed for Int; he rolls 7] is a mere formality. As an ensign, he proves hard-working and efficient [promotion roll required is 4-, or 5- with a DM of +1 for Int; he rolls 4-], and is quickly promoted one rank. Sublieutenant Jamison clearly feels that he has found his place in life, and decides he would like to continue in service [continuance roll of 10- required, no DMs; he rolls 7], and he does. He has become eligible for six skills during this term of service [four for the four-year term, one for obtaining a commission, and one for being promoted]. The work as Fourth officer is, at times, strenuous [Table 1 (Physical Development), roll 2 = +1 Str], and must deal with volumes of paperwork on the job [Table 4 (Social Development), roll 5 = Administration]. Routine operations [Table 2 (Mental Development), roll 2 = Vac Suit] require that he learn to use a vacuum suit. Serving his apprenticeship [Table 3 (Educational Development), roll 2 = Trader (Business)], he begins to pick up the finer points of commercial trading. However, he is also taught some of the shady practices in the business as well [Table 5 (Career Training), roll 4 = Clandestine, from which he chooses Forgery skill]. Finally, in his spare time [Table 6 (Background Development), roll 6 = Brawling], Jamison tends to get into quite a few fisticuffs at the bar.

Second Term: During this term, the rapidly maturing Jamison endures the dangers of the merchant service (possibly a pirate raid). His continued efficiency gains him his desired promotion to Lieutenant. He signs on for a third term of service and is accepted. He is eligible for five skills this term [one for each year of service and one for his promotion, gaining +1 End, Pistol (Gun Combat)t, Carousing (twice), and Pilot skills.]

Third Term: Jamison's third term goes by rather uneventfully. He does receive a promotion to Lt. Commander, and he is eligible for five skills, plus another level in Pilot (because of reaching rank 04). [He rolls and gets Electronics, +1 Str, Administration, Brawling, and Trader.]

Fourth Term: Jamison passes his promotion exam, and successfully reenlists for a fifth term as a Commander. He is eligible for five skills [which turn out to be Long Blade, Pistol, Administration again, Law, +1 Soc]. Finally, this being the end of his fourth term, Jamison is (for the first time) susceptible to aging [rolling saving rolls for Str (6-), Dex (7-), and End (6-); he rolls 2, 7, and 5, resulting in no changes].

Fifth Term: Jamison celebrates his fifth term by becoming a Captain. Unfortunately, the service falls on hard times, and notifies him that it will no longer require his services after the current term [failing continuance roll]. He is eligible to retire with a pension of Cr4000 per year. [His rolls for the final five skills in the service give him Piloting, Electronics, Broker, Forger, and Acting. Age also takes its toll, in the form of reduced physical coordination (-1 Dexterity).]

Mustering Out: Having completed twenty years of active duty in the merchant service, Captain Jamison is eligible for five rolls on the tables for terms served, plus three by virtue of his rank. In addition, he is allowed +1 on all rolls on the Benefits Table. He rolls and receives a severance bonus of Cr20000, +1 Edu, a travel allowance (middle-passage), a merchant ship, plus a windfall of credits in the merchant ship acquisition program, (rolling merchant ship three more times).

Alexander Lascelles Jamison is now 38 years old, a retired merchant captain, with a pension of Cr4000 per year, and a healthy cash balance. Considering that the merchants forced him out of the service at the peak of his career, he has some slight resentment against the merchant service.

Merchant Captain. Alexander Jamison

UPP 879C9A Age 38

5 terms Cr31,200

Acting-1,	Administration-3,
Brawling-2,	Broker-1,
Carousing-2,	Computer-1,
Electronics-2,	Equestrian-1,
First Aid-1,	Forgery-2,
Ground Craft-1,	Law-1,
Long Blade-1,	Perception-1,
Pilot-3,	Pistol-2,
Trader-2,	Vac Suit-1.

Type A Free Trader (ten years of payments remaining).

PRIMARY CHARACTERISTICS

Strength	measures a character's physical power.
Dexterity	includes both overall body and hand coordination.
Endurance	indicates personal determination and physical stamina.
Intelligence	represents natural mental ability.
Education	measures amount of schooling.
Social Standing	notes social class and level of society from which the character comes.

NOBLE RANKS

<i>Social Standing</i>	<i>Rank</i>
B	Knight (Sir, Dame)
C	Baron/Baroness (von, haut, hault)
D	Count/Countess
E	Marquis/Marquese
F	Duke/Duchess
G	Archduke/Archduchess
H	Emperor/Empress

RETIREMENT PAY TABLE

5 terms	Cr4,000
6 terms	Cr6,000
7 terms	Cr8,000
8 terms	Cr10,000
per additional term	Cr2,000

DRAFT TABLE

<i>1D Roll</i>	<i>Service</i>
1.	Army
2.	Army
3.	Navy
4.	Marines
5.	Merchants
6.	Scouts

HOMEWORLD COMMON SKILLS

<i>World Type</i>	<i>Common Skill</i>	Low Tech Skills		High Tech Skills	
		<i>1D Roll*</i>	<i>Skills</i>	<i>1D Roll*</i>	<i>Skills</i>
Tech Level 1-6	Ground Craft	1.	Survival	1.	Mechanics
Tech Level 5+	Computer	2.	Recon	2.	Computer
Tech Level 7+	Grav Craft	3.	Bow Combat	3.	Business
Vacuum World	Vac Suit	4.	Throwing	4.	Ground Craft
		5.	Brawling	5.	Language
		6.	Athletics	6.	Equestrian

Background Skills

<i>1D Roll*</i>	<i>Subtable</i>
1.	Low Tech Skills
2.	Low Tech Skills
3.	Mid Tech Skills
4.	Mid Tech Skills
5.	High Tech Skills
6.	High Tech Skills

Mid Tech Skills

<i>1D Roll*</i>	<i>Skills</i>
1.	Camouflage
2.	Melee Combat
3.	Clandestine
4.	Perception
5.	Gun Combat
6.	First Aid

**DMs (min. roll 1, max. 6):*
 -1 if Social Standing 1-5
 +1 if Social Standing 8+
 -1 if homeworld TL 1-5
 +1 if homeworld TL 8+
 -1 if homeworld law level 1-5
 +1 if homeworld law level 8+

HOMEWORLD GENERATION

(See **World Generation** chapter for more details on the various headings below.)

<i>2D Roll</i>	<i>Starport</i>	<i>Size</i>	<i>Atmosphere*</i>	<i>Hydrographics*</i>	<i>Population</i>	<i>Law Level†</i>	<i>Tech Level††</i>
2.	A	Asteroid	Vacuum	Desert world	10+	0	0-3
3.	A	Small	Vacuum	Desert world	100+	1	4-5
4.	A	Small	Thin	Dry world	1,000+	2	6-7
5.	A	Small	Thin	Dry world	10,000+	3	8
6.	A	Small	Standard	Wet world	100,000+	4	9
7.	B	Medium	Standard	Wet world	1,000,000+	5	A
8.	B	Medium	Standard	Wet world	10,000,000+	6	B
9.	B	Medium	Dense	Wet world	100,000,000+	7	C
10.	C	Large	Dense	Wet world	Billions	8	D
11.	C	Large	Exotic	Wet world	Tens of billions	9	E
12.	D-X‡	Large	Exotic	Water world	Tens of billions	A	F

*DMs for size: Small -2; large +2. (Asteroid is automatically vacuum.)

†DMs for population: Hundreds or less = -1; ten million or more = +1

††Various DMs: Starport A +3, B +2, C +1; asteroid or water world +1; population hundreds or less +1; population ten million or more +2

‡Roll 1D: 1-3 = D, 4-5 = E, 6 = X

COLLEGE (4 YEARS)

- Prerequisite:** Education 4+
- Admission:** 5-; DM+1 if Int 8+; DM+1 if Soc 9+
DM+2 if Edu 9+
- Failed Admission:** No age penalty
- Perseverance:** 7-; DM+1 if End 8+; DM+2 if Int 8+
- Flunked Out:** Spent 1D3 years
Roll once per year on Academic Skills.
- Academic Skills:** (*roll one per year*)
1. Jack-of-All-Trades
 2. **Technical**
 3. **Criminology**
 4. **Performance**
 5. **Science**
 6. **Academic**
- OTC Admission:** 6-; DM+1 if Soc 8+
- Benefit:** **Bureaucracy**, Tactics. Upon graduation receive automatic enlistment in Army and Rank 01.
- NOTC Admission:** 5-; DM+1 if Soc A+
- Benefit:** **Bureaucracy**, Tactics. Upon graduation receive automatic enlistment in Navy and Rank 01.
- Graduation:** Academic degree of BS, BFA, or BA.
- Honors:** 7-
Benefit: +1 Education. Can apply for Medical School. If NOTC, can apply for Flight School.

GRADUATE SCHOOL (2 YEARS)

- Prerequisite:** College Graduate or Naval Academy Graduate or Military Academy Graduate
- Admission:** 7-; DM+1 if Int 9+; DM+1 if Edu A+
- Failed Admission:** No age penalty
- Perseverance:** 8-; DM+1 if End 8+; DM+2 if Int 8+
- Flunked Out:** Spent 1year
Roll once per year on Graduate Skills.
- Graduate Skills:** (*roll one per year*)
1. Jack-of-All-Trades
 2. **Technical**
 3. **Science** or **Performance**
 4. **Science** or **Performance**
 5. **Science** or **Performance**
 6. **Academic**
- Graduation:** Academic degree of MS, MFA, or MA upon first completion.
Academic degree of Ph.D upon second completion.
- Honors:** 8-
Benefit: +1 Education

MILITARY ACADEMY (4 YEARS)

- Prerequisite:** Social Standing 6+
Age 20 or less
- Admission:** 4-; DM+1 if Edu 9+; DM+2 if Soc A+
- Failed Admission:** No age penalty
- Perseverance:** 5-; DM+1 if End 9+; DM+2 if Int 9+5
- Flunked Out:** Spent 1D3 years
Roll once per year on Academic Skills.
Enlisted in Army as enlistee.
- Academic Skills:** (*roll one per year*)
1. Tactics
 2. **Bureaucracy**
 3. **Bureaucracy**
 4. Heavy Weapons
 5. Forward Observer
 6. Computer
- Graduation:** Automatic enlistment in Army at Rank
- Honors:** 5-; DM+1 if Int 9+; DM+1 if End 11+
Benefit: +1 Education. Can apply for Medical School. Automatic acceptance in Commando School if desired.

COMMANDO SCHOOL (1 YEAR)

- Prerequisite:** Honors Graduate of Military Academy
- Perseverance:** 5-; DM+1 if End 9+; DM+1 if Int 9+
- Flunked Out:** Spent 1 year
Roll once on Academic Skills.
- Academic Skills:** (*roll one per year*)
1. Gun Combat
 2. Environment Combat
 3. Heavy Weapons
 4. Demolitions
 5. Recon
 6. Survival

NAVAL ACADEMY (4 YEARS)

Prerequisite: Social Standing 6+
Age 20 or less

Admission: 4-; DM+1 if Edu 9+; DM+2 if Soc A+

Failed Admission: No age penalty

Perseverance: 5-; DM+1 if End 9+; DM+2 if Int 9+

Flunked Out: Spent 1D3 years
Roll once per year on Academic Skills.
Enlistment in Navy as enlistee.

Academic Skills: (*roll one per year*)

1. Tactics
2. **Bureaucracy**
3. **Bureaucracy**
4. Heavy Weapons
5. Forward Observer
6. Computer

Graduation: Automatic enlistment in Navy at Rank 01

Honors: 7-; DM+1 if Int 9+; DM+1 if End B+
Benefit: +1 Education. Can apply for Medical School. Automatic acceptance in Flight School in first term of military service.

FLIGHT SCHOOL (1 YEAR)

Prerequisite: Commissioned (NOTC) College Honors Graduate
Graduate of Naval Academy
Automatic admission for Honors Graduate of Naval Academy

Admission: 5-; DM+1 if Dex 9-

Perseverance: 7-; DM+1 if End 9+; DM+2 if Int 9+

Flunked Out: Spent 1 year
Roll once per year on Academic Skills.

Academic Skills: (*roll one per year*)

1. Astrogation
2. Astrogation
3. Pilot
4. Pilot
5. Ship's Boat
6. Ship's Boat

Benefit: Minimum Pilot-1 skill.

MERCHANT ACADEMY (4 YEARS)

Prerequisite: Homeworld Starport A, B, C
Age 18

Admission: 5-; DM+1 if Int A+; DM+2 if Edu A+

Failed Admission: No age penalty

Perseverance: 7-; DM+1 if End 8+; DM+2 if Int 8+

Flunked Out: Spent 1D3 years
Roll once per year on Academic Skills.

Academic Skills: (*roll one per year*)

1. Jack-of-All-Trades
2. **Charisma**
3. **Technical**
4. **Bureaucracy**
5. **Business**
6. **Business**

Graduation: Automatic enlistment in Merchant career at Rank 01

Honors: 5-; DM+1 if Int 9+; DM+1 if End A+
Benefit: +1 Education. Can apply for Medical School.

MEDICAL SCHOOL (4 YEARS)

Prerequisite: College Honors or Military Honors or Naval Academy Honors or Merchant Academy Honors

Admission: 5-; DM+1 if Int 8+; DM+2 if Soc A+ DM+2 if Edu A+

Failed Admission: No age penalty

Perseverance: 4-; DM+1 if End 9+; DM+2 if Edu 8+

Flunked Out: Spent 1D3 years
Roll once per year on Academic Skills.

Academic Skills: (*roll one per year*)

1. Research
2. Administration
3. Medical
4. Medical
5. Research
6. Administration

Benefit: Minimum Medical-3 skill.

Graduation: Automatic enlistment in Army, Navy, or Merchant at Rank 03, or automatic enlistment in Scholar career.

Honors: 4-; DM+1 if Int B+; DM+1 if End B+
Benefit: +1 level to Medical and Computer skills.

ARMY

Members of the planetary armed fighting forces. Army soldiers deal with planetary surface actions, battles, and campaigns. Ground combat is their forte, and they are given charge of destructive weapons (artillery and heavy weapons such as autocannons) designed to quickly disable the enemy line.

Army forces are often organized by branches representing each unit's specialty or specific mission, thus it is possible for a character in a support or administrative unit never to see combat action.

Ex-army soldiers tend to hire themselves out as mercenaries.

Routine Tasks: Physical drills, weapons checks, target practice, simulation exercises.

Enlistment:	9-; DM +1 if Dex 6+; DM +2 if End 5+
Injury:	9-; DM +2 if Edu 6+
Commission:	9-; DM +1 if End 7+
Promotion:	8-; DM +1 if Edu 7+
Continuance:	7-

1. Physical

1. +1 Str
2. +1 Dex
3. +1 End
4. Melee Combat
5. Throwing
6. Brawling

2. Mental

1. Aircraft
2. Camouflage
3. Grav Craft
4. Exploration
5. Performance
6. **Science**

3. Educational

1. Heavy Weapons
2. Forward Observer
3. Ground Craft
4. Grav Craft
5. Tactics
6. Technical

4. Social

1. Carousing
2. Gambling
3. Streetwise
4. Instruction
5. Bureaucracy
6. Business

5. Career

1. Camouflage
2. Ground Craft
3. Gun Combat
4. Gun Combat
5. Heavy Weapons
6. Field Artillery

6. Background

1. Equestrian
2. Battle Dress
3. First Aid
4. Language
5. Blade Combat
6. Clandestine

Table of Ranks

Non-Commissioned

Rank E1	Private
Rank E2	Lance Corporal
Rank E3	Corporal
Rank E4	Sergeant
Rank E5	Staff Sergeant
Rank E6	Sergeant 1st Class
Rank E7	Master Sergeant
Rank E8	First Sergeant
Rank E9	Sergeant Major

Commissioned

Rank O1	2nd Lieutenant
Rank O2	Lieutenant
Rank O3	Captain
Rank O4	Major
Rank O5	Lt. Colonel
Rank O6	Colonel
Rank O7	Brigadier General
Rank O8	Major General
Rank O9	Lt. General
Rank O10	General

Rank and Service Skills

All	Rifle-1
Rank O1+	SMG-1

Skill Eligibility

1 skill per year
1 skill per term for Commission
1 skill per term for Promotion.

Mustering Out Tables

Die Roll Cash Table (credits)

1. 2000
2. 5000
3. 10000
4. 10000
5. 10000
6. 20000
7. 30000

Max 3 rolls

Die Roll Benefits Table

1. Low Passage
2. +1 Int
3. +1 Edu
4. Gun
5. Mid Passage
6. High Passage
7. +1 Social

MARINE

Members of the armed fighting forces carried aboard starships, marines deal with piracy and boarding actions in space, defend the starports and bases belonging to the navy, and supplement other ground forces.

Marine characters will accumulate skills related to their roles in ship-to-ship and surface combat and fighting in hostile or unusual terrains and environments, as well as a smattering of more technical skills such as Mechanics and Computer.

Marines are the hardened fighting machines in **Traveller**. Their combat expertise make them dangerous foes indeed.

Routine Tasks: Obstacle courses, combat drills, recon tactics, battle armor maneuvers.

Enlistment:	5-; DM +1 if Int 6+; DM +2 if Str 8+
Injury:	8-; DM +2 if Edu 8+
Commission:	5-; DM +1 if End 7+
Promotion:	5-; DM +1 if Soc 8+
Continuance:	8-

1. Physical

1. +1 Str
2. +1 Dex
3. +1 End
4. Gun Combat
5. Melee Combat
6. Brawling

2. Mental

1. Exploration
2. First Aid
3. Tactics
4. Demolitions
5. Camouflage
6. Computer

3. Educational

1. Tactics
2. Battle Dress
3. Camouflage
4. Recon
5. Environment Combat
6. Technical

4. Social

1. -1 Soc
2. Leadership
3. Gambling
4. Intimidation
5. Interrogation
6. Bureaucracy

5. Career

1. Battle Dress
2. Gun Combat
3. Gun Combat
4. Throwing
5. Environment Combat
6. Blade Combat

6. Background

1. Stealth
2. Ground Craft
3. Brawling
4. Athletics
5. Streetwise
6. Grav Craft

Table of Ranks

Non-Commissioned

Rank E1	Private
Rank E2	Lance Corporal
Rank E3	Corporal
Rank E4	Sergeant
Rank E5	Staff Sergeant
Rank E6	Sergeant 1st Class
Rank E7	Master Sergeant
Rank E8	First Sergeant
Rank E9	Sergeant Major

Commissioned

Rank O1	2nd Lieutenant
Rank O2	Lieutenant
Rank O3	Captain
Rank O4	Major
Rank O5	Lt. Colonel
Rank O6	Colonel
Rank O7	Brigadier General
Rank O8	Major General
Rank O9	Lt. General
Rank O10	General

Rank and Service Skills

All	Long Blade-1
Rank O1+	Pistol-1

Skill Eligibility

1 skill per year
1 skill per term for Commission
1 skill per term for Promotion.

Mustering Out Tables

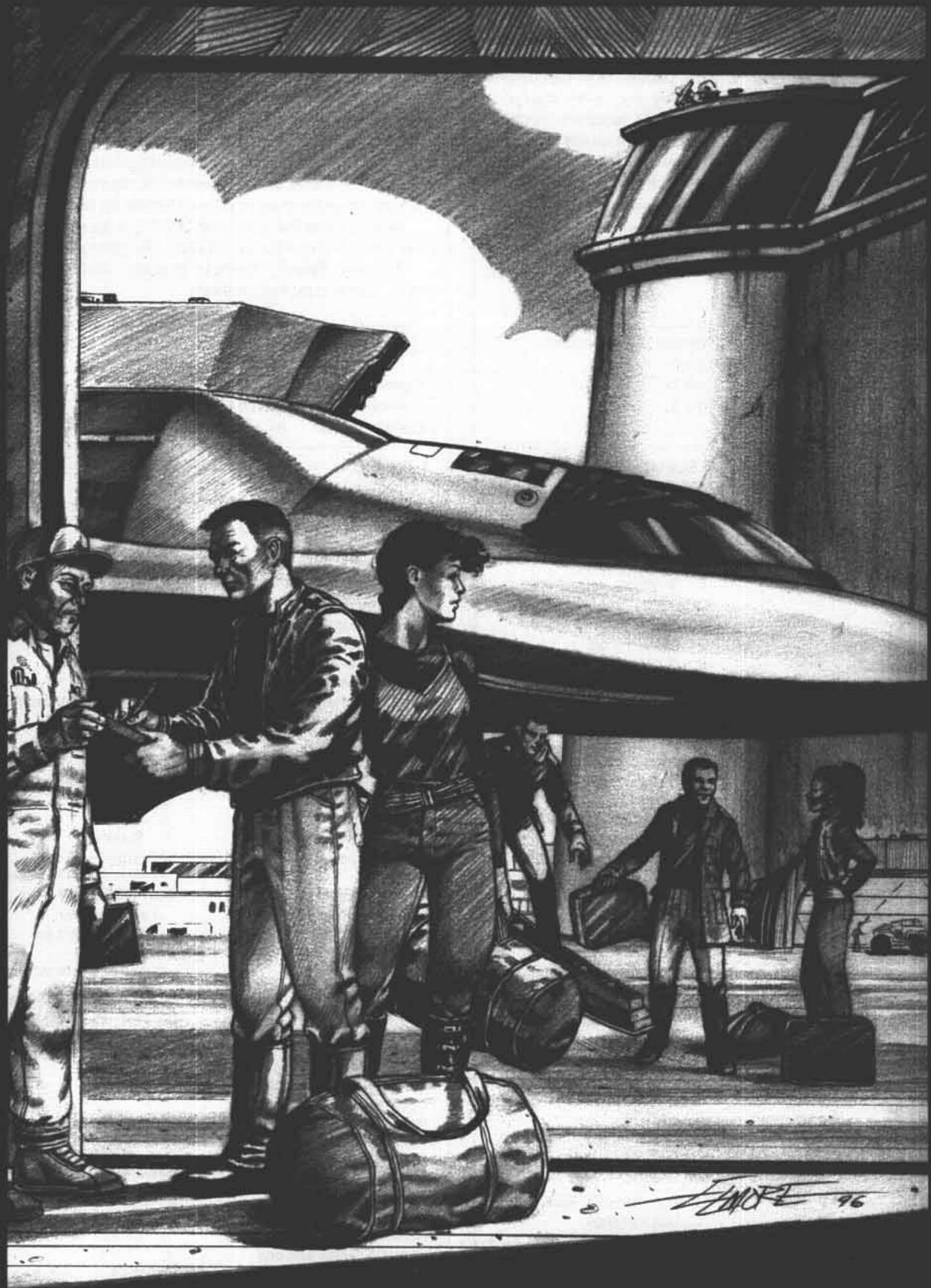
Die Roll Cash Table (credits)

1. 2000
2. 5000
3. 5000
4. 10000
5. 20000
6. 30000
7. 40000

Max 3 rolls

Die Roll Benefits Table

1. Low Passage
2. +1 Int
3. +1 Edu
4. Blade
5. Travellers' Aid Society
6. High Passage
7. +2 Social



Misdirection is an important tool of covert operations. Having travelled to one world by interstellar liner, a courier's party can always hire another, smaller vessel—perhaps a yacht—to double back to the actual target world.

MERCHANT

Members of the commercial enterprises, merchants may crew the ships of the large trading corporations, or they may work for the independent free traders that carry chance cargos and passengers between worlds.

Merchants can accumulate skills relating to space flight, such as Pilot and Astrogation, to trade, such as Administration, and to less technical but equally important aspects of life, such as Brawling, Gambling, and Forgery.

Routine Tasks: Accounting, log-keeping, monitoring commodities and markets, processing business transactions, negotiating with traders and starport officials.

Enlistment: 7-; DM +1 if Str 7+; DM +2 if Int 6+
Injury: 9-; DM +2 if Int 7+
Commission: 10-; DM +1 if Int 6+
Promotion: 4-; DM +1 if Int 9+
Continuance: 10-

1. Physical

1. -1 Dex
2. +1 Str
3. +1 End
4. +1 End
5. Melee Combat
6. Gun Combat

2. Mental

1. Grav Craft
2. Forgery
3. Vac Suit
4. Science
5. Exploration
6. Technical

3. Educational

1. Business
2. Business
3. Spacecraft
4. Astrogation
5. Sensors
6. Law

4. Social

1. Charisma
2. Charisma
3. Administration
4. Streetwise
5. Gambling
6. +1 Soc

5. Career

1. Bureaucracy
2. Language
3. Spacecraft
4. Clandestine
5. Business
6. Jack-of-all-Trades

6. Background

1. Equestrian
2. Blade Combat
3. First Aid
4. Craftsman
5. Performance
6. Brawling

Table of Ranks

Non-Commissioned

Rank E1 Space Hand
Apprentice.

Rank E2 Space hand

Rank E3 Able Space hand

Rank E4 Petty Off. 3rd Class

Rank E5 Petty Off. 2nd Class

Rank E6 Petty Off. 1st Class

Rank E7 Chief Petty Officer

Rank E8 Senior Chief

Rank E9 Master Chief

Commissioned

Rank O1 4th Officer

Rank O2 3rd Officer

Rank O3 2nd Officer

Rank O4 1st Officer

Rank O5 Captain

Rank O6 Senior Captain

Rank O7 Line Commodore

Skill Eligibility:

- 1 skill per year
- 1 skill per term for Commission
- 1 skill per term for Promotion.

Mustering Out Tables

Die Roll Cash Table (credits)

1. 1000
2. 5000
3. 10000
4. 20000
5. 20000
6. 40000
7. 40000

Max 3 rolls

Die Roll Benefits Table

1. Low Passage
2. +1 Int
3. +1 Edu
4. Gun
5. Blade
6. Low Passage
7. Free Trader

Rank and Service Skills

Rank O4+ Spacecraft-1

NAVY

Members of the interstellar space navy that patrol the space between the stars. The navy has responsibility for the protection of society from lawless elements in the interstellar trade channels and from foreign powers.

Naval characters will tend to be familiar with the technical aspects of space flight, such as Astrogation, with assortment of skills, such as Electronics and Engineering, necessary to operate their giant starships, as well as the less complex aspects of space such as Vac Suits.

Routine Tasks: Monitoring star sectors, peacekeeping/enforcing law of the Imperium, interstellar communicating, ship maintaining and operating, vessel developing.

Enlistment: 6-; DM +1 if Int 8+; DM +2 if Edu 9+
Injury: 9-; DM +2 if Int 7+
Commission: 4-; DM +1 if Soc 9+
Promotion: 6-; DM +1 if Edu 8+
Continuance: 8-

1. Physical

1. +1 Str
2. +1 Dex
3. +1 End
4. Blade Combat
5. Gunnery
6. Gun Combat

2. Mental

1. Camouflage
2. Language
3. Academic
4. Exploration
5. Sensors
6. Science

3. Educational

1. Astrogation
2. Spacecraft
3. Vac Suit
4. Environment Combat
5. Sensors
6. Technical

4. Social

1. Bureaucracy
2. Diplomacy
3. Language
4. Carousing
5. Gambling
6. +1 Soc

5. Career

1. Environment Combat
2. Forward Observer
3. Astrogation
4. Spacecraft
5. Technical
6. Gunnery

6. Background

1. Watercraft
2. First Aid
3. Law
4. Exploration
5. Charisma
6. Performance

Table of Ranks

Non-Commissioned

Rank E1 Space Hand
Apprentice.

Rank E2 Space hand

Rank E3 Able Space hand

Rank E4 Petty Off. 3rd Class

Rank E5 Petty Off. 2nd Class

Rank E6 Petty Off. 1st Class

Rank E7 Chief Petty Officer

Rank E8 Senior Chief

Rank E9 Master Chief

Commissioned

Rank O1 Ensign

Rank O2 Sublieutenant

Rank O3 Lieutenant

Rank O4 Lt. Commander

Rank O5 Commander

Rank O6 Captain

Rank O7 Commodore

Rank O8 Fleet Admiral

Rank O9 Sector Admiral

Rank O10 Grand Admiral

Skill Eligibility:

- 1 skill per year
- 1 skill per term for Commission
- 1 skill per term for Promotion.

Mustering Out Tables

Die Roll Cash Table (credits)

1. 1000
2. 5000
3. 5000
4. 10000
5. 20000
6. 50000
7. 50000

Max 3 rolls

Die Roll Benefits Table

1. Low Passage
2. +1 Int
3. +1 Edu
4. Blade
5. Travellers' Aid Society
6. High Passage
7. +2 Soc

Rank and Service Skills

Rank O5+ +1 Soc

SCOUT

Members of the exploratory service, scouts explore new areas, map and survey known or newly discovered areas, and maintain the communications of ships that carry information and messages between the worlds of the galaxy.

Since they are often expected to operate on their own, scout characters receive skills related to all aspects of space flight, from Pilot to Engineering and Mechanics.

The mental attitude needed to operate alone in space is what separates scouts from the other careers. The "Us-Against-the-World" mind set has brought many in this service together in a tight-knit brotherhood.

Routine Tasks: Calisthenics, astrogation, terrain navigation, sensors operation, planetary survival.

Enlistment: 7-; DM +1 if Int 6+; DM +2 if Str 8+
Injury: 7-; DM +2 if End 9+
Commission: None
Promotion: None
Continuance: 11-

1. Physical

1. +1 Str
2. +1 Dex
3. +1 End
4. Melee Combat
5. Throwing
6. Gun Combat

2. Mental

1. Vac Suit
2. Vac Suit
3. Perception
4. Research
5. First Aid
6. Science

3. Educational

1. Astrogation
2. Astrogation
3. Exploration
4. Exploration
5. Technical
6. Technical

4. Social

1. Language
2. Performance
3. Bureaucracy
4. Business
5. Clandestine
6. Charisma

5. Career

1. Aircraft
2. Ground Craft
3. Grav Craft
4. Gunnery
5. Spacecraft
6. Spacecraft

6. Background

1. Athletics
2. Blade Combat
3. Bow Combat
4. Equestrian
5. Stealth
6. Jack-of-all-Trades

Rank and Service Skills

All Exploration-1;
 Jack-/Trades-1;
 Pilot-1

Skill Eligibility:

1 skill per year
 +1 skill per two years

Mustering Out Tables

Die Roll Cash Table (credits)

1. 20000
2. 20000
3. 30000
4. 30000
5. 50000
6. 50000
7. 50000

Max 3 rolls

Die Roll Benefits Table

1. Low Passage
2. +2 Int
3. +2 Edu
4. Blade
5. Gun
6. Scout Ship
7. —

AGENT

Agents are most often members of law enforcement branches of a world's government. As operatives, they typically have good investigative skill and a familiarity with the unsavory aspects of society. Agents must come from a world with a tech level of 5+.

"Agent" encompasses a plethora of career opportunities, from relatively peaceful news reporting to on-the-edge bounty hunting. Because they must deal with unpredictable situations on a frequent basis, the credo for this career is often "Fast thinking, faster shooting."

Routine Tasks: File reports, operate within organizational guidelines and directives, support fellow agents, apprehend suspects, debrief.

Enlistment: 8-; DM +1 if Int 7+; DM +2 if Dex 10+
Injury: 8-; DM +2 if Int 7+
Commission: 8-; DM +1 if Edu 7+
Promotion: 6-; DM +1 if Edu 8+
Continuance: 8-

1. Physical

1. +1 Str
2. +1 Dex
3. +1 End
4. +1 End
5. Brawling
6. Gun Combat

2. Mental

1. Perception
2. Perception
3. Camouflage
4. Technical
5. Exploration
6. +1 Int

3. Educational

1. First Aid
2. Research
3. Law
4. Psychology
5. Criminology
6. Criminology

4. Social

1. Administration
2. Performance
3. Bureaucracy
4. Clandestine
5. Charisma
6. Jack-of-all-Trades

5. Career

1. Melee Combat
2. Gun Combat
3. Bureaucracy
4. Criminology
5. Charisma
6. Clandestine

6. Background

1. Science
2. Watercraft
3. Equestrian
4. Ground Craft
5. Grav Craft
6. Vac Suit

Table of Ranks

Non-Commissioned

Rank E1 Agent 3rd Class

Rank E2 Agent 2nd Class

Rank E3 Agent 1st Class

Rank E4 Sergeant

Rank E5 Leading Sergeant

Rank E6 First Sergeant

Rank E7 Sergeant Major

Rank E8 —

Rank E9 —

Commissioned

Rank 01 2nd Lieutenant

Rank 02 Lieutenant

Rank 03 Captain

Rank 04 Major

Rank 05 Lt. Colonel

Rank 06 Colonel

Rank 07 Brigadier General

Rank 08 Major General

Rank 09 Lt. General

Rank 10 General

Skill Eligibility:

1 skill per year
 1 skill per term for
 Commission
 1 skill per term for Promotion.

Mustering Out Tables

Die Roll Cash Table (credits)

1. 1000
2. 2000
3. 5000
4. 7500
5. 10000
6. 25000
7. 50000

Max 3 rolls

Die Roll Benefits Table

1. Low Passage
2. +1 Int
3. Forensics Kit
4. Weapon
5. High Passage
6. +1 Soc
7. Travellers' Aid Society

Rank and Service Skills

All Carousing-1
 or Streetwise-1
 Rank 06+ Diplomacy-1

ENTERTAINER

An entertainer is trained to amuse audiences. This career spans a wide area of trades, from the obvious choices of actors and musicians to aspiring artists, writers, and storytellers. They take their acts to the stars, travelling from one planet to another in hope of attracting interstellar fame. Entertainment tends to be a highly competitive field; for every performer who commands top dollar, a hundred others live hand-to-mouth.

Most entertainers hire managers or representatives to handle business negotiations, public relations, and promotions. But like it has always been, the entertainment industry is a cut-throat one, and agents will go with the fattest cash cow.

Routine Tasks: Brainstorm sessions, rehearsals, contract negotiations, contact networking, performance.

Enlistment: 6-; DM +1 if End 7+; DM +2 if Int 6+
Injury: 9-; DM +2 if End 9+
Commission: None
Promotion: None
Continuance: 9-

1. Physical

1. +1 Str
2. +1 Dex
3. +1 End
4. Athletics
5. Throwing
6. Gun Combat

2. Mental

1. Vac Suit
2. Survival
3. Trader
4. Law
5. Academic
6. +1 Int

3. Educational

1. Communications
2. Language
3. Performance
4. Performance
5. Philosophy
6. Jack-of-all-Trades

4. Social

1. Administration
2. Carousing
3. Streetwise
4. Fast Talk
5. Charisma
6. +1 Soc

5. Career

1. Acting
2. Disguise
3. Athletics
4. Clandestine
5. Performance
6. Performance

6. Background

1. Ground Craft
2. Equestrian
3. First Aid
4. Camouflage
5. Brawling
6. Technical

Rank and Service Skills

All Carousing-1;
Performance-1

Sill Eligibility:

1 per year

Mustering Out Tables

Die Roll Cash Table (credits)

1. 1000
2. 2000
3. 5000
4. 10000
5. 30000
6. 70000
7. 150000

Max 3 rolls

Die Roll Benefits Table

1. Low Passage
2. Blade or Pistol;
3. High Passage
4. +1 Soc
5. Travellers' Aid Society
6. Yacht
7. —

NOBLE

A noble can be described as an individual who is a member of the upper class in society. Nobles, for the most part, perform few consistent functions throughout their lives. Nobles most often have large amounts of ready money to spend, and they may possess useful influence in high places.

The biggest danger a noble faces is sword duels. Thus, nobles spend a good amount of time honing their fencing skill.

(Not every character of noble Social Standing follows this career. Regardless of their career, however, they still hold their noble rank.)

Routine Tasks: Elite social events and diplomatic functions, equestrian training, fencing practice, political maneuvering, blade duels, proper education, fortunes.

Enlistment: Soc A+ required; enlistment is automatic
Injury: 10-
Commission: 9-; DM +1 if Edu 9+
Promotion: 2-; DM +1 if Int A+
Continuance: 10-

1. Physical

1. -1 Str
2. +1 Str
3. +1 Dex
4. +1 End
5. Fencing
6. Equestrian

2. Mental

1. Tactics
2. Instruction
3. Law
4. Language
5. Clandestine
6. Performance

3. Educational

1. Law
2. Performance
3. Science
4. Bureaucracy
5. Charisma
6. +1 Edu

4. Social

1. Administration
2. Carousing
3. Diplomacy
4. Business
5. Charisma
6. +1 Soc

5. Career

1. Bow Combat
2. Equestrian
3. Equestrian
4. Fencing
5. Fencing
6. Performance

6. Background

1. Gambling
2. Vac Suit
3. Interrogation
4. Computer
5. Blade Combat
6. Leadership

Table of Ranks

Soc B Knight/ Lady
 Soc C Baron/ Baroness
 Soc D Count/ Countess
 Soc E Marquis/ Marquese
 Soc F Duke/ Duchess

Skill Eligibility:

1 skill per year
 1 skill per term for Commission
 1 skill per term for Promotion.

Mustering Out Tables

Die Roll Cash Table (credits)

1. 10000
2. 10000
3. 50000
4. 50000
5. 100000
6. 100000
7. 200000

Max 3 rolls

Die Roll Benefits Table

1. Low Passage
2. High Passage
3. Weapon
4. Weapon
5. Travellers' Aid Society
6. Yacht
7. —

ROGUE

A member of the criminal element who is, as a matter of course, familiar with the rougher and more illegal methods of accomplishing tasks. Rogues tend to be good at circumventing the law, which, unfortunately, also makes them somewhat likely to be wanted criminals on one or more worlds.

Rogues come in many types: thug, con-man, system hacker, art forger... all the way up to criminal syndicate boss and cartel director. Rogues won't win any popularity contest, as they are generally regarded as parasites of the society.

Routine Tasks: Thievery, covert illicit activities, street survival, underworld networking, criminal organization, recruitment of new members, backstab, double-cross.

Enlistment:	8-; DM +1 if Soc 8-; DM +2 if End 7+
Injury:	7-; DM +2 if Int 9+
Commission:	None
Promotion:	None
Continuance:	9-

1. Physical

1. +1 Str
2. +1 Dex
3. +1 End
4. Melee Combat
5. Throwing
6. Brawling

2. Mental

1. Language
2. Ground Craft
3. First Aid
4. Performance
5. Technical
6. +1 Int

3. Educational

1. Law
2. Camouflage
3. Survival
4. Survival
5. Bribery
6. Clandestine

4. Social

1. -1 Soc
2. Streetwise
3. Fast Talk
4. Bureaucracy
5. Business
6. Charisma

5. Career

1. Short Blade
2. Gun Combat
3. Brawling
4. Camouflage
5. Clandestine
6. Clandestine

6. Background

1. Bow Combat
2. Perception
3. Melee Combat
4. Spacecraft
5. Blade Combat
6. Jack-of-all-Trades

Rank and Service Skills

All Clandestine-1;
Short Blade-1

Skill Eligibility:

1 skill per year

Mustering Out Tables

Die Roll	Cash Table (credits)
1	—
2	—
3	10000
4	10000
5	50000
6	100000
7	100000

Max 3 rolls

Die Roll Benefits Table

Die Roll	Benefits Table
1	Low Passage
2	+1 Soc
3	Weapon
4	Weapon
5	High Passage
6	Travellers' Aid Society
7	—

SCHOLAR

Trained in the technological or research sciences, scholars study and conduct scientific experiments into materials, situations and phenomena. Scholar must come from a world with a tech level of 6+.

Contrary to the popular image, a scholar in **Traveller** is not confined to a laboratory of tubes and cages. He will actively pursue evidence for theories old and new, even if it means traversing unknown sectors replete with unpleasant aliens.

Routine Tasks: Collect samples, recruit subjects, research, experiment, analyze results, resolve scientific problems, report findings, file recommendations and proposals for government grants.

Enlistment:	8-; DM +1 if Int 9+; DM +2 if Edu 10+
Injury:	9-; DM +2 if Edu 9+
Commission:	None
Promotion:	None
Continuance:	9-

1. Physical

1. -1 Str
2. -1 Dex
3. +1 Dex
4. +1 End
5. Gun Combat
6. Short Blade

2. Mental

1. Language
2. Research
3. Writing
4. Perception
5. Technical
6. +1 Int

3. Educational

1. Performance
2. Academic
3. Technical
4. Science
5. Science
6. +1 Edu

4. Social

1. Carousing
2. Instruction
3. Philosophy
4. Diplomacy
5. Bureaucracy
6. +1 Soc

5. Career

1. Language
2. Law
3. Forensics
4. Academic
5. Technical
6. Science

6. Background

1. Forgery
2. Vac Suit
3. Grav Craft
4. Ground Craft
5. Exploration
6. Jack-of-all-Trades

Rank and Service Skills

All Academic-1;
Science-1
or Technical-1

Skill Eligibility:

1 skill per year

Mustering Out Tables

Die Roll	Cash Table (credits)
1	1000
2	5000
3	5000
4	10000
5	20000
6	40000
7	100000

Max 3 rolls

Die Roll Benefits Table

Die Roll	Benefits Table
1	Low Passage
2	Mid Passage
3	High Passage
4	+1 Soc
5	Science Instrument
6	Lab Ship
7	Weapon

A Scholar may always apply to College or Graduate School (if he has not already attended), instead of serving a term in this career. The admission is automatic if a character chooses this option after serving 3+ terms as a Scholar.





Characters in fiction are defined by their characteristics and actions. From the description of their appearance, we learn much about their general abilities. Their actions then teach us what other capabilities they have that are not immediately observable. Consider the following description, for example:

A tall and stocky man, Count Davoral bore the marks of middle age—a grayness of beard and temple, lines of care upon his face, the beginnings of a soft paunch. Still, he crossed the ballroom with the easy grace of a seasoned warrior, the saber at his hip seeming a very part of him. His eyes revealed a restless interest in his surroundings, glittering with amusement as he bowed to Ambassador Karrick's daughter, then growing cold as they fell upon Jonas Azrath, chairman of Marindella Corporation. As the count stared at Azrath, his right hand curled into a white-knuckled fist, the scars of old duels standing out starkly. His left hand tightened unconsciously upon his saber hilt.

From this relatively short description, we know the age, social standing, and build of the character. We also have some hint of his personality—at least that he is alert, is comfortable in a large group of people, and has something of a temper. From his actions, we can guess that he has some skillfulness at interpersonal relations, and that fencing and brawling are among his abilities.

Traveller characters are similarly defined, but with specific terms and number ratings. In **Traveller** terminology, Count Davoral has a UPP of 89878E, and skill levels of Diplomacy-3, Carousing-2, Fencing-4, and Brawling-3, among others.

The reasons for giving **Traveller** characters number ratings are simple. In a fiction, the author decides whether a character succeeds or fails at an action based upon that character's abilities, the current situation, and the dramatic needs of the story. But in a role-playing session, each player is a separate "author" with his own hero, and the referee is in charge of the situation, scene by scene. The players and referee are both creating a story and at the same time playing a game. Number ratings accurately rank characters by ability for story purposes. They also provide a way of using die rolls to randomly determine a character's success or failure, thereby infusing an element of chance into the game. The referee then translates these rankings and die rolls into story, taking into account suggestions from the players and the dramatic needs of the moment.

Skill Types

Characters use skills as the primary means to accomplish actions in a **Traveller** game. Obviously, the higher a skill rating, the more expert the character is with that skill. But some characters have more abilities for a particular skill than do other characters, as measured by their primary characteristics. With sufficient training, however, any character can eventually become proficient at any skill in the game.

The Skills List on page 38 lists skills used in the **Traveller** game. Each skill is described later in this chapter.

Just as player character careers in Chapter 2 reflect occupations appropriate to **Traveller** campaigns, the skills available to those characters are abilities appropriate to **Traveller** adventurers. Of course, players are free to invent more mundane skills (Cooking, Farming, etc.) for characters who might wish them, assuming referee approval. For most characters, however, the skills described here will be more than sufficient.

Skills listed alone on the Skills List are single skills. Others are listed in groups, indented under headings called "cluster skills." Some skills have an asterisk to tag them as cascade skills. Lastly, some skills are listed in italics to denote those that can be used with no training by a PC or NPC, at skill level-0.

Single Skills: Skills listed alone on the table—rather than indented in a group—are individual proficiencies not directly related to any others. (Examples are Battle Dress, Equestrian, and Perception.) When one of these skills is acquired, it is simply added to the character sheet, with its appropriate level noted.

Skill Clusters: Some skills are indented under a collective heading on the Skills List. For example, the Medical skill is grouped with Archaeology, Chemistry, Psychology, and others under the Science heading. These collective headings are skill clusters, grouping skills within a related subject for ease creating characters, and reference during play.

Expertise in a skill within a cluster does not give a character any ability in any other skills under that same heading.

Cascade Skills: Skills listed as cascade skills on the skills table, like skill clusters, encompass different specific skills. When a cascade skill is obtained, one of its subskills must be chosen as a specialty. But unlike a skill cluster, that expertise in this specialty can be used in place of any other subskill in the cascade skill, at one lower level of expertise.

For example, a character obtains the cascade skill of Gun Combat, which includes subskills of Pistol, Rifle, Shotgun, or Submachinegun. If the character chooses Pistol as his specialty, he would list the skill as "Pistol-1." But since this is a cascade subskill, he can also use it in place of the any other three subskills (Rifle, Shotgun, and Submachinegun) in the Gun Combat cascade skill at level-0. If the character raises his specialty to "Pistol-2," he can use it for Rifle, Shotgun, and Submachinegun each at level-1.

Should a character picks up another subskill within the same cascade skill, his first point in that new skill is level-1, his second point level-2, and so on, as normal.

Default (Level-0) Skills: Some jobs simply cannot be attempted by a character who has had no training in them. Imagine a person attempting to disarm a nuclear warhead, for instance, with absolutely no knowledge of demolitions or radioactive materials. Assuming he didn't accidentally trigger the explosion early, he would still be certain to suffer radiation poisoning. His chances of actually disarming the thing safely would be nil.

Other skills are inherently simple enough for a character to attempt them with no training whatsoever. Most people have some chance of safely riding a horse without instruction, though they would likely mount from the wrong side, make the animal nervous, and be at a loss if it began to gallop.

In **Traveller**, attempting an action without training in a skill is called "level-0" skill use, possible only with skills listed in italics on the Skills List. (The heading for each of those skills is italicized in the individual skill descriptions as well.) Chapter 4 explains how to resolve actions using skills in both normal and level-0 fashion.

SKILLS LIST

<i>Skill Name</i>	<i>Base Cha.</i>		
Academic	Cluster	Law	Edu
Acting	Int or Soc	Leadership	Soc or End
Administration	Soc or Edu	Linguistics	Edu or Int
Aircraft	Cascade	Long Blade (Blade Combat)	
Archaeology	Edu	Mechanics	Dex or Str
Armory	Int or Edu	Medical	Edu or Int
Art	Int or Soc	Melee Combat	Dex or Str
Artillery	Int or Edu	Music	Int or Dex
Astrogation	Edu or Int	Navigation	Edu or Int
Athletics	Dex,End, Str	Perception	Int or Edu
Battle Dress	Dex	Performance	Cluster
Biology	Edu or Int	Philosophy	Edu or Int
Blade Combat	Cascade	Physics	Edu or Int
Bow Combat	Dex	Pilot	Dex
Brawling	Dex or Str	Pistol (Gun Combat)	Dex
Bribery	Int or Soc	Prop Plane (Aircraft)	
Broker	Int or Edu		Dex or Int
Bureaucracy	Cluster	Psionics	Edu
Business	Cluster	Psychology	Int or Edu
Camouflage	Int	Recon	End or Int
Carousing	Soc	Research	Edu
Charisma	Cluster	Rifle (Gun Combat)	Dex
Chemistry	Edu or Int	Robotics	Edu
Clandestine	Cluster	Sciences	Cluster
Communications	Edu	Sensors	Int
Computer	Edu or Int	Ship's Boat	Dex
Craftsman	Dex or Edu	Short Blade (Blade Combat)	
Criminology	Cluster		Dex
Dance	Dex or Soc	Shotgun (Gun Combat)	Dex
Demolitions	Edu or Int	Spacecraft	Cluster
Diplomacy	Soc	Stealth	Dex
Disguise	Int	Streetwise	End or Int
Electronics	Edu or Int	Submachinegun, SMG (Gun Combat)	Dex
Engineering	Edu or Int	Survey	Edu
Environment Combat		Survival	End
Equestrian	Dex or Soc	Tactics	Int or Edu
Exploration	Cluster	Technical	Cluster
Fast Talk	Int or Edu	Throwing	Dex or Str
Fencing	Dex or Soc	Trader	Int or Soc
First Aid	Int or Edu	Vac Suit	Dex
Forensics	Edu or Int	Watercraft	Dex or End
Forgery	Int or Dex	Writing	Int or Edu
Forward Observer	Edu or Int		
Gambling	Int or Soc		
Geology	Edu or Int		
Grav Craft	Dex		
Gravitics	Edu or Int		
Ground Craft	Dex or End		
Gun Combat	Cascade		
Gunnery	Int		
Heavy Weapons	Dex or Str		
Helicopter (Aircraft)	Dex or Int		
History	Edu		
Instruction	Int or Edu		
Interrogation	End or Int		
Intimidation	Str or End		
Intrusion	Dex or Int		
Investigation	Int		
Jack-Of-All-Trades	Varies		
Jet Plane (Aircraft)	Dex or Int		
Language	Edu or Int		

CASCADE SKILLS LIST

Aircraft
Helicopter
Jet Plane
Prop Plane
Blade Combat
Long Blade
Short Blade
Gun Combat
Pistol
Rifle
Shotgun
Submachinegun (SMG)

SKILLS CLUSTERS LIST

Academic
Instruction
Research
Bureaucracy
Administration
Leadership
Business
Broker
Trader
Charisma
Bribery
Carousing
Diplomacy
Fast Talk
Clandestine
Disguise
Forgery
Gambling
Intimidation
Intrusion
Stealth
Streetwise
Criminology
Forensics
Interrogation
Investigation
Law
Exploration
Navigation
Recon
Survey
Survival
Performance
Art
Acting
Dance
Music
Writing
Sciences
Archaeology
Biology
Chemistry
Geology
History
Linguistics
Medical
Philosophy
Physics
Psionics
Psychology
Spacecraft
Pilot
Ship's Boat
Technical
Armory
Astrogation
Communications
Computer
Craftsman
Electronics
Engineering
Gravitics
Mechanics
Robotics
Sensors

DEFAULT SKILLS LIST

<i>Skill Name</i>	<i>Related Cha.</i>
Acting	Int or Soc
Art	Int or Soc
Athletics	Dex,End, Str
Blade Combat	Cascade
Bow Combat	Dex
Brawling	Dex or Str
Bribery	Int or Soc
Broker	Int or Edu
Camouflage	Int
Carousing	Soc
Communications	Edu
Computer	Edu or Int
Craftsman	Dex or Edu
Dance	Dex or Soc
Diplomacy	Soc
Disguise	Int
Environment Combat	
Equestrian	Dex or Soc
Fast Talk	Int or Edu
First Aid	Int or Edu
Forgery	Int or Dex
Gambling	Int or Soc
Grav Craft	Dex
Ground Craft	Dex or End
Gun Combat	Cascade
Heavy Weapons	Dex or Str
Instruction	Int or Edu
Interrogation	End or Int
Intimidation	Str or End
Intrusion	Dex or Int
Investigation	Int
Leadership	Soc or End
Long Blade (Blade Combat)	
	Dex or Str
Melee Combat	Dex or Str
Music	Int or Dex
Navigation	Edu or Int
Perception	Int or Edu
Philosophy	Edu or Int
Pistol (Gun Combat)	Dex
Psychology	Int or Edu
Recon	End or Int
Research	Edu
Rifle (Gun Combat)	Dex
Short Blade (Blade Combat)	
	Dex
Shotgun (Gun Combat)	Dex
Submachinegun, SMG (Gun Combat)	Dex
Stealth	Dex
Streetwise	End or Int
Survival	End
Tactics	Int or Edu
Throwing	Dex or Str
Trader	Int or Soc
Vac Suit	Dex
Watercraft	Dex or End
Writing	Int or Edu

*Denotes a cascade skill.

Skill Descriptions

Skills are listed in this section by alphabetical order, not by skill clusters. Also listed with each skill are the usual characteristics related to each skill (see Chapter 4 for explanation of base characteristics).

As in the Skills List, those skills that can be used at level 0 as a default are noted, as are cascade skills. Each cascade skill also includes in its description a list of specialties to choose from.

Academic

Academic is a skill cluster that includes Instruction and Research.

Acting (Performance Cluster, Default)

Int or Soc

The ability to conceal true motives while manipulating an audience into believing whatever persona or emotion the character portrays. A character may also mimic mannerisms, speech patterns, and voices with a successful Acting roll. This skill can be a powerful persuasive tool, as evident in any poker game.

A high Intelligence score helps memorizing lines and recognizing successful strategies of acting. Persons of relatively high Social Standing often benefit from having to maintain appearances for one's peers, and from the respect their origins command in audiences.

Administration (Bureaucracy Cluster, Default)

Soc or Edu

The ability to deal with various bureaucratic agencies, talk to the right people, negotiate mazes of "red tape," and take shortcuts around mountains of paperwork.

When serving in a bureaucratic organization, Administration expertise makes the character look competent in the eyes of his superiors. It should also affect the quality of work and potential for success of any organization that the character is managing or controlling.

Characters of high Social Standing are typically good with this skill, having learned to manage bureaucratic systems from an early age. Well-educated persons also tend to have experience with such systems.

Aircraft (Cascade)

Dex or Int

The ability to operate an aircraft safely. At level 1, the character knows how to take off or land an aircraft under *normal* conditions. Level 3 allows some advanced maneuvering without problem. At level 6, the character is qualified to train squadrons of flyers himself.

Aircraft is a cascade skill, divided into the following subskills:

- Helicopter
- Jet plane
- Prop plane (propeller-driven)

Dexterity is the usual characteristic used for Aircraft task roll. Intelligence is important in dealing with the instrumentation and protocol of flying.

Archaeology (Science Cluster)

Edu

The study of ancient civilization that entails excavating preserved sites, locating and identifying antiques or artifacts, and comprehending ancient cultures by piecing together vestiges of the past. This skill is crucial in understanding alien cultures from the artifacts left behind.

Education is the usual characteristic used for Archaeology skill.

Armory (Technical Cluster)

Int or Edu

The research, design, construction, and repair of weapons and armor, at the tech level of the character's homeworld. If the character gains knowledge of a higher tech level during play, he may

use this skill at the new tech level. (Note the tech level next to this skill on the character's sheet.)

Armory skill is based on Intelligence or Education, although Dexterity is sometimes used for construction or repair.

Art (Performance Cluster, Default)

Int or Soc

The familiarity with various art style and instruments, as well as inherent ability to depict objects or persons with both beauty and accuracy.

Persons of high Social Standing are often steeped in knowledge of art. Intelligence is of value in perceiving artistic arrangements and in using artistic techniques.

Artillery

Int or Edu

The ability to maintain and fire artillery (from catapults and ballistae to laser cannon) appropriate to the character's tech level. The tech level with which he is familiar should be noted on the character sheet alongside the skill. Chapter 5 provides full rules for using this skill during conflicts.

Normally, Int is associated with this skill, but Edu can be significant in reflecting the mathematical knowledge needed to plot trajectories.

Astrogation (Technical Cluster)

Edu or Int

The ability to compute, adjust, and plot accurate courses for interplanetary and interstellar travel, using computer programs and long-range data provided by the ship's detection system.

Education is very important here due to the incredible amount of complex mathematics. Intelligence is used to pick out essential data from the wide range of information an astrogator faces.

Athletics (Default)

Dex, End, or Str

Reflects engagement in regular vigorous exercises or sport activities, such as rock climbing, swimming, long distance running, etc. This skill is good for foot chases, scaling walls, leaping chasms, and other such endeavors during adventures.

Battle Dress

Dex

The ability to operate specially armored vacuum suits designed specifically for combat, including all of the sensors and weaponry built into such a suit.

This skill is based on Dex, since a highly dexterous character is best able to maneuver the suit and ready its weaponry to bear during combat.

Biology (Science Cluster)

Edu or Int

This study of living organisms covers biological aspects of a terrestrial organism, from physiological composition to evolution, habitat, dietary habits, reproduction, defense mechanisms, etc. This skill helps to determine where to look for life on a new world, how to sustain captive creatures, and how to safely introduce a life form into a new environment.

Edu is the primary characteristic, given the immense knowledge required. Intelligence is important for making logical connections among the facts a biologist collects.

Blade Combat (Default)

Cascade

The ability to fight with a blade weapon, divided into two subskills:

- Long Blade
- Short Blade

Characters fighting with broadswords will use Long Blade skill. It is based on either Dex or Str. A dexterous character will be proficient in parries and thrusts, while a strong character rely more upon the length of the blade to keep opponents at bay and the force of his swing to hit.

Characters fighting with dagger will use Short Blade skill, typically relying on Dex alone.

Fencing is a separate skill. A character with Long Blade skill can battle a fencer, but the fencer will certainly be the more elegant of the two in a duel. So even if the non-fencer wins the duel, he may find himself the object of scorn by observers of higher social status.

Bow Combat (Default)

Dex

The ability to hit targets consistently and accurately with a bow, both in combat situations and sporting competitions.

Some pirates promote the practice of Bow Combat skill, allowing them to use ranged weapons in fights aboard ships without the danger of breaching a hull with a firearm.

Bow Combat is commonly based on Dex.

Brawling (Default)

Dex or Str

The general skill for unarmed hand-to-hand combat and battling with improvised weapons such as chairs, bottles, logs, etc.

Typically, Dex is used for punches and strikes. For grappling and wrestling attacks, Str is more likely the base.

Bribery (Charisma Cluster, Default)

Int or Soc

The ability to get things done in a less-than-honest manner by knowing what to offer to whom, how, and when, in exchange for immediate favors, usually entailing the circumvention of regulations or laws. Even when a bribe is rebuffed, Bribery skill can often smooth things over, minimizing any chance of retaliation or other negative effects.

Difficulty level of any Bribery task should reflect the legal implications of the request, the law level of the world, and the target's own corruptness. Petty officials can often be bribed to find loopholes in regulations, or simply to ignore those regulations. A success does not necessarily mean that the bribe is accepted. The referee should also have in mind some minimum bribe for the NPC being approached, and if the offer is too low, a successful task roll means that the bribing character now knows exactly how much of a bribe is required.

Bribery often uses Int, while characters with high Soc tend to be in position to offer a "favor for a favor."

Broker (Business Cluster, Default)

Int or Edu

The know-how to find lower prices when purchasing goods, then quickly locate buyers for the items at higher prices, as explained in the trade and commerce rules.

High Int aids greatly in locating good deals. Edu is also helpful in subjects of finance and marketing.

Bureaucracy

Cluster

This is a skill cluster that includes Administration and Leadership.

Business

Cluster

Business is a skill cluster that includes Broker and Trader.

Camouflage (Default)

Int

The art of concealment—hiding objects or the character himself to avoid detection, and finding items other have hidden. The character can also find the best possible cover when under fire on a successful task roll. Camouflage does not allow a wide range of movement; to move silently requires Stealth skill.

Carousing (Charisma Cluster, Default)

Soc

The ability to mingle comfortably with strangers, even in unfamiliar social surroundings, and especially useful for making a good first impression in encounters with potential hirelings or patrons.

A character with this skill also understands the proper behaviors for moving within higher social circles. He has the knowledge

(etiquette, connoisseur, social graces, etc.) necessary to act correctly in upper-class social functions. Carousing is extremely important in establishing influential contacts ("friends in high places.")

(The "etiquette" of dealing with lower-class situations falls under Streetwise skill.)

Soc is used primarily with this skill.

Charisma

Cluster

This is a skill cluster that includes Bribery, Carousing, Diplomacy, and Fast Talk.

Chemistry (Science Cluster)

Edu or Int

The knowledge of the science of both organic and inorganic compounds, as well as the ability to analyze the composition, structure, properties, and reactions of elements and compounds. While Chemistry often concerns organic compounds, it does not give a character the skill of Biology.

Edu is typically the base for this skill, although Int can come into play when a character is testing the limits of a chemical creation.

Clandestine

Cluster

Clandestine is a skill cluster that includes Disguise, Forgery, Gambling, Intimidation, Intrusion, Stealth, and Streetwise.

Communications (Technical Cluster, Default)

Edu

The science of operating, repairing, and maintaining communications devices. This skill is necessary to understand the protocols of communication devices and their limitations, and to quickly identify why a communication device is not working properly.

Communications skill also denotes a character's ability to jam airwaves or evade jamming.

Edu usually serves as the base characteristic for this skill.

Computer (Technical Cluster, Default)

Edu or Int

A popular ability involving not only the working of computers, but also knowledge of the programming and repair of such equipment. Characters with high levels of computer expertise are in demand for employment by business organizations, starship captains, and various other employers.

This skill most often has Edu as the base, for routine computer functions and diagnostic procedures. Int is applicable for intuitive insights into programming and for identifying abnormal malfunctions.

Craftsman (Technical Cluster, Default)

Dex or Edu

The ability to create artifacts and duplicate valuable objects and works of art—legally or illegally. When used illegally, Craftsman is similar to Forgery skill, but applies to items or works of art instead of to documents.

Dex is often the base for this skill because of the manual coordination needed. Edu is also valuable in accurately duplicating an original work.

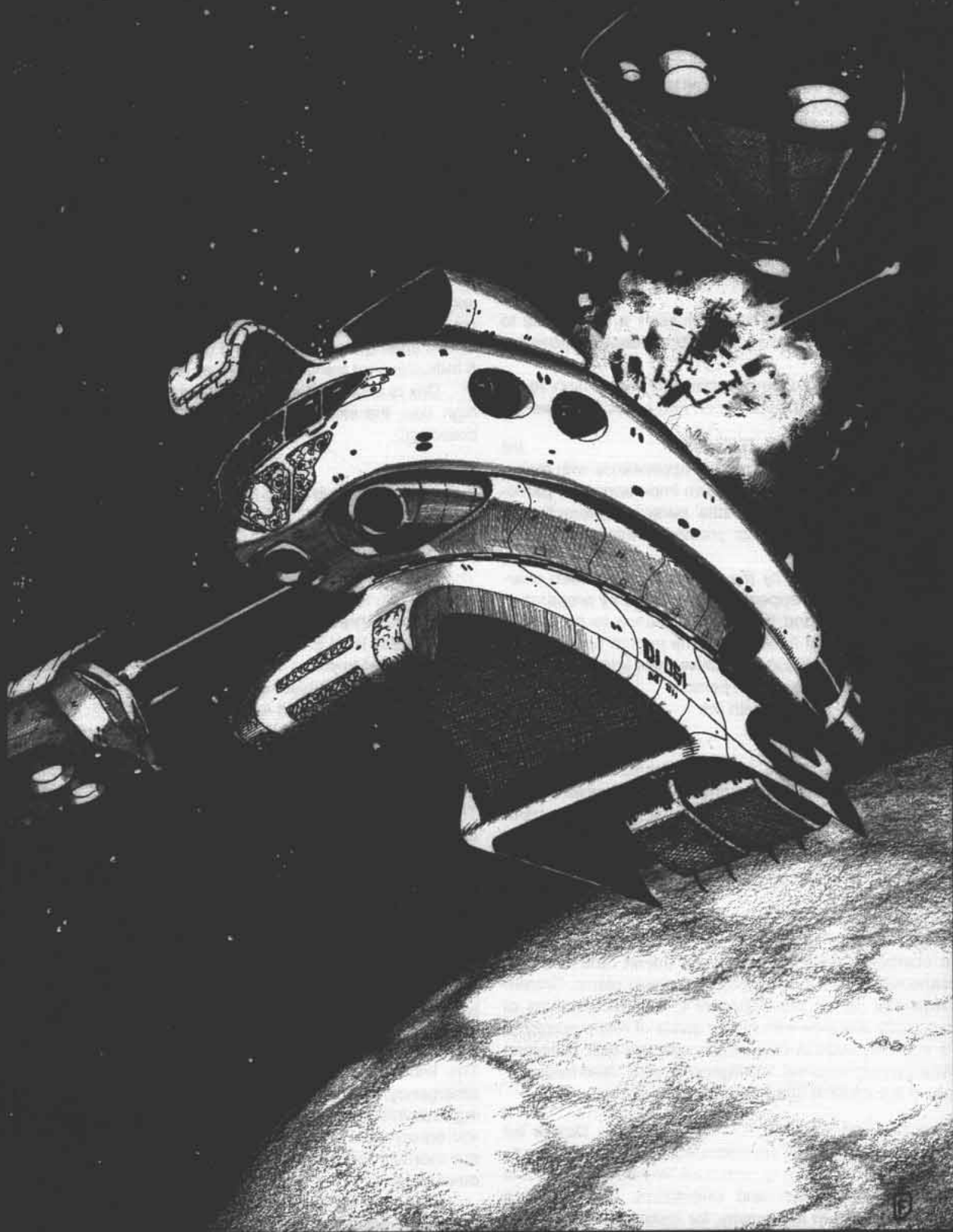
Criminology

This is a skill cluster that includes Forensics, Interrogation, Investigation, and Law.

Dance (Performance Cluster, Default)

Dex or Soc

The expertise to perform dances appropriate to the character's background, as well as to learn new steps and routines quickly. Dance is a common repertoire of the entertainers, whether as a primary performance (ballet) or as an element of some other type of act (pop-music concert). Also featured among elevated social circles, formal dancing is an ages-old element of social gatherings.



In the space lanes linking the Imperial core worlds, Imperial Navy vessels patrol constantly, protecting trade and commerce. But outside that region, a ship's safety is its own responsibility. Outnumbered and outgunned by pirate vessels, a lone vessel's only real defense is to evade fire long enough to escape to jump space.

Dex is the usual characteristic related to the Dance skill, but apply Soc for ballroom dancing and the like.

Demolitions

The training in the proper handling, placement, and detonation of explosives, in addition to defusing explosive devices set by others, and identifying clues as to their manufacture.

The skill is normally based on Edu, although Int is applied for unfamiliar explosive devices.

Diplomacy (Charisma Cluster, Default)

The skill of getting one's point across to others, keeping a cool head in frustrating situations, and settling disputes or reaching mutually acceptable agreements without threatening or alienating one's audience. A character with high Diplomacy levels is very tactful, able to attain a compromise position in short time, and probably well-respected for his stabilizing presence at the negotiation table.

(Using Fast Talk skill in the same situation is more likely to produce only a short-term solution, requiring in-depth negotiation at a later date.)

Diplomacy skill is based almost solely on Soc. A high social status lends a character both experience and credit to his words.

Disguise (Clandestine Cluster, Default)

The ability to mask or alter an individual's appearance with make-up and costume, also used for short-term impersonation, particularly from a distance and when little personal interaction is involved. Acting skill is needed for prolonged interaction while assuming another persona.

Task level is determined by the discrepancy between character's actual and intended appearance, modified by preparation time, quality of makeup, and the Int of audience to be fooled. Small audiences with great familiarity of the person being impersonated are much more difficult to deceive than large audiences with less intimate knowledge of that person.

This skill is usually coupled with Int.

Electronics (Technical Cluster)

The expertise in operating and repairing electronic equipment, allows a character to understand, manipulate, assemble, and fix complex or even alien electronic devices. Certain rolls will be harder than others, and may be impossible without sufficient tools.

Edu is normally associated with this skill, but Int may be more appropriate when dealing with alien devices or malfunctions of an unusual nature.

Engineering (Technical Cluster)

Enables a character to properly operate, adjust, and maintain starship maneuver drives, jump drives, and power plants. Greater levels of expertise permit the individual to handle problems of greater complexity and jobs with higher levels of responsibility.

Edu is normally used in conjunction with this skill, reflecting the extensive training required. Intelligence is also used frequently to represent the intuitive spark of a truly great engineer.

Environment Combat (Default)

The training to fight in unusual environments ranging from zero to high gravity, and from vacuum to undersea. Without this skill, it is difficult to maintain position and orientation, and to wield weapons to best effect. In low gravity, for instance, an unskilled character may fail to brace against the recoil of firearm, and consequently spin out of control. In high gravity, he might injure himself by failing to place his weight correctly when moving. In vacuum, he might pierce his own vac suit with his weapon, or be hampered by the fear of piercing his suit. In liquid environments, he won't know how best to deliver blows in close combat.

This skill improves a combatant's ability to compensate for any such disorientation. During combat in these or other unusual environments, the referee may ask players to make an Environment Combat skill roll to see how well their characters adapt to the situation. Or he may require them to use the skill in place of some other combat skill.

Dex is often the base characteristic for this skill, especially when quick reactions are important. If a character has time to plan before making an attack or maneuver, Int may be used instead. Occasionally, End can be used with this skill to combat exhaustion from fighting in unusual environments.

Equestrian (Default)

The ability to control and ride draft animals (usually horses) as personal transport, whether through necessity or as a sport, assuming sufficient skill and a properly trained animal.

Equestrian-1 is enough to ride most trained animals at safe speed. Equestrian-2 allows guidance of the animal and some fancy maneuvering while running or in chases. Equestrian-4 allows attempts at breaking and training the animals. Equestrian-6 indicates that the character is an extremely effective trainer.

Dex is important when riding animals, but among persons of high Soc, the skill is common as a sport and a mark of "good breeding."

Exploration

The exploration skill cluster includes Navigation, Recon, Survey, and Survival.

Fast Talk (Charisma Cluster, Default)

The ability to quickly talk into, out of, and around situations with simply a glib tongue and a straight face, persuading others to do things (often through lies) against their own better judgment.

The task level is determined largely by the believability of the story the fast-talker is trying to sell. The audience's personal knowledge of the subject can provide difficulty modifiers.

Int is normally used with this skill, but characters with high Education can be convincing by the sheer amount of information they can cite as evidence for their spiel.

Fencing

The expertise in attacking and defending with fencing weapons (foil, saber, and epee). Fencing is as much a matter of honor as a sport to the nobility, and a fencing duel is often as colorful as it is deadly, mixing clever repartee with elegant thrusts, parries, and ripostes of the blades. It is commonly said that the best way to gain a noble's respect is with a rapier.

Chapter 5 provides the special rules for fencing in combat.

This skill is normally based on Dex, although Soc is often a substitute, especially in duels designed more for show than for blood.

First Aid (Default)

The knowledge to quickly stabilize injured persons during an emergency, also to treat cuts and wounds, stop or control bleeding, administer artificial resuscitation, operate emergency medical equipment, patch up non-lethal injuries and, in short, keep the mortally wounded alive until they can receive appropriate medical aid.

Int is commonly used with this skill. Education can also play a big part when the paramedic has to draw upon his medical training to handle an emergency.

Forensics (Criminology Cluster)

The ability to gather evidence at the scene of a crime or accident, then analyzing that evidence using scientific equipment. A successful task roll yields facts or educated assumptions as to the

time and means of death, ballistics involved, "big picture" reconstruction of the crime, and so forth. (The Perception skill is another useful skill in crime situations, though it reflects a more innate ability to notice things, rather than specific training in criminology.)

Crude forensic instruments are available at a tech code of Industrial; equipment from higher tech codes is more reliable and gives more detailed information.

Edu is normally used with this skill, reflecting knowledge of common techniques in the collection and organization of evidence. But Intelligence can be just as important a factor when it comes to a solution to the puzzle presented by the evidence.

Forgery (Clandestine Cluster, Default) Int or Dex

The skill for faking documents, papers, and signatures with the intention of deceiving other persons. Documents necessary for cargo transfers, bank transactions, personal identification, and many other such official function are often closely inspected by the police, customs agents, or clerks during adventures. Such encounters occur when the referee rolls the law level or less of a world (generally rolled once or twice per day). The complexity of the document being forged is a guide for setting a task level for forgery attempts.

Int is normally associated with the Forgery skill, reflecting the eye needed to recognize essential elements of a document. Dex may be used in determining whether a physical production (such as a signature) passes inspection.

Forward Observer Edu or Int

The ability to communicate adjustments to artillery fire (projectile, missile, and laser) from distant batteries and from ships in orbit, assuming communications equipment is available. The exact mechanics for delivery of artillery fire and its adjustments by a forward observer are given in Chapter 5.

Edu is normally used with this skill, though Int is often applied as well.

Gambling (Clandestine Cluster, Default) Int or Soc

A character with this skill is versed in games of chance, and is wise in their play, sometimes to rigging the odds in his favor.

Gambling die rolls can be handled in one of two ways. If the referee wants to concentrate upon the gambling scene, each hand of cards or round of bets should be based upon the roll of an "uncertain task." The player should have his character bet his credits based upon the player's comfort with that roll. If, with the referee's portion of the roll, the task is succeeded, then the character wins that round. If not, the character loses.

A faster way of handling the Gambling skill ("Okay, you spent the night gambling") is to simply have the player declare how many total credits his character is willing to lose over the course of the scene, then call for one Gambling roll normally. If the roll succeeds, the character has a net win; if it fails, he has a net loss. The referee decides how much is won or lost depending on the amount risked and the outcome of the roll.

Gambling skill is normally related to Int, reflecting an understanding of odds, memory of cards, and observation of other bettors' tendencies. Characters with high Soc often have considerable background with Gambling too, and tend to be less concerned about any losses they may incur. (To them, gambling is more a sport than anything else.)

Geology (Science Cluster) Edu or Int

The study of a planet's origin, evolution, and structure as recorded in rocks, crust, interior, and fossils. A character with this skill can analyze a planet's composition for valuable natural resources (oil, minerals, metal ores, etc.) and evaluate the surface stability of the planet.

Edu is used when applying geological facts and theories to a situation. Int is the base when attempting to locate the likely pockets of resources or to predict earthquakes and volcano eruptions.

Grav Craft (Default) Dex

The ability to operate all types of antigravity-driven vehicles, such as grav sled, floater, grav belt, flier, etc. Grav vehicles are the major transportation form on most worlds with a tech level of 7 or greater. Most people on such worlds are aware of the basic operation of these conveyances.

Grav vehicles can be dangerous to operate in high-speed situations or in bad weather.

Dex is normally used in operation of grav vehicles.

Gravitics (Technical Cluster) Edu or Int

The ability to repair and utilize anti-gravity devices, including the motive drivers of lift modules, grav belts, grav sleds, grav tanks, the repulsor drives and grav plates used in spacecraft, and the inertial dampers used in high-speed vehicles.

Due to the vast knowledge involved, Edu is commonly the base for this skill. Int comes into play in actually understanding gravitic theory.

Ground Craft (Default) Dex or End

The ability to operate ground vehicles of all types—whether wheeled, tracked, or air cushioned (hovercraft). Because they remain in contact with the ground, these are among the easiest of vehicles to operate. A malfunction is dangerous only when the vehicle is of great mass or is travelling at high speed.

Most attempts using this skill will call for Dex. End may be appropriate when a ground vehicle must be "wrestled" across a hazardous stretch of ground or around a corner at high speed.

Gun Combat (Default) Cascade

Familiarity with any of these cascade skills gives a character knowledge in the use of hand-held guns, whether firearms or energy weapons. The character knows how to load, aim, fire, and care for such weapons. Subskills of this cascade are

- Pistol
- Rifle
- Shotgun
- Submachinegun

Dexterity is typically the base for these skills.

Gunnery Int

The expertise to manipulate naval ship/spacecraft-mounted weapons, which include beam and pulse lasers, sandcasters, and missile launchers.

Gunnery skill is generally associated with Intelligence, reflecting the technological aptitude necessary for manning a gunnery station, with its advanced electronics and computer systems.

Heavy Weapons (Default) Dex or Str

The training in the operation of man-portable heavy weaponry such as autocannons, grenade launchers, machine-guns, VRF Gauss guns, and other such items.

Dex is usually applied with Heavy Weapons skill. but Str is just as vital for man-handling such heavy equipment, especially in tight quarters.

Helicopter (Aircraft Cascade) Dex or Int

The training in the operation of rotary-wing aircraft. Helicopters are of great use in locations where landing space is at a premium, and where gravitic technology is not yet available.

Dex or Int are the primary characteristics for this skill.

History (Science Cluster) Edu

The study of recorded past events and their causes. Also, the knowledge of the various techniques used in correlating information relating to historical figures, places, and affairs. The skill is pivotal in understanding the origins of a race of people, which in turn derived their current circumstances, social structures, and relationships with outsiders.

Edu is the primary base for this skill.

Instruction (Academic Cluster, Default) Int or Edu

The ability to effectively impart knowledge or expertise of skills they possess to others, also includes giving explicit, precise instructions (written or oral) so as to avoid miscommunication.

Instruction skill allows one character to perform a task at another's instruction. (For example, an untrained person could attempt to land an aircraft under instruction by radio.) In such cases, the target number for the task is based upon the characteristic of the attempting character, plus the instructor's skill or his Instruction skill, whichever is lower. All other modifiers apply as normal.

A character can convey to other characters any skill he knows with Instruction. The referee determines an amount of time required to accomplish this according to the subject's complexity. The target number for the task is the lower characteristic between the teacher and student, adding to the teacher's Instruction skill or skill being taught, again whichever is lower. The task level is Difficult (2 1/2D). Under poor conditions, or if the task is attempted in a shorter time than that set, the referee may impose negative modifiers. If conditions are excellent, with appropriate training materials and sufficient time, he may impose positive modifiers. Success means that the student gains the skill at level-1. Failure means that the student is confused and frustrated by the subject and time has been lost. The referee may decide to allow another attempt, but only if the condition improves first (additional time and materials).

Interrogation (Criminology Cluster, Default) End or Int

The ability to extract more information from a subject than would normally be forthcoming. Interrogation is asking the right questions and correctly interpreting the responses through not only words, but also attitude, body language, and other minute details. The interrogator has a high ability to detect lying and to piece together hints of the truth from a large number of interrogations.

This skill is normally based on End to reflect the concentration and will power necessary to wring information out of an unwilling individual. If the target is not hostile, the referee may apply Int instead.

Intimidation (Clandestine Cluster, Default) Str or End

The knack to look especially imposing to other individuals, knowing how to "amplify" personal presence and use it to gain temporary obedience from others.

Intimidation relies mostly upon the Str through displays of brute force, though it may also relate to End to reflect a character's force of will.

Intrusion (Clandestine Cluster, Default) Dex or Int

This skill encompasses activities such as lockpicking, safecracking, pickpocketing, burglary, and other thievery practices. Special tools can provide positive difficulty modifiers; in some cases they may even be absolutely necessary.

When the skill is used for picking pockets and the like, Dex should be the base. Int may be called upon for safecracking and similar actions.

Investigation (Criminology Cluster, Default) Int

The familiarity with various investigation techniques, as well as knowing where to look, who to talk to, and how to go about searching for clues through either experience or intuition. Unlike the Research skill, which concerns finding facts within databases, the Investigation skill entails recognizing leads, identifying key elements, and deducing what other skills will be useful (even necessary) in solving the problem being investigated.

This skill should not replace players thinking, though it can be used as a means of providing leads for players when they are absolutely stumped. Int is commonly used with this skill.

Jack of All Trades Varies

This is a general ability that may be applied to nearly any endeavor, at the discretion of the referee. A character with the Jack-of-All-Trades skill can attempt to use it in place of any other skill that is normally not possible to people completely untrained. To do so, just apply Jack-of-All-Trades level in place of the other skill, and use the characteristic associated with the skill being substituted, *but at half value, rounded up, as if it is a 0-level skill.*

Equipment availability and other circumstances may modify the roll.

Jet Plane (Aircraft Cascade) Dex or Int

The training in the operation of fixed-wing, jet-driven aircraft. Jets are common on worlds where high speed travel is important and the local technology can support their use, but is not yet capable of producing grav vehicles and inertial dampers.

Dex or Int are the primary attributes for this skill.

Language Edu or Int

This is a special sort of cluster skill in that there is no specific skills listed to choose from. Receipt of the Language skill allows the character to read, write, speak a particular language, such as French, German, or even Vilani. Communicating in a language not native to the character usually requires a roll at the appropriate task level to reflect the message's complexity.

All characters are assumed to already automatically have a skill level-5 in their native language (usually Anglic).

The characteristic used for language tasks is normally Education, though Intelligence may be called upon (particular in tasks involving a character's native language).

Law (Criminology Cluster, Default) Edu

Enables a character to handle legal matters such as drafts of law-binding documents (fine prints included), local jurisprudence, court cases, legal advice, etc. The task level for winning a lawsuit corresponds to the validity of claim. Difficulty modifiers may apply according to the opponent's legal ability and other considerations. The skill can also be used to find legal loopholes, if there are any, in a contract or regulation, and utilize them to the character's greatest advantage.

Law typically relies upon the Edu.

Leadership (Bureaucracy Cluster, Default) Soc or End

This skill is essential for directing a group of people effectively and efficiently. Leadership is the amalgam of knowledge, personality, and self-confidence to convince others to follow your orders, especially in dangerous or stressful situations.

Leadership is normally required to control six or more NPCs at one time. Such a group will tend to obey the general commands of the character with the highest Leadership rating.

Characters of high Soc tend to have an advantage in commanding groups of other people. High End can be instrumental in driving others to obey one's orders.

Linguistics (Science Cluster) Edu or Int

This study of languages enables a character to correctly identify a language, its origins, its similarities to other languages, and any peculiarities of it. A character with the Linguistics skill gains the equivalent of level-0 in all languages with which he has any familiarity.

Linguistics normally relates to Edu. In cases where intuitive insights become more pivotal than training, Int may apply.

Long Blade (Blade Combat Cascade, Cluster) Dex or Str

The skill in the combat use of swords, machetes, and the like. Some long blades are light, designed for quick thrusting and cutting strikes; others are heavy, designed for hacking attacks.

The type of blade and attack used determines the attribute referenced during combat. Quick attacks with a light blade depend upon Dex; more powerful strikes with a heavy blade depend upon Str.

Mechanics (Technical Cluster) Int or Edu

This skill improves the chance to properly operate, build, and repair mechanical devices ranging from air lock hatches to main-drive bearings. Any situation requiring a knowledge of mechanical aspects of equipment can be affected by the Mechanics skill. The proper tools may apply difficulty modifiers to a Mechanics task; lack of them may prohibit it altogether.

Int is normally the base for this skill, though Edu helps when dealing with devices of common manufacture.

Medical (Science Cluster) Edu or Int

This field of science is not only the study of medicines, but also the training to heal patients and maintain health of individuals. Medical skill levels represent steps in increasingly better ability to treat diseases and injuries.

Medical-1 is sufficient to qualify a character for the position of medic on a starship crew. Medical-3 allows a character to assume a license to practice medicine, including writing prescriptions, handling most ailments, and communicating with other doctors on a professional level.

Medical skill levels can be used in place of First Aid, though not vice versa.

Edu is primarily in reference to Medical skill, though Int may be used when dealing with new or unfamiliar conditions. Surgery typically defers to the Dex.

Melee Combat Dex or Str

Combat training in hand-held weapons other than blades. Examples include clubs, polearms, spears, etc. (in short, hand-to-hand weapons not covered by other combat skills.)

Dexterity is the characteristic normally used as a base for this skill. Strength may apply in some situations (hitting an object over a long distance, for instance).

Music (Performance Cluster) Int or Dex

This represents the aptitude for musical expression. The character has a musical background or training that enables him to be proficient with one or more musical instruments, in addition to the ability to create musical compositions.

Int is normally used for the understanding of music. Dex is applied for actually performing with an instrument.

Navigation (Exploration Cluster) Edu or Int

Navigation involves plotting efficient passage between two points on a planetary surface, whether from one side of a city to the other, or across a sea to another continent. It allows a character to determine his current location, often via star constellations and other navigation techniques, and determine the direction of his

intended goal. Navigation is to surface exploration what Astrogation is to space orientation; they are identical in term of assisting a character in finding ways to a destination.

Education is normally applied for Navigation tasks, especially those of travels over great distances. Int may also be used, particularly for shorter distances where direct observation becomes more important.

Perception (Default) Int or Edu

The ability to detect details that might escape other people. On a successful Perception roll, a character can sense abnormalities in an otherwise ordinary situation (noting, for example, the security camera behind the mirror above the third door, or that the starship cargo has been slightly tampered with, or that the wine is tasting a bit bitter).

Int is the usual base for Perception tasks, though Edu may apply in situations for which the character has been specifically trained to remain alert.

Performance Cluster

This is a skill cluster that includes Art, Acting, Dance, Music, and Writing.

Philosophy (Science Cluster) Edu or Int

This "soft science" is the study of beliefs and teachings regarding gods, existence, proper conduct, and of sentient beings' relationship with the universe. A student of philosophy does not necessarily abide by the principles he is studying; this skill simply indicates the character's knowledge concerning different schools of thought.

The characteristic normally associating with this skill is Edu, though Int is applied in philosophical debates.

Physics (Science Cluster) Edu or Int

The study of properties and interaction of matter and energy, allowing a character to analyze or predict the motion, state, force, and general behaviors of a body or object.

Edu is commonly the base for this skill. Int is used in evaluating objects behaving to strange, alien principles not yet known to man.

Pilot (Spacecraft Cluster) Dex

Represents the training and experience in the control of starships and large interplanetary vessels. This skill encompasses both the interplanetary and interstellar aspects of large ship operation.

Pilot skill qualifies a character for the job of pilot on a starship over 100 tons. Small interplanetary craft (under 100 tons) handle somewhat differently and require the Ship's Boat skill. Although the two skills are not part of a cascade group, characters with the Pilot skill may use that skill when piloting vessels under 100 tons, at a difficulty modifier of -1. The reverse is not true, however; character's trained only in the use of Ship's Boat skill cannot pilot larger craft.

Dex is typically linked with the Piloting skill, regardless of vessel size.

Pistol (Gun Combat, Default) Dex

The training in the use and care of handguns. While less accurate than rifles and other such firearms, pistols make up for that fact in their easy portability and concealability.

Dex is the primary attributes for this skill.

Prop Plane (Aircraft Cascade) Dex or Int

The training in the operation of fixed-wing aircraft powered by propeller rather than jet. Primitive prop planes are available at

tech level 5, and more advanced designs remain in use through tech level 8 or 9. One advantage of prop planes is their ability to glide even when motive power has been lost.

Dex or Int are the primary attributes for this skill.

Psionology (Science Cluster)

Edu

The study of psionic phenomenon, providing a character with knowledge to recognize psionic powers. This skill of itself does not grant any such powers, but in alerting its possessor to psionic use, it may help to protect him from psionic manipulation. After all, knowledge is a power of its own.

Chapter 9 describes the mental powers of psionic individuals. A character with Psionology skill will have some familiarity with the information of that chapter, the relative amount being determined by his skill rating.

The typical characteristic used for Psionology tasks is Edu because the subject is not always intuitively sensible, and accumulated knowledge is normally the only way of gaining an understanding of it. End is sometimes applicable with the skill, particularly when resisting psionic attacks.

Psychology (Science Cluster, Default)

Int or Edu

With this skill a character can judge the motives and evaluate deep-seated emotions of another individual. It can be used, for example, to predict the behavior of others in a given situation, or to determine the likely truth or falsehood of statements another character makes.

The Psychology skill uses Int as its base when dealing with a specific individuals. Edu may apply in understanding the actions and attitudes of large groups.

Recon (Exploration Cluster, Default)

End or Int

The ability to scout a location and move about in the wilderness without being detected. Characters with Recon skill are able to determine the number of individuals that recently passed through an area by inspecting tracks, trampled vegetation, or other signs and clues, with higher levels of expertise yielding increasingly more accurate information. This skill also applies in tracking a specific creature or person.

In encounter situations, the referee will set the task level for each side to spot the other. Characters with Recon skills have a higher chance of spotting the enemy in advance, but they also have a correspondingly lower chance of being seen in turn. To represent this, the highest Recon level on each side in the encounter acts as a negative difficulty modifier to the other side's task attempt.

Because of the concentration involved, End is normally referenced for Recon. Int may be called upon if tracks are especially puzzling.

Research (Academic Cluster, Default)

Edu

The familiarity with different library and catalog systems, equipment, and various techniques used in gathering from files data about people, places, subjects, and events. Often, this skill is used to assist in preparation for a scientific or technical experiment, or to gain new information to assist an experiment in progress.

Because the skill involves searching through stored information, typically a library, Edu is most often the base.

Rifle (Gun Combat Cascade, Default)

Dex

The training in the use and care of rifles. These weapons are fairly easy to operate, and can hit targets at impressive ranges, in the hands of a skillful firer.

Dex is the primary attribute for this skill.

Robotics (Technical Cluster)

Edu

This skill deals with designing, operating, building, and repairing robots (limited to the character's own tech level and culture).

Robotics skill may be used as the next lower level of Computer, Mechanics, Electronics, or Gravitics skill, when specifically concerning robots. (Thus, Robotics-2 equals Computer-1, Mechanics-1, etc.)

Sciences

Cluster

This skill cluster includes Archaeology, Biology, Chemistry, Geology, History, Linguistics, Medical, Philosophy, Physics, Psionology, and Psychology.

Sensors (Technical Cluster)

Int

The skill to operate all type of sensors, in particular those aboard starships. On a successful task roll, sensor operators can detect all objects within range, and correctly interpret those signals.

Already significant during interplanetary travel, accurate sensor work is even more important in ship combat. Chapter 5 contains complete rules for sensor applications during battle.

Int is typically referenced for this skill.

Ship's Boat (Spacecraft Cluster)

Dex

The expertise with the operation and function of small interplanetary craft, collectively known as ship's boats. These craft range in size from 5 to 100 tons, and include shuttles, lifeboats, launches, and fighters.

The small interplanetary craft carried as auxiliaries or boats on larger ships, or serving the needs of bases and stations, are distinctly different from the large vessels that traverse the space lanes. Ship's Boat skill reflects a unique experience and training in the control of these craft. (Although the Pilot skill can be used in place of Ship's Boat skill at one level lower, Ship's Boat cannot substitute for Pilot skill.)

Dex is commonly applied to the Ship's Boat skill.

Short Blade (Blade Combat Cascade, Default)

Dex

The training in the use of knives, bayonets, and the like. Short blades are portable, concealable, and legal for self defense on a wide variety of worlds.

Dex is the primary attribute for this skill.

Shotgun (Gun Combat Cascade, Default)

Dex

The training in the use and care of shotguns. For close combat, shotguns are popular firearms, able to do considerable damage, and requiring less precision in aiming than weapons that fire single projectiles.

Dex is the primary attribute for this skill.

Spacecraft

Cluster

This is a cluster including the two separate skills of Pilot and Ship's Boat.

Dex is the primary attribute for this skill.

Stealth (Clandestine Cluster, Default)

Dex

The art of covert movement and the ability to remain unobserved by moving quietly while taking maximum advantage of available cover. Unfortunately, stealth will not work against automated electronic surveillance devices or robots.

This skill usually refers to Dex as its base.

Streetwise (Clandestine Cluster, Default)

End or Int

Streetwise permits contact with different criminal elements for the purposes of obtaining information (rumors and gossip included), hiring persons, buying or selling contraband or stolen goods, and other shady activities.

End is associated with Streetwise skill because of the rough-and-tumble nature of the criminal element of any society. On occasion, Int may apply when cunning and intuition become imperative.

Submachinegun, SMG (Gun Combat Cascade, Default) Dex
The training in the use and care of small autofire weapons.
Dex is the primary attribute for this skill.

Survey (Exploration Cluster) Edu
The science of mapping and charting star systems, this skill confers expertise in the various aspects of producing accurate maps and directories of Imperial territory and its frontiers. This skill allows an individual to determine the precise characteristics of an unknown or unclassified world, and to compile its UPP, as well as correctly map and gather information about the star system. Obviously, Survey skill is most useful when a person encounters unknown worlds.

Edu is the choice for most tasks involving Survey skill.

Survival (Exploration Cluster, Default) End
Survival skill lends a character both the theory and practice of living off the land, of staying alive in situations where most people would have trouble finding food, water, or shelter.

Characters with Survival expertise are adept at locating food and water, constructing natural weapons and shelter, setting simple wildlife traps, and travelling across country, in a wilderness or hostile environment.

Survival skill is usually based on End.

Tactics (Default) Int or Edu
The character has training and experience in small unit tactics (up to units of 1000 troops or spaceships). This skill is not to be confused with strategy, which deals with the reasons for the encounter and the intended result; strategy is the realm of the players, rather than of the characters.

When small units encounter hostile forces (in battle or while adventuring), tactical skill provides an advantage toward winning, or at least reducing the disaster of defeat. Because tactical skill is an intangible, the exact results in battle are left to the referee to implement as necessary or prudent. It might influence the type and amount of information available to the character in the miniature figure resolution of a battle using hidden movement, or can modify task levels in crucial situations.

Tactical skill should be considered by the referee when a character is seeking military-type employment.

Edu is sometimes linked to Tactics skill, reflecting a broad knowledge of elements involved in a battle engagement. Int is the normal base for this skill.

Technical

This is a cluster skill that includes Armory, Astrogation, Communications, Computer, Craftsman, Electronics, Engineering, Gravitics, Mechanics, Robotics, Sensors.

Throwing (Default) Dex or Str
The ability to accurately throw objects or weapons, from rocks, to darts, to spears, to grenades.

For objects that do damage primarily by impact, Str is referenced by this skill. Grenade throwing relies more upon accuracy, as do sporting competitions with darts, so Dex is applied, instead.

Trader (Business Cluster, Default) Int or Soc
The ability to identify the best cargos to carry from one world to another. The Trader skill is an advantage in commercial trading, as it improves one's ability to estimate the resale value of items in the trade and commerce rules. (See Chapter 16 for details.)

The Trader skill normally references Int due to the cleverness necessary for recognizing highly-marketable cargos, while a reasonably high Soc enables the character to make useful connections with buyers and sellers.

Vac Suit (Default) Dex
The training and experience in the use of the standard vacuum suit (space suit), including special suits for use on various planetary surfaces in the presence of exotic, corrosive, or insidious atmospheres. With this skill, a character can adequately gauge the amount of air and power remaining to a suit, don it, check its seals, and maneuver about in it without causing a tear in the fabric.

Non-breathable atmospheres or hostile environments can be easily overcome with protective equipment, but the danger of minor mishaps becoming fatal remains great. A roll may be needed to avoid danger when attempting any unusual maneuver while wearing a vac suit (including running, jumping, hiding, leaping untethered from one ship to another, etc.).

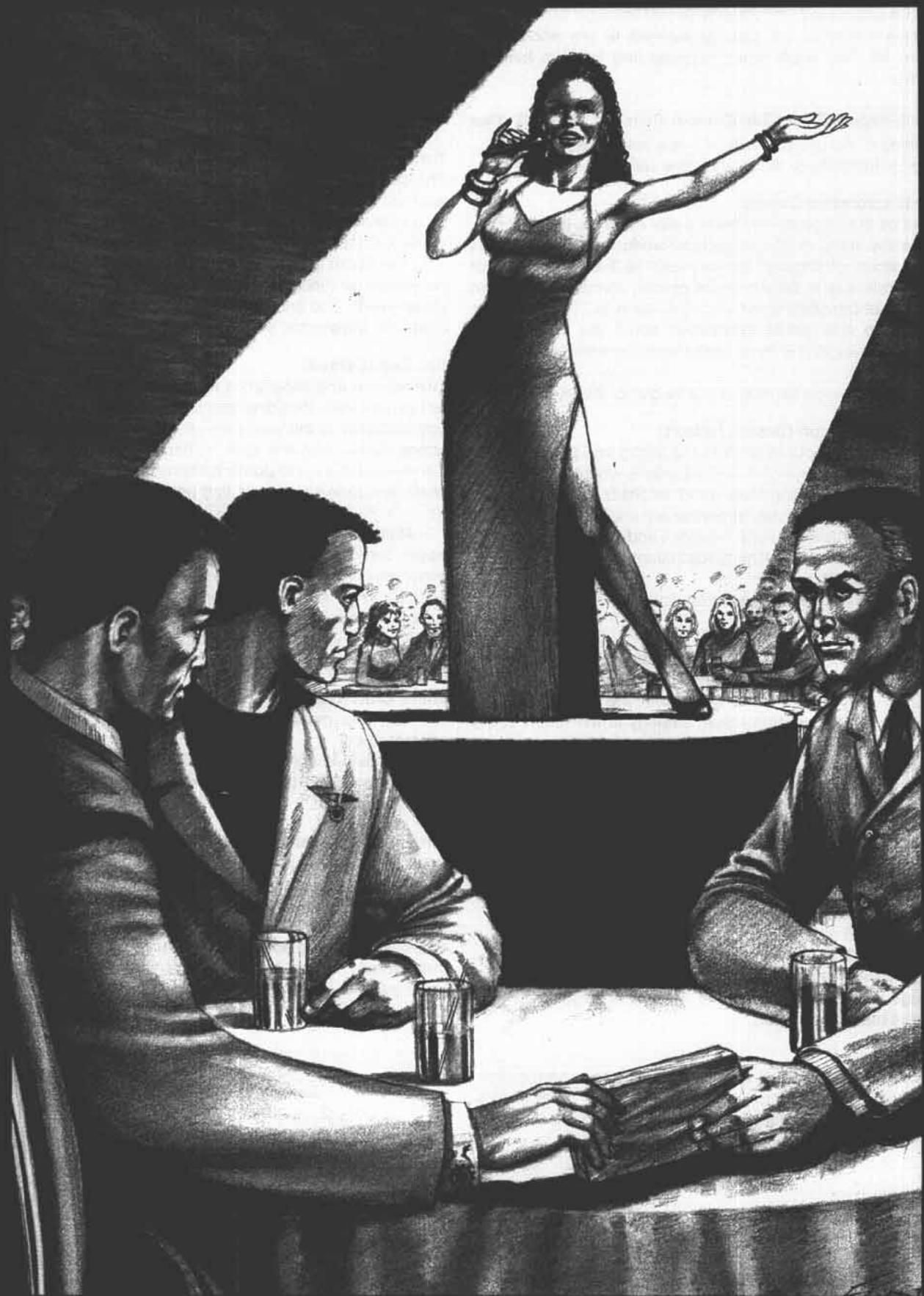
Dex is the primary base for Vac Suit skill.

Water Craft (Default) Dex or End
The ability to manually operate water-borne vessels, including submersibles.

This skill is normally based on Dexterity. In hazardous circumstances when the craft must be manhandled, End may be more appropriate.

Writing (Performance Cluster, Default) Int or Edu
Enables a character to present insightful, entertaining reading materials, factual or fictitious.

Int is the usual base for this skill, indicating an individual's understanding of both the subject matter being conveyed and the target reader being addressed. In cases of a learned readership that expects certain conventions of style and usage, Edu may come into play.



Message delivered, the courier's assignment is concluded at last. All that remains is to relax, enjoy his companion's performance, and cultivate an image of devil-may-care, high-society traveller. Nobility has its perquisites as well as its responsibilities.

Every activity that characters undertake in the **Traveller** game system is a task. Many of these tasks are ordinary or routine—such as walking to the door, picking up a letter, or simply chatting with someone—and it is not necessary to resolve their outcome. It is only when the referee perceives uncertainty in an action's outcome that a task attempt should be made.

Task attempts involve four separate elements:

- A *target number*—typically a skill matched with a primary attribute.
- A *dice code* appropriate to the innate difficulty of the task.
- The possibility of one or more *difficulty modifiers*, reflecting factors influencing the event, such as bonuses for helpful equipment or penalties for troublesome conditions.
- Finally the *result*, whether a success or failure, and the possible *spectacular result*.

The Target Number

Most tasks are attempts to use a specific skill. For example, recognizing a particular chemical compound would require Chemistry skill.

Each skill is associated with one or more primary characteristics. Chemistry is related to Education or Intelligence, for example. When using a skill, the referee decides what characteristic to use in conjunction with the skill, based upon the situation. Identifying a brand new chemical compound would rely upon Intelligence, for instance, while recognizing a common substance would require Education.

When there are two or more characteristics appropriate to the situation, use the lowest characteristic. For example, climbing a difficult rock face calls for an Athletics roll, but that Dexterity, Strength, and Endurance are equally important to the task, so the character will use the lowest of these characteristics.

Similarly, when more than one skill is relevant to the task, use the lowest rated skills. Breaking into a password-protected computer file, for instance, calls upon both Computer and Intrusion skills, so the character must use the lower rated of the two skills.

The referee may also opt to base a skill on a completely different characteristic than those recommended. For example, recognizing a poisonous chemical by smell could justify the pairing of Chemistry skill and Endurance.

The target number for a task is the sum of the skill level and the associated characteristic. For a character to succeed at the task, the player must roll a number equal to or below this target number. Rolling above the target number indicates a failure.

Example: For a character with UPP of 468AB7 and a skill of Chemistry-3, the target number for recognizing a chemical compound is either 13 or 14, depending upon which base characteristic, Edu or Int, is used.

When no skill seems appropriate, the referee will set a primary characteristic alone as the target number. For example, prying open a rusted door might call for a roll against Str without any related skill.

It is always the referee's decision as to which characteristic is relevant to a particular task.

Level-0 Skill Use: If a character attempts a task that requires a skill, but does not possess that skill, he may try a level-0 skill task roll if the necessary skill is italicized on the Consolidated Skills List.

The target number for level-0 skills is half the relevant characteristic, rounded up.

The Dice Code

Tasks are rated by difficulty, which equates to a dice code. The more arduous the task, the more dice to be rolled. The Task

Difficulties Table shows the number of dice for various difficulty ratings. Whenever a half die is indicated on this table, roll one die and divide by two, rounding up.

The referee will decide the difficulty rating for a task attempt. Many sections in this game have recommended difficulty ratings, but the referee is always the final word.

Easy Tasks: Tasks rated as "easy" typically require some skill to accomplish, but don't warrant rolling dice. If the character has the skill, he succeeds; if he does not have it, he fails. (Level-0 skill use is the exception, calling for a roll of 1.5D, as shown on the Task Difficulties Table.)

Reading a newspaper article in a foreign language, for instance, is usually easy for anyone who knows that language. But a person who has no knowledge of that tongue would have no idea as to what the article had to say.

Average Tasks: This level reflects tasks that have some risk of failure even to the skilled character, but not much. Considering that the perfectly average character typically has a task target number of 9 or 10 (characteristics of 7 and skill of roughly 2 or 3), and that the average roll on 2D is 7, there is little likelihood of failure.

Driving a car on a clear but rain-slicked road would normally be an average task.

Difficult Tasks: One stage tougher, Difficult tasks still usually give the average character little trouble. A typical Difficult roll being 8 or 9, a character will succeed more than fifty percent of the time, especially if the task is in one of that character's areas of expertise.

An example of a Difficult task would be clambering over a wall two meters tall.

Formidable Tasks: Tasks at this level of difficulty are troublesome for all but the most skilled of characters. They are the sorts of things that only an expert can accomplish with any regularity.

An example of a Formidable task could be piloting a grav car at high speed through a narrow canyon, while being fired upon by ground troops.

Staggering Tasks: Staggering tasks should be attempted only by experts, preferably with the best of preparations. Often, one of the elements lending difficulty to these tasks is the danger involved. The severe consequences of failure add an element of tension that only a practiced and prepared character can readily overcome.

Leaping from the roof of a speeding maglev train as it passes over a bridge, and landing safely on the deck of sailboat passing ten meters below, would be an example of a staggering task.

Impossible Tasks: Impossible tasks are attempted only by the truly desperate, or the truly heroic. Even the fittest, best trained characters in the galaxy have trouble accomplishing deeds of this level. As with staggering tasks, the danger of failure is an important element in the difficulty of Impossible tasks.

An example of an impossible rated task might be riding the ejection seat of a fighter jet through the open hatch of a passing passenger plane.

Difficulty Modifiers

Many special considerations can modify a character's chance to accomplish a task. A scope on a rifle can help with a difficult shot, for instance, while darkness would normally hinder the shooter. In the **Traveller** game, such things are represented by difficulty modifiers (DMs).

Difficulty modifiers are listed as pluses or minuses (e.g. +1, -3). These modifiers adjust the target number of the task. Positive modifiers raise the target number, making success more likely, while negative modifiers lower the target number, reducing the chance of success.

All difficulty modifiers are cumulative, so a character using a rifle with a scope in darkness would add the scope's bonus to the initial target number, then subtract the darkness penalty for a final target number for the task.

Equipment listings in this book include difficulty modifiers for particular types of tasks, and many sections of the rules suggest difficulty modifiers for particular situations. But, as always, the referee is the final arbiter on the use of these modifiers.

Cooperative Tasks

On occasion, more than one character may be cooperating on the same task. A pair of characters may be working together to lift a fallen girder off of a companion, for instance. In these cases, the referee may allow the characters to add their skill levels together, using as a base the attribute of the character leading the attempt (normally the character with the highest skill level). In cases involving just characteristics without skill ratings added, the referee may allow the characters to add their attributes together for the attempt. (Lifting the girder might involve their combined Strengths, for instance.)

Opposed Tasks

When characters are attempting an action in direct opposition, such as an arm-wrestling contest, it may not always be appropriate to have each character make a task roll until one fails. A faster way to handle such situations is to have each roll a die and add it to his appropriate skill and/or attribute, high total winning.

Uncertain Tasks

In some cases, success at a task isn't immediately evident to a character. When gambling at cards, for instance, a character may know that he has an exceptionally good hand, but he cannot know what cards his opponents hold until after he has bet. In such cases, the referee can simulate this mix of knowledge and uncertainty by rolling part of the dice in the task attempt secretly himself, and having the player roll the remainder. The player can judge somewhat his character's chances of success by the number he rolls, while remaining uncertain as to what the referee has rolled.

When rolling for uncertain tasks, the referee should never roll more than half of the dice called for by the task level.

TASK DIFFICULTIES

Rating	Dice Code
Easy	Auto
Average	2D
Difficult	2.5D
Formidable	3D
Staggering	3.5D
Impossible	4D

*Use 1.5D for level-0 skills.

Example: Suppose that a character is attempting to use Intimidation to convince an NPC to give him information, and the referee decides that the character should remain uncertain as to the accuracy of that information. If the task is set at Difficult (3D), the referee might choose to roll 1D secretly and have the player roll 2D. If the character's target number is 11 and the player rolls 7, he knows that his character has failed only if the referee rolled a 5 or 6 on his die. Fairly confident that his character has succeeded, then, the player decides to act upon the information given by the NPC informant.

If the referee rolled a 1, 2, 3, or 4, he should give the player accurate information. But if he rolled a 5 or 6, he should give the player false information, presenting it as the truth.

Spectacular Results

Occasionally the outcome of a task can be spectacular in either a positive or negative way.

Spectacular Success: Sometimes when a person tries something, things just fall perfectly into place, and the result is so amazing that it seems almost like magic. In game terms, whenever a player rolls the minimum possible result for a task (a 2 on 2D, a 3 on 2.5D or 3D, or a 4 on 3.5D or 4D), that attempt succeeds spectacularly. The referee will decide the exact effects of this success (but the player can certainly make suggestion). A spectacular successes might be a computer search that stumbles across the master password for the entire system, being dealt four aces and a king of spades in a game of stud poker (but everyone bets high, believing you are bluffing), a punch that knocks the target out cold, or a breathtaking performance that leaves the audience stunned or causes a rousing ovation.

Spectacular Failure. On the other hand, no matter how hard a person tries, no matter how well prepared he is, sometimes the universe just seems set against him, and his action fails dramatically, against all odds. In game terms, whenever a player rolls two sixes on a task roll, the attempt fails in some particularly awful way. (Note that a roll of 6 on a half die does not count for this rule. Also note that the task fails even if the total would normally be a success: A 3D roll of 6, 6, and 1 is a spectacular failure even if the target number is 13 or higher, for example.) The referee will decide the exact extent of the spectacular failure (although, again, the player may make suggestions). A spectacular failures might be a rope that snaps as the character is swinging across a chasm, a gun that jams just as the character is quick-drawing, slipping on a wet spot during a public athletic competition, or accidentally erasing a computer file when trying to copy it instead.

As adventurers journey through the cities and wilds of the worlds they visit, they will encounter beings of many kinds, some feral, some intelligent—many deadly. At times, force is the only recourse for dealing with such encounters. Unlike other sorts of skill application, combat involves enough details (and is dramatically important enough) to require its own chapter of specialized rules.

This chapter covers all varieties of ground combat, from an unarmed brawl between two individuals to full-scale battle between military squadrons. The system is designed to cover any situation in which violence erupts between the player characters and other creatures on a world. Such combats can involve single creatures, ground craft, watercraft, and even flying vehicles. Because the system covers creatures afoot, it is also used for battles between individuals aboard large vessels, whether on water or in space. In effect, the vessel simply serves as a “building” wherein the combat occurs. (Battles of spacecraft versus spacecraft are covered in Chapter 10.) Rules for recuperating from wounds are also detailed in this chapter.

The actual circumstances of each combat encounter are governed by the referee, in accordance with the rules in Chapter 13. Among other things, those rules provide for the likelihood of encounters in general and the basic reaction of the other party. The combat system is important for both what it reveals and what it allows. That is to say, combat is a dangerous undertaking, and knowledge of the system gives an individual insight into the probabilities of surviving any specific type of combat encounter. After becoming familiar with these systems, players will be in a position to make reasonable decisions about when to stand and fight, and when to prudently flee.

Basic Concept

Ground combat is based on successive attacks by each character involved, whether unarmed strikes, strikes with hand-to-hand weapons, or shots with ranged weapons.

The target number to hit is determined by the specific skill relevant to the action (identical to using a skill, in Chapter 3). Dice codes for the various attack types are given in this chapter, and difficulty modifiers may apply for such considerations as cover between the two parties, the types of weapons used, surprise, and other factors.

If a target is hit, wounds are inflicted based on the type of weapon used in the attack, as detailed in the weapons list on page 82. Armor can reduce the amount of damage suffered.

Each combat round lasts roughly six seconds. Combat continues until one side is vanquished, flees, dies, or surrenders.

Once an encounter occurs, and it appears to necessitate violence, the combat sequence outlined in the Ground Combat Procedure Table is followed to resolve that combat. As the table shows, surprise, encounter range, and avoidance are figured and executed only once per encounter. The rest of the combat round is performed cyclically until the combat is concluded.

Surprise: Surprise is possible for either party, and the element of surprise gives an advantage both in attacking and in avoiding the enemy. Roll one die for each party: if one party has a die roll at least three greater than that of the other party, the higher rolling party has achieved surprise. DMs apply to each party based upon expertise and situation, as shown in the Surprise DMs Table.

Only one party can achieve surprise, and it is possible that neither will. If no surprise is attained, both parties are considered to be aware of each other at the starting range of the encounter.

A party with the element of surprise may elect to avoid contact with the other party, or attack with surprise strikes and shots until surprise is lost. The endurance section of this chapter contains the definition of surprise strikes.

Surprise is lost when a member of the surprised party manages to alarm others in some manner. Any unsilenced shot will alert the enemy to an attack; laser weapons, silenced pistols, and all guns in vacuum do not make any noise when fired. Any target who is hit but not immediately rendered unconscious will typically make sufficient noise (usually a startled or pained outcry) to alert others. If no alarm is raised, there is still a chance each time an attack is made that an unattacked comrade of the victim will see him fall and will give out warnings—roll 5 - on 2D for this to occur.

Surprise continues automatically until it is lost, and may thus continue indefinitely. Once surprise is lost, normal combat begins.

Range: Encounters initially occur at any one of five ranges: close, short, medium, long, or very long. The specific starting range of an encounter is dependent on the referee's decision, or it can be randomized with a 2D roll using the Encounter Range Table. Rolls on the range table are subject to modifiers from the Terrain Difficulty Modifier Table; add the listed number to the roll. In essence, these modifiers take into account the altered probabilities of specific encounter ranges in differing terrain types. (An encounter at close range is much less likely on a prairie than in a city, for example.)

The result of this 2D roll, with any appropriate modifiers, indicates the range at which the two parties encounter each other. The distance equivalents of the ranges used in combat are given in the Combat Range Table.

Avoidance: Parties may attempt to avoid contact in an encounter. A party that has achieved surprise may always avoid an encounter by simply stating that intent. If two parties encounter without surprise, either may attempt to avoid contact before combat occurs. Roll 3+Range Number (from Combat Range Table) or less on 2D to avoid. An NPC party will attempt to avoid at the option of the referee, based on the situation. Animals operate under different rules, as explained in Chapter 13.

Once contact or combat begins, a party may leave the field of battle only through movement.

The Combat Round

Combat is resolved in rounds, each representing approximately six seconds of real time. Within each round, each individual PC, NPC, and animal is allowed an opportunity to move and then attack, in an order based on “initiative” (representing their quickness and calmness in battle, as explained below). Once all individuals in the battle have had an opportunity to act, the combat round is over, and the next combat round begins.

Generally, all individuals perform their movement first, then all conduct their attacks. The referee may modify this sequence in special circumstances, however.

Initiative: In combat, people move and attack in sequence. In game terms, this is called order of “initiative.” Characters with initiative *move* last in each combat round (allowing them to react to the positions of other characters), but they take their *actions* first in each combat round (allowing them to shoot or strike before the enemy). The **Traveller** referee may choose one of several ways to represent initiative:

- **Group Initiative by Size:** The fastest and easiest way to handle initiative is by side versus side, with the smaller group acting first each round. (The smaller a group, the easier it is for its members to coordinate their actions.) If the referee allows, the highest Leadership skill on a side can be subtracted from its size to modify this initiative. In cases of a tie, the PC group goes first.

On a side's turn, each character on that side can act in an order decided upon by the referee. Normally, this order will begin with those characters involved in close combat and range outward from there. But the referee may decide to call player by player once around the room, or any other sequence that seems appropriate to the battle.

Note that as group size changes—whether due to escape or injury—initiative may change as well.

- **Group Initiative by Roll:** Referees who prefer a bit more randomness may call for a 1D roll on each side, adding to the result the highest Leadership rating on the side. The group with the highest total moves and acts first, then the opposing group. In cases of a tie, the PC group goes first. Within each group, creatures act in an order decided by the referee, as above.
- **Individual Initiative:** Some referees allow a separate initiative score to be calculated for each creature in combat. To determine individual initiative scores, each player should roll 1D and add to the result the highest Leadership skill rating (if any) on his side; the referee does the same for each NPC and animal involved in the combat. Once scores are generated, the creature with the highest score acts first, followed by the second highest, and so on. Characters that are tied act simultaneously.

For simplicity's sake, the referee may choose to allow individual scores for PCs, but treat all other combatants as a group with one initiative score. In this way, the players can enjoy the benefits of action by individual, without the referee being overwhelmed by numerous scores for the NPCs each round.

Movement

For combat movement and ranged attacks, distances are measured in range bands. The Combat Range Table gives the size of each of the combat ranges in terms of both meters and range bands.

For most encounters, ordinary lined paper can be used to keep track of the relative distance of the various combatants from one another. Each line on the page represents one range band. At the beginning of an encounter, marks are made on the paper (or some sort of counters may be used) to represent the position of each creature involved in the encounter. In subsequent rounds, creatures may move to open that range or close it, and the marks (or counters) are moved accordingly. As explained later, range also determines the difficulty of fire combat, based upon the particular characteristics of the weapon being used.

This use of a line grid provides a quick and easy way of taking care of range determination, but it sacrifices some realism for the sake of play ease. The referee may choose to use a square or hexagonal grid instead, in order to more accurately represent actual positions and maneuvers.

In typical outdoor encounters, each range band (or hex or square) represents approximately 15 meters in width. (This makes each square roughly 20 meters diagonally.) For indoor encounters, the scale is ten times smaller, each band (or hex or square) being roughly 1.5 meters across (2 meters diagonally for squares).

To indicate that two characters are at Contact (hand-to-hand) range in outdoor scale, place their markers touching each other.

All other characters in the same outdoor range band are considered to be at short range. Contact range in indoor scale involves characters in the same or adjacent bands.

Characters may move roughly 15 meters per combat round if walking (one outdoor band or ten indoor bands). If running, they may move roughly 30 meters (two outdoor bands or twenty indoor bands). Animals may move faster, as covered in Chapter 13. Vehicles tend to move faster as well, as explained later in this chapter.

Movement Status: When it is his time to act each turn, a combatant must decide upon a movement status. That movement may affect what other actions the character or creature can perform this round.

The five possible movement statuses are *walking*, *running*, *crawling*, *stationary*, and *riding*.

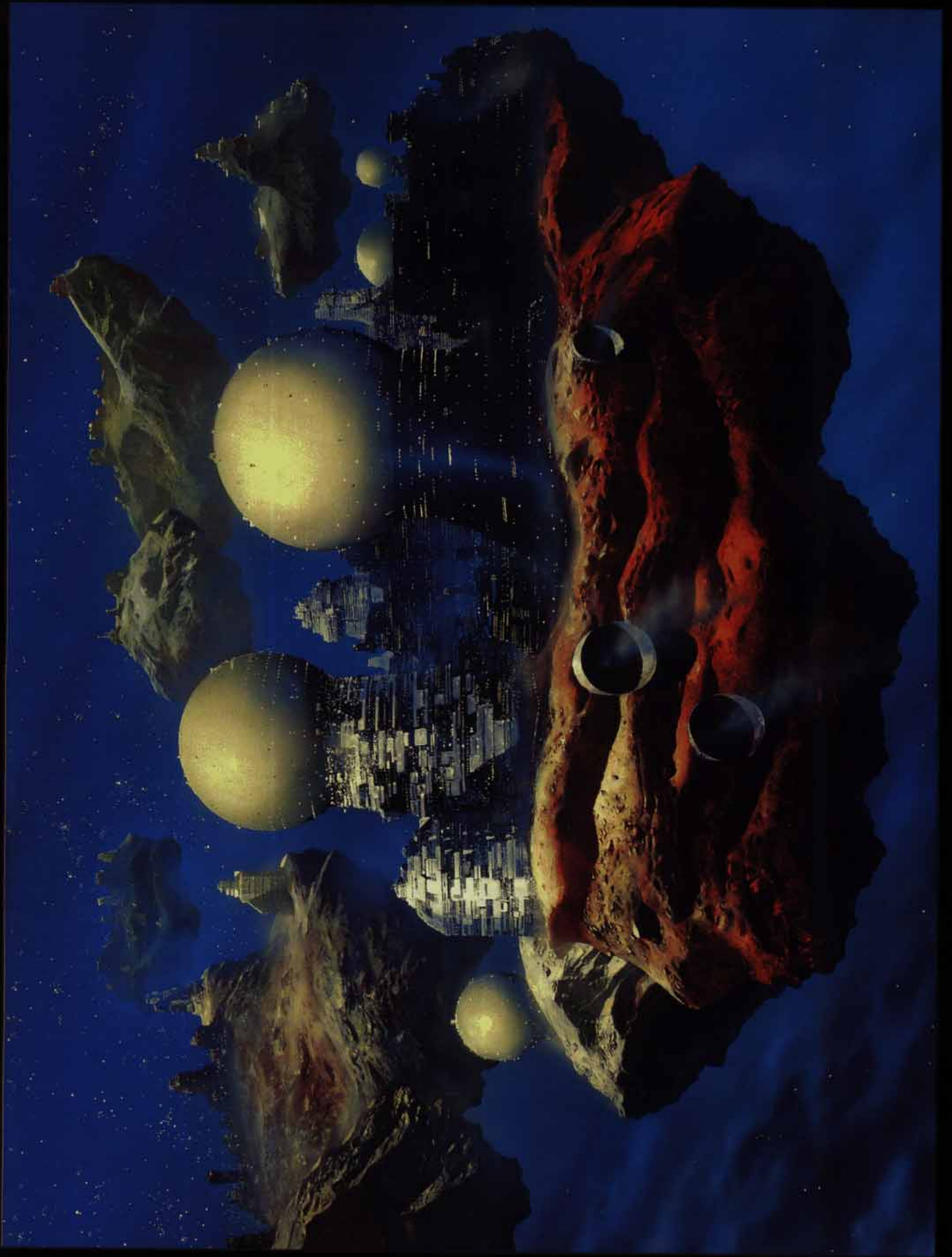
- **Walking:** A combatant may elect to move at walking speed, either to increase or reduce the distance to the enemy by 15 meters (one outdoor range band, or ten indoor bands). Walking leaves a character free to perform any sort of action except aimed fire (see following).
- **Running:** To cover ground quickly, a combatant may choose to run. The character can move up to 30 meters distance, but running prevents the character from making any sort of attack that round. The character may take other actions, however, such as going prone, standing up, or evading. Running expends enough energy to count as a normal strike, counting as a point of fatigue. (See the optional endurance rule.)
- **Crawling:** A combatant can crawl to take best advantage of available cover and concealment. Crawling characters cover roughly eight meters in a combat round. (At outdoor scale, they require two rounds to cover one range band, including movement from Very Short range to Contact range.) A crawling character can take no actions during the round except to *go prone* (initiating the crawl) or *stand up* (ending the crawl). He gains the benefit of any available cover and concealment versus ranged attacks that target him, but he is considered prone for purposes of hand-to-hand attacks against him. (See the appropriate sections below.)
- **Stationary:** A combatant may elect not to move, simply staying where he is. He need not be standing, but might be kneeling, lying prone, etc. Stationary targets are easier to hit; attacks against them are made at a +3 DM. The main benefit of choosing to remain stationary is the ability to conduct aimed fire rather than snapfire. (See the ranged attacks section).
- **Riding:** In some ground combats, characters may be riding in vehicles or on animals. Animals have a walking speed and a running speed that may be different from that of humanoid figures; see Chapter 13 for details. Characters riding animals are restricted in their actions by the type of movement their mount is making, as detailed previously. Vehicles have a single combat speed (as explained later), and characters riding in or on a moving vehicle are effectively walking for purposes of taking actions.

Action Status

Along with movement a character may normally perform one action each round. (See the multiple actions rule for an exception.) There are five basic types of actions: *go prone*, *stand up*, *evade*, *strike*, and *ranged attack*.

- **Go Prone:** A combatant may elect to drop to his stomach during a combat round, in order to make a smaller target for ranged attacks, or to initiate a crawling action, for example. This is the one case in which an action may occur *before* movement, allowing a character to begin a crawl or duck





before shots start flying. Hand-to-hand attacks against a prone character are made with a bonus DM of +3. Ranged attacks against a prone character suffer a penalty equal to double the range number to that target (as explained under ranged attacks, below).

- **Stand Up:** A prone character may choose to stand as his one action for the combat round.
- **Evade:** A combatant may combine the evade action with any movement status except crawling or stationary. Evading makes the character more difficult to attack with ranged fire, applying a penalty to such attacks equal to the range number to the target. (See the ranged attacks section).
- **Strike:** Combatants at Contact range may make hand-to-hand strikes against one another, whether unarmed strikes (fists, feet, etc.) or armed strikes (knife, club, etc.) The hand-to-hand attacks rules explain this action in detail.
- **Ranged Attack:** Ranged attacks include gunfire, thrown weapons, arrow shots, and even mortar fire. A character with any such ranged weapon may attack an opponent as explained under the heading of ranged attacks in the next section.

Attack Procedure: Combat is resolved in a series of attacks represented by die rolls made by the combatants. During each combat round, each combatant selects a member of the opposing party as a target. The attacker then makes a task roll against the appropriate skill and its related characteristic.

Modifiers may apply to the basic target number for this task, based upon such things as the defender's movement status, the attacker's fatigue, and so on. If an attack results in a hit, then dice are rolled for the number of wounds inflicted, based upon the weapon's damage rating minus any protection by armor the target may be wearing.

Hand-to-Hand Attacks: In order to make an unarmed attack or melee weapon strike on a target, the attacker must be at Contact range.

Unarmed Strikes: Striking a target with a fist, foot, head, etc., requires an Average test (2D) of Brawling skill. The damage done by such an attack is normally one die. If the target possesses the Brawling skill as well, his skill level is used as a negative difficulty modifier for the task.

Brawling skill is also used for tackling or grappling opponents. Such actions require a Difficult test of the skill, and the target's Brawling or Athletics rating (if any) is used as a negative difficulty modifier.

If a tackling attempt is successful, both attacker and target are knocked to the ground; the target takes one die of damage and the attacker takes one point (armor does not stop any of this damage). If the tackle is unsuccessful, the defender is unaffected, but the attacker takes one point of damage and ends up prone and adjacent to his target.

If a grappling attempt is successful, the target is pinned for as long as the attacker can hold him. The attacker may choose to cause injury with the grapple, in which case the pinned character suffers one point of damage to his Endurance each round until he falls unconscious or breaks free. To break free from a grapple, a victim must roll an opposed Brawling test (based on Strength) versus the attacker. If the victim fails, he remains grappled; if he ties or wins the test, he can either end the grapple or grapple the attacker in return, so that both characters are now grappled.

Armed Strikes: Characters striking with a blade, club, spear, or makeshift weapons must make an Average (2D) test of the appropriate skill—Blade Combat, Fencing, or Melee Combat—to hit their target. The damage done is determined by the weapon being used. (See the Weapon Table for details.)

An improvised weapon should be treated as an approximation of some other weapon, with a negative difficulty modifier to reflect the fact that they are more clumsy. A broken bottle, for instance, used as a knife, with a modifier of -1 or -2 to hit.

If the target of an armed strike also has some sort of close combat weapon ready (even an improvised weapon), his skill rating with that weapon serves as a negative modifier for the attacker's attempt to strike him.

Fencing: Fencing is a special case of the armed strike rules. When a fencer attacks, he uses the normal armed strike procedure above. But when being attacked by an armed strike, if the attack fails the fencer may make an immediate return attack even though it is not his turn to act. This return attack is in addition to the fencer's normal action for the combat round.

Note that this means that two fencers facing off could exchange a number of strikes during one action. For example, if the first attacks and fails, the second can make a return attack, and if that fails, the first can make a return attack, and so on until one succeeds.

Pure Defense: On occasion, a character in hand-to-hand combat may find himself wanting to concentrate on countering his opponent's attacks, rather than making any attacks of his own. In such cases, the attacker and defender make an opposed task roll of the appropriate skills (and their related characteristic): Brawling versus Brawling for unarmed strikes; Blade Combat, Fencing, or Melee Combat versus Blade Combat, Fencing, or Melee skill for armed strikes (and the defender must have a weapon ready appropriate to the skill he is using for defense). Neither character uses the other's skill rating as a negative DM in this case. If the attacker wins the opposed test, the attack is successful, otherwise the attack is blocked and fails.

Ranged Attacks: With the right weapons, characters can attack one another beyond Contact range. The topic of ranged attacks covers everything from thrown rocks to artillery fire. The usual case for ranged attacks is direct fire, meaning that the target is in the attacker's line of sight. The following rules assume direct fire attacks. Long-range weapons that can make indirect fire attacks—meaning that they launch projectiles in an arc toward a target that is out of view—are covered under a separate heading at the end of these ranged attack rules.

Determining Range: Range to the target has a significant effect on the difficulty of a ranged attack. To determine that range, note the distance in meters between attacker and target. If using a map, count the number of bands between attacker and target. Trace the shortest number of spaces between them if using a hex or square grid. Then consult the Combat Range Table to determine the range into which that distance falls. For example, a distance of 30 meters (2 outdoor bands, or 20 indoor bands) falls within Short range, while a distance of 300 meters (20 outdoor bands, or 200 indoor bands) falls within Long range.

For targets at a different altitude than the attacker, use the greater of the two distances—horizontal or vertical—to decide a range on the Combat Range Table.

Each range on the table has a difficulty rating listed for all attacks made at that distance, regardless of weapon type. For example, a ranged attack conducted at medium range is always a Formidable task versus the ranged skill being used: Bow Combat, Gun Combat, Heavy Weapons, or Throwing.

Because the dice code for ranged combat tasks is dependent upon distance rather than weapon type, it is theoretically possible for a character to hit a target at 1500 meters with a pistol, though very unlikely. As the Aimed Fire rules below reveal, however, long-range weapons are much better than shorter ranged ones when used for distant attacks.

Snapfire: The most common type of shot taken in combat is "snapfire." Characters move, point, and fire without usually having the time to take careful aim at their targets. Snapfire attacks are made at a difficulty determined by range, with no difficulty modifier for weapon type. The main advantage of snapfire attacks is that a character can move and fire in the same combat round.

Aimed Fire: When a shooter really wants to hit a target, he stops, braces himself, takes careful aim, and squeezes off a shot. In these cases, a long-range weapon is significantly better than a short-range one, because its barrel is longer, providing more accurate sighting, and its projectile follows a flatter, straighter path to the target.

Each weapon description includes a range number, corresponding to the range numbers on the Combat Range Table. This range rating is used as the weapon's beneficial difficulty modifier for aimed fire attacks. The dice code for aimed fire attacks at any range remains the same as for snapfire attacks at that range.

For instance, a body pistol has an effective range of 1 (Very Short), so it can be used for aimed fire with a difficulty modifier of +1. An assault rifle, on the other hand, has an effective range of 5 (Very Long), so it gives a difficulty modifier of +5 when used for aimed fire. Either weapon would be used at a dice rating of Formidable if used for aimed fire at Medium range, but the assault rifle provides the advantage of a considerably higher difficulty modifier.

A character conducting aimed fire must choose *stationary* as his movement option for the turn, and he must be able to concentrate. He cannot aim if he is the target of a hand-to-hand attack, or if he is struck by a ranged attack (even if he takes no damage, due to armor).

Autofire: Some ranged weapons are capable of firing multiple shots with a single press of the trigger. Often, they have a selector switch that allows them to be changed from single shots to autofire at the user's desire.

The benefits of autofire are several. First, there is a chance of hitting a target more than once in a single action, causing significantly more damage to that target. Second, there is some chance of hitting a group of targets with one attack. Finally, the noise and fury of autofire tend to make people stop and take cover, making it a great means of discouraging pursuit.

The detriments of autofire are also several. First, the jitter of multiple recoils makes a weapon difficult to aim. Second, autofire uses up ammunition at an extremely rapid rate. Third, the weapon is more prone to jamming an unfired round in the firing chamber.

In game terms, an autofire attack is made against a primary target, and may hit any creatures adjacent to that target. The range number of the attack applies as a negative DM to the attack against the primary target. Every adjacent target is also attacked, with double this DM applied. Damage to the primary target is doubled, after any subtraction for armor and/or cover, and the maximum damage is doubled as well (see the following section on resolving wounds). For example, a damage rating of 3D versus a rigid armor rating of 1 would result in 4D to the target—3 minus 1 is 2; 2 doubled is 4. Targets adjacent to the primary target take normal damage if hit.

Five rounds of ammunition are used up per figure attacked by an autofire action. When the weapon runs out of ammunition, no further attacks can be made. The primary target must be one of the figures attacked, and the referee decides which adjacent targets are attacked if there is insufficient ammunition to attack them all.

Autofire cannot be aimed.

Suppression Fire: Sometimes a character may want to use an autofire weapon to interdict movement through a particular area: a doorway, the mouth of an alley, the area between a pair of burned-out vehicles, etc. This is a special case of the autofire (see above) and held actions (see following) rules. It counts as a single action, but may attack multiple targets over the course of an entire combat round. The attack lasts from the time the character begins the action until that character's turn to act during the following combat round. Each figure that enters the interdicted area is attacked immediately, with a negative DM equal to twice the range number. If hit, the target suffers normal damage. As with normal autofire, five rounds of ammunition are used up per figure attacked, and when the weapon runs out of ammunition, the suppression fire action ends.

Bow Combat: On occasion, player characters may find themselves involved in combat with a primitive culture that uses bows for ranged attacks. Or a PC may have a reason to use a bow himself. Bow combat is conducted using the normal fire combat rules, with one exception: Bows cannot hit targets beyond Long range.

Throwing: Daggers, blades, bayonets, pole weapons, and even rocks can be thrown at a target at up to Short range. The dice code is two levels higher for each range than that listed for fire combat weapons.

If the referee allows, the range of throwing attacks may be determined by a character's Strength characteristic. Objects of one kilogram or less weight can be thrown horizontally a number of meters equal to Strength times five. They may be thrown upward a number of meters equal to the character's Strength rating. Heavier objects may be thrown shorter ranges. For objects weighing up to the character's Strength rating, halve the normal range; for those up to double the Strength rating, divide the range by ten.

Indirect Fire: Indirect fire involves the use of ranged weapons to attack a target that is out of the line of sight. A spotter within sight of the target communicates firing instructions back to the attacker, who adjusts his fire accordingly.

Some such weapons—field artillery, long-range rockets, and the like—are not typically manned by player characters, but may be directed by PCs acting as spotters. Smaller indirect fire weapons—things such as grenade launchers and small mortars—are more likely to be carried and operated by PCs.

Acting as a spotter for indirect fire involves the use of the Forward Observer skill.

Actually firing an indirect fire weapon requires Heavy Weapons skill for man-portable items, or Artillery skill for larger, less mobile weapons.

The difficulty rating of the task is Difficult. But indirect fire weapons suffer a penalty DM equal to the range number for the shot. And because each indirect-fire attack relies upon the skillfulness of two people—the spotter and the firer—the task is rolled against the lower of those two skill ratings. (The best spotter in existence is helpless if the firer is inept, and the best of firers cannot hit a thing without accurate instructions from his spotter.)

Reloading: Reloading a weapon when its magazine is empty is an action, requiring one combat round to complete. The referee may call for an Average difficulty skill roll of the appropriate weapons skill (especially if the character is performing multiple actions in a round—see the multiple actions rules).

Revolvers do not use magazines, and so take two actions. Laser carbines and laser rifles do not use cartridges. Instead, they have power packs that must be recharged upon being exhausted. Such a weapon may be returned to service by replacing the power pack, which is treated as changing a spent magazine.

Firing into Hand-to-Hand Combat: It can be dangerous for a character to fire at a target that is at Contact range with that character's ally. There is always a chance of missing the enemy and hitting the friend. Ranged attacks in this situation suffer a DM of -3. If the attack roll fails, a character directly adjacent to the target may be hit instead: Choose an adjacent figure randomly to be the target of the new attack, but if the new roll *succeeds*, the new target is *hit*, and if it *fails*, the new target is *missed*. This rule applies whether the new target is friend or foe.

Drawing: Weapons are usually carried holstered or slung, unless a character specifically indicates the contrary. Drawing a weapon is an action. The referee may call for an Average difficulty skill roll of the appropriate weapons skill (especially if the character is performing multiple actions in the round—see multiple actions rules).

A special case occurs when two or more people draw against one another at the beginning of a combat (and none has surprise). They each take two (or more) actions (see multiple actions rules), the first being an opposed roll of the weapon skill being used for the drawing action. The highest result of this opposed roll draws first and then rolls for his firing attack(s); the second highest draws next and makes his attack(s); and so on.

Darkness and Night: Poor lighting conditions may restrict the ability of an individual to see and attack. Total darkness restricts engagements to Short range or closer. Attacks made from range greater than Short suffer a DM of -9. Partial darkness (moonlit night, distant illumination, or other weak light sources) allows visibility up to Medium range, and ranged attacks from farther away suffer a DM of -9. Electronic sights may be used to eliminate these negative DMs.

Cover and Concealment: Cover is any solid object between an attacker and defender, if that object is capable of protecting the defender from a weapon attack. (A steel wall can act as cover against most attacks, for example. Concealment is any object that prevents defender from being seen, but does not actually prevent damage from passing through. A thick stand of bushes may provide concealment, for instance.)

An individual who is completely under cover cannot be attacked. An individual who is completely concealed cannot be attacked unless the attacker has some reason to fire into that concealment.

Individuals who attack from *cover* become visible and may be attacked, but they retain partial cover, imposing a DM of -4 on any ranged attacks against them. Those who attack from *concealment* may be attacked, but with a DM of -1.

Small Targets: Ranged attacks against targets that are basketball-sized or smaller suffer a DM of at least -3.

Large Targets: Ranged attacks against targets that are the size of a ground car or larger receive a DM of +3 or greater.

Resolving Wounds

Each weapon's damage rating indicates the number of dice to be rolled to determine the number of wound points that have been inflicted on the target if a hit is achieved.

Regardless of a weapon's damage rating, however, a character normally takes no more than three dice of damage from any single attack. (Some things such as shotguns break this rule.)

Higher damage attacks tend to punch right through their target, wasting the extra energy. (Called shots for vital locations are the exception to this rule.)

Armor may reduce the amount of damage a target suffers. The number value of the armor indicates how much damage it absorbs: For each point of armor, one die of damage is negated. If the armor is "flexible," each negated die is treated as a single wound of one point; if the armor is "rigid," each negated die is sim-

ply ignored. (For example, a cutlass attack against mesh armor—damage rating of 3 against a flexible armor rating of 2—would be reduced to 1D, plus 2 points for the negated dice. The same attack against a rigid breastplate—armor rating of 3—would do no damage at all; all three damage dice are completely negated.)

The Effects of Wounds: Wound points are applied to the defending character's physical characteristics—Strength, Dexterity, and Endurance—on a temporary basis. Each die rolled is taken as a single wound or group of hits, and must be applied to a single physical characteristic. (For example, a 2D damage roll would apply one die to one characteristic and the other die to another characteristic.) In the case of single points resulting from damage countered by flexible armor, each point is treated as a separate die for purposes of allocation.

(For example, as shown above, a damage roll of 3 against a flexible armor rating of 2 would result in a final damage rating of 1D+2. Three characteristics would be affected, one die to one characteristic, one single point to another, and the second single point to the last.)

Normally, the player of the wounded character may decide which physical characteristic receives a specific die of wound points in order to avoid or delay unconsciousness for as long as possible. The exception is the first wound received by any character, which can be sufficient to stun or daze him. The damage points of this first wound are all applied to a single physical characteristic determined randomly. If that characteristic is reduced to zero, then any remaining points of damage are distributed to the other physical characteristics on a random basis. As a result, first blood may immediately incapacitate a character.

When any one characteristic is reduced to zero by wounds, the character is rendered unconscious. When two characteristics have been reduced to zero, the character has been seriously wounded. When all three have been reduced to zero, the character is dead. Once an characteristic has been reduced to zero, further points may not be applied to it; they must be applied to other (non-zero) characteristics.

Unconscious characters (with at least one characteristic reduced to zero) recover consciousness after ten minutes (120 combat rounds) with all three physical characteristics temporarily recovering from half their wound points (round fractions down). The individual is considered to have sustained minor wounds. (For example, a character with a Strength of 8 who has suffered 5 wounds—and who was rendered unconscious by the zeroing out of one characteristic—would recover 2 points of Strength upon regaining consciousness, returning to an effective Strength of 5 until further healed—see the rules for recovering from wounds, below.)

Unconscious characters with two characteristics reduced to zero are considered seriously wounded and recover consciousness after three hours. Their characteristics remain at the wounded level (or 1, whichever is higher). Recovery is dependent upon medical attention—see the rules for "Recovering from Wounds," below.

Keep in mind that as characteristics are reduced by wounds, their value for task rolls is reduced as well.

Stun Damage: A few weapons are listed as doing stun damage rather than actual wounds. Also, a character making a hand-to-hand attack may declare that he is attacking to stun rather than wound. Points for these attacks are resolved as for wounds, but characters recover from them much more quickly. A character recovers from 1D points of stun damage per hour of rest.

Recovering from Wounds: The speed at which characters recover from their wounds depends upon the severity of those wounds and the quality of medical care they receive after combat.

Superficial Wounds: A character who suffered damage, but who had no characteristics reduced to zero, is considered to have suffered superficial wounds. An Easy test of First Aid or Medical skill, assuming a first aid kit is available, is sufficient to clean and bind the wounds to prevent infection or other complications. The character then recovers all his points over the course of one day. Failure of the task or lack of attention means that the character heals more slowly, at two points per characteristic per day.

Minor Wounds: If a character has suffered sufficient damage to reduce one characteristic to zero, he is considered to have taken minor wounds. Cleaning, stitching, bandaging, and proper healing requires a medical kit and an Average test of the First Aid or Medical skill. If this test is successful, the wounded character can recover two points per characteristic per day. Failure of the test reduces healing rate to one point per characteristic per day.

Serious Wounds: Treatment of serious wounds requires a medical facility (local hospital or aid station, the sick bay of a starship, etc.) and a Formidable test of the Medical skill. With successful care, the wounded character recovers one point to one characteristic each day. Without it, healing is not possible.

Death: Characters who have suffered sufficient damage to reduce all three characteristics to zero have been killed. However, assuming the brain is not destroyed, it can survive without damage for roughly five minutes after the heart has stopped. If the referee allows, the character may be saved if he is placed in a low passage berth within five minutes of having been killed. If the character makes a successful survival roll for the low passage, he may then be treated at a specialized facility on a world with tech level of at least 11, and with a successful test of the Medical skill at Staggering level of difficulty. If this test succeeds, the character heals one point to one characteristic each week until all characteristics return to half their original levels. After that, he recovers one point to one characteristic each day. The character must spend the entire recovery time in the hospital, however. If the Medical skill roll is failed, the character could not be saved.

Morale

Most battles do not end in the death of everyone on one side or the other. Usually, when a group of creatures loses its confidence, its morale is broken and it flees.

Player characters lose their morale only when their players decide that the characters are fighting a losing battle. NPCs, on the other hand, often break more easily.

At the point in time when at least twenty-five percent (one-quarter) of an NPC party is unconscious or dead, the party must begin making morale rolls, once per combat round, at the beginning of the round. The character with the highest Leadership skill in the group must make a Difficult test of that skill. (If no one in the party has this skill, the character with the highest Endurance characteristic must make the test as a level-0 skill use.) Difficulty modifiers may apply: +1 if the party is a military unit; -2 if the leader has been killed (dead for two rounds, or until a new leader takes control, whichever is longer); -2 if casualties (unconscious and dead) exceed fifty percent.

Routed characters will turn and flee from their enemy, running away with no thought but escape.

Note that while player characters may choose to stand fast in the face of danger, this is no guarantee that NPCs in their party will choose to do the same. If the party has suffered sufficient losses, and the leader fails his Leadership roll, the NPCs in the party will rout.

Special Cases in Combat

Certain special situations require specialized rules for combat encounters.

Leaping/Jumping: In normal gravity, a character can jump upward a number of *centimeters* equal to ten times his Strength rating plus Athletics skill. The same is true for standing broad jumps. A running broad jump covers a number of *meters* equal to half the character's Strength rating plus Athletics rating. The referee may require an Athletics task roll to accomplish a jump safely. Jumping in variant gravities is defined in Chapter 11: World Generation.

Unusual Environments: Space travel can subject player characters to combat in any number of unusual environments, from the weightless, zero-G vacuum of space itself, to heavy gravity worlds with toxic atmospheres and extreme temperatures.

Often, characters will be in vac suits or special environment suits for such combat, and wounds become much more deadly, because they usually involve a puncture of that suit. Characters are also at risk simply in trying to maneuver without causing themselves injury.

When characters are making a combat task attempt of any kind in such situations, the referee may require them to use the lower of the appropriate combat skill or their Environment Combat skill. If the environment is merely uncomfortable rather than deadly, the referee may instead have characters make an Environment Combat roll the first round of combat, allowing those who succeed at the roll to act normally from that point on, and requiring those who fail the roll to do nothing each round but attempt an Environment Combat roll until they succeed.

Mounted Combat: Characters making attacks from the back of a riding animal may be required to succeed at an Equestrian task roll to maintain control of the mount before taking any other action. The referee will base the difficulty of the Equestrian task roll on the amount of danger perceived by the mount.

Multiple Actions: A highly skilled character (or truly desperate one) may attempt to perform more than one action in a combat round. All of his actions are resolved at the same time, when it is his turn to act. The target number for each action is determined by dividing the related characteristic by the number of actions being attempted (rounding down), then adding the skill level. Each task is rolled separately. However, a character cannot take so many actions as to make a characteristic drop under 1.

For example, a character with a Strength score of 7 and a Brawling skill rating of 5 would make a single Brawling attack at a target number of 12. If he were to make two Brawling actions in the same combat round, his effective Strength for each would be 3 (half of 7, rounded down), so his target number for each would be 8 (Strength 3 plus Brawling skill 5). Making three attacks in one round, his target number for each would be 7 (Strength 2 plus Brawling 5), and so on. He can deliver up to 7 Brawling attacks in a single round and no more than that, since the eighth attack will drop his Strength down below 1.

Called Shots: Characters may make nearly any sort of attack as a called shot, targeting a specific body location, or attempting to increase or decrease their damage, or attempting to hit an unarmored location.

Increased Damage Attacks: Attacks to vital body parts can cause considerable, even lethal, damage. To represent this, an attacker may choose to roll for a double-damage effect (puncturing a lung) or even a triple-damage effect (such as cutting a throat).

Attacks to cause double damage suffer a -5 DM, but if successful, they double the damage rating of the attack. Attacks to cause triple damage suffer a -9 DM, but if successful, they triple the damage rating of the attack. The referee will decide if armor protects the targeted area. If so, the armor rating is subtracted from the normal dice code *before* the doubling or tripling occurs.

This rule applies to tackling and grappling attacks as well (see the previous brawling section).

Decreased Damage Attacks: On occasion, an attacker might want to minimize the damage he delivers to a target (in order to "wing" that target, or knock it unconscious rather than killing it, for instance). Half-damage attacks suffer a DM of -3; if successful, they deliver half-dice of damage rather than full dice. Minimum-damage attacks suffer a DM of -6, but if successful do only one point of damage per die.

Attacks to Disarm: Attacks to disarm are made like normal attacks, but suffer a DM of -6.

Held Actions: Sometimes, a character may wish to "hold" an action, waiting for something else to happen before taking his own action. (For example, a character might want to sight his rifle on a doorway, intent on shooting the first person to come through it.) When a character's turn to act arises, his player may declare that the character is holding his action until later. He need not decide what the action will be until he is ready to take it.

A held action may be delayed through the remainder of the current combat round, and even to the end of the following round. If not used by that time, the action is wasted. At any point in the intervening time, however, the player may declare that the character is taking his action. If another character is acting at that moment, the delayed action occurs first.

Explosives: Explosions cause damage in two ways: concussion and fragmentation. Armor is of value against fragmentation, but a sufficiently powerful concussive shock wave can kill just as well. For simplicity's sake, each explosive item in the game has a damage rating and a notation as to whether it is primarily a fragmentation attack or a concussive one. Fragmentation damage must subtract a target's armor rating and any cover; concussive damage is not affected by armor or cover, unless that armor or cover is pressure sealed (such as a spaceship's hull).

In either case, explosive damage attenuates over distance. Every figure at Contact range suffers the damage listed. For outdoor ranges, every figure within the same band suffers one-quarter that damage (rounding down); quarter the damage again for each additional band of distance, until the damage reaches zero. For indoor ranges, halve the damage rating (rounding down) for each band (1.5 meters) beyond the first. Every figure within an explosion's radius of effect is attacked.

The 3D maximum wound rule does not apply to explosives. They do full damage.

Poison, Acid, Etc.: Some attacks, such as poison stingers, are capable of causing continuous damage. The first combat round after the attack is delivered, the victim suffers the listed damage. Each combat round thereafter, the victim suffers the same amount of damage minus one cumulative point. For example, imagine that a character has been stung by some sort of alien beast with a damage rating of 2. If the roll of two dice resulted in a damage of seven points on the first round, the character would take an additional six points on the second round, five on the third round, and so on until the damage reaches zero, the character dies, or an antidote is administered.

Combat Loads

Characters are restricted in the total weight they may carry, and may suffer negative effects if they carry enough weight to become encumbered. Individuals carrying sufficient weight to

become encumbered have their UPP values temporarily reduced. These reduced UPP values are used when computing wounds and unconsciousness.

Normal Load: Any character may carry a load equal to his Strength characteristic, in kilograms. A person with Strength 12 could carry 12 kilograms, for example. Weapons and other equipment are listed with weights in grams and kilograms. Load is calculated by totaling the weight of all relevant items. Clothing, personal armor, and minor items such as holsters, scabbards, and belts are not counted. Other items such as tools, communicators, instruments, rations, and such are described in Chapter 6, and their weight constitutes part of a character's total load.

Double Load: A character carrying more weight than his Strength rating, in kilograms, up to twice his Strength rating, is considered to be encumbered. For example, a character with a Strength of 7, carrying a load of 12 kilograms, would be encumbered. Encumbered characters are treated as if their Strength, Dexterity, and Endurance are one point less than normal for all effects other than determining carrying capacity.

Triple Load: A character who is part of a military force (mercenary unit, combat unit, troop unit) may carry up to triple his Strength in kilograms, but is treated as if his Strength, Dexterity, and Endurance were two points lower than normal.

Vehicles and Robots in Combat

Just as animals can be a common presence in a combat encounter (often being the very encounter itself), vehicles and robots play an important part in many such encounters.

Vehicle and Robot Movement: When using indoor scale for a combat encounter, translate a vehicle's or robot's kph (kilometers per hour) number to bands (or spaces) on a one-to-one basis to determine how far it can move during a combat round. For outdoor scale, divided the kph by ten to determine the number of bands (or spaces) moved. While vehicles and robots can move much faster than this when travelling, combat maneuvers and attacks require slower speeds, as reflected by this rule.

One other thing to keep in mind is that, unlike movement on foot, vehicle movement often requires the pilot to pass a task attempt, as set by the referee, for the maneuver attempted.

Damage to Vehicles and Robots: Vehicles and robots may take damage in superstructure, power plant, locomotion, or mounted devices (such as sensors and weapons). In vehicles, individual crew members may be hit. Whenever a vehicle or robot takes damage in combat, roll one die on the Vehicle/Robot Hit Location table to determine where the damage occurs.

If a vehicle or robot takes enough damage to superstructure to reach an inoperative level, it may not perform any activity for the rest of the combat encounter.

If the power plant reaches inoperative level through damage, the vehicle or robot may not move or use any devices requiring energy from that power plant; flying vehicles crash.

If the locomotion system of a vehicle or robot reaches an inoperative level, the machine may not move. Flying vehicles crash unless their pilots pass a Difficult test of the appropriate vehicle skill, in which case the vehicle may be glided to the ground.

When an attack on a vehicle results in damage to the crew, apply half the damage to the superstructure, and the rest to a random crew member. Against robots, an indication of damage to the crew means damage to internal computer systems instead.

Damage to devices means that one of the weapons or sensor emplacement has been destroyed, or the computer system has taken damage. Apply the damage points to the vehicle's or robot's superstructure, and mark off a random device on the vehicle sheet.

Special Rules

The following rules add further options and details to the ground combat system.

The Tactics Pool

Before a combat session begins, total the Tactics skill levels from among the participants on each side. This total is the *tactics pool* for the side for the duration of the combat.

Tactical points form a special “roving” difficulty modifier on any combat task roll. That is to say, these points can be spent by any member of the group on any task, as a favorable DM for that task. Any number of tactical points may be spent on any task, but they must be spent before the dice are rolled, and once used, they are gone for the duration of the combat.

Before spending any points from the tactics pool, a player should check with his companions to make sure that they are in accord. If there is any dispute as to when to spend these points and how many points should be spent on any one task, the player whose character has the highest Leadership skill should make the final decision.

Characters' Tactics skill levels do not actually change as a result of tactics pool expenditure. The skill levels remain the same, and may be called upon by the referee for specific task rolls in the encounter.

Special Effects of Characteristics

Besides providing a basis for combat task rolls, and a pool of points for wounds, physical characteristics can affect ground combat in several other ways.

Strength: A high Strength can increase the amount of damage done by a hand-to-hand strike: For each point of Strength a character possesses, he can reroll one damage die in his attack, using the new value instead of the old, until he has done this a number of times equal to his Strength in one encounter. Each die of damage can be rerolled any number of times. This use of Strength is called a character's *offensive pool*.

For example, a character with a Strength score of 7 could reroll a total of seven dice in hand-to-hand combat during a single encounter. If he were using a cutlass—damage rating 3—and rolled a 2, 1, and 5, for a total of 8 wounds, he might choose to reroll the 2 and 1. If the rerolled dice were to come up as a 1 and a 6, adding the 5 of the original third die would result in a total of 12 wounds. He could reroll the result of 1 again, hoping for a better result. If he were to do so, he would now have spent three points of his seven-point Offensive Pool for that encounter.

Dexterity: Dexterity can be used to help a character avoid close attacks. For each point of Dexterity a character possesses, he may add one point to an opponent's attack task roll against him, *after the roll has been made*. Once the character has spent a number of points equal to his Dexterity in one encounter, he cannot adjust attack rolls in this manner any longer. This use of Dexterity is called the character's *defensive pool*.

For example, suppose a character with a Dexterity rating of 10 is attacked by a foe with a club. If the attacker needs an 8 or less to hit and rolls a 7, the defender could raise the roll to a 9—a miss—by spending 2 points of his Defensive Pool. He would now have 8 points left in that pool (10 – 2) for the current encounter.

Endurance: Combat is tiring, and characters with high Endurance scores are better able to last through protracted combat without fatigue. This fact is represented by the fatigue pool.

The fatigue pool operates slightly differently than the offense and defense pools. Instead of spending points from the pool, a character adds one point to it *each time he makes a strike*. Once the number of fatigue points equals the character's Endurance rating, that character suffers a –1 DM to all his dice rolls for the rest of combat. If the number of fatigue points equals twice his Endurance, he suffers a –2 DM; when it equals three times his Endurance, he suffers a –3 DM, and so on.

Surprise Strikes: Surprise blows and swings do not count toward the fatigue pool. As long as the attacking character retains the element of surprise, he may make surprise blows and swings without limit in that encounter (though normally only one per combat round).

Special Strikes: Special blows and swings are allowed in situations where Strength and Endurance would not be a factor, such as attacks against an unconscious target. These attacks typically require no task roll to succeed. If the referee calls for a task roll, the attack is made as a *normal* strike, but without spending points from the fatigue pool.

Summary of Personal Pools: In a single encounter, a character is allowed a specific number of normal actions before suffering fatigue, according to his Endurance rating. He may reroll a damage die of his strikes a number of times equal to his Strength rating, and may affect the task roll of an attack against him by a number of points equal to his Dexterity rating. The size of his offensive pool is determined by his Strength rating, defensive pool by his Dexterity rating, and fatigue pool by his Endurance rating. Wounds suffered during the current encounter do not reduce the size of these pools, but those suffered prior to the encounter do. Only hand-to-hand strikes and thrown weapon attacks are affected by these pools; they have no effect on fire combat.



Along the Imperial frontier, spacers' bars are a common spot for transacting business, especially when the information offered is classified. Tales of lost treasures, haunted cargo ships, and ancient relics infest such establishments like fleas, but when the tale-spinner is an Imperial Scout, a free trader captain may just pay attention.

Commerce is the linchpin of the Imperium's existence. And like everyone else, player characters have many reasons to purchase items, from food to electronics to weapons.

This chapter describes many of the items that characters will find of use during their travels. Other products can be extrapolated from the examples given here.

Each item is listed with a description of its function, its tech level, its cost, and its mass. Players should keep in mind, however, that just because an object is listed here, that does not guarantee its availability. The referee will decide what can and cannot be purchased at any particular place and time.

This chapter is divided into the following sections: money, food and lodging, computers, personal electronics, tools, exploration gear, medical gear, and combat gear.

Money

Buying most things within the Imperium is a matter of picking up an item and going to the checkout line. Dedicated banking institutions with very good computer security have a record of clients' biometric data (appearance, fingerprints, signature, etc.), and your personal comm (see following) carries basic identification as well. When someone takes a purchase to the counter, a camera takes his picture and the store queries his comm. If the bank record of his signature and picture match his comm identity, and the bank says he has the credit, his comm logs a receipt of the purchase and he leaves with the goods. This works for everything from buying a lawn mower to getting a soda at a vending machine (though the vending machine does not ask for a signature).

Credits

The default unit of currency within the Imperium is called simply a "credit," abbreviated Cr. For transactions involving large numbers of credits, other standard denominations are the kilocredit (KCr), worth one thousand credits, and the megacredit (MCr), worth one million credits.

Bank Chipcards

Within the borders of the Imperium, and on most other worlds of at least tech level 10, some financial institutions issue cards that can be turned into normal credit at any branch of that bank. These are usually issued in denominations of Cr100 and Cr1000, and are expressly for people who do not like what they see as the pervasive invasion of privacy that modern technology has brought. Needless to say, the Imperium watches these banks very closely on its worlds. But it has not gone so far as to make private financial transactions illegal.

A chipcard can be verified at any institution that sells things. The card is queried as to its unique passcode, which is sent to the host institution to run through a sophisticated mathematical algorithm to confirm its identity. Then a validity message and denomination is returned to the business performing the query. Businesses that cater to persons desiring anonymity will often accept a wide variety of chipcards, provided the user is willing to accept chipcards in return, as change for the transaction.

Corporate Chipcards

For anonymous transactions, "cash" is available in a variety of electronic forms. A given business or corporation might have chipcards preprogrammed in a variety of denominations, like gift certificates. These are usable only at that business, but the identity of the user does not have to be accessed (although it usually still is, for marketing information, if the comm is set to give it).

Imperial Solars

Another form of chipcard is the Imperial Solar, which has been minted solely for purposes of interstellar travel. Because the only faster-than-light galactic communication relies upon courier ships, the Imperial credit system faces some difficulties. Travellers who frequently move from world to world may find themselves outrunning their own credit. Sure, they may have millions of credits in a bank ten light-years away, but verifying that fact poses a problem.

In addition, as the Imperium expands, it contacts many cultures of tech levels that comprehend the abstract value of currency as a means of trade, but are not ready for the additional abstraction of electronic transfer of funds. On such worlds, the Imperial Solar serves as hard currency for transactions with other worlds of the interstellar community.

Solars are thin (but tough) encapsulated computers with non-volatile memory. Exploration ships each have a verifier unit that performs many of the functions of a normal banking computer, but only with the Solar.

Solars can be turned into Imperial credits only on Sylea, where they can be conclusively verified, but they can be used as a means of exchange anywhere within the Imperium. The fact that they are made with the best security features that TL12 can manage means they are not likely to be duplicated off-planet, and would not be redeemable in any case, since each Solar has a unique identifier number and only one Solar of that number can be redeemed at a time.

Physically, Imperial Solars are roughly seven centimeters in diameter and one centimeter thick. They are available in denominations of KCr10 and KCr100, which is deemed sufficiently convenient for interstellar trade purposes, and sufficiently inconvenient to discourage their use on worlds in the Imperial core.

Hard Currency

On worlds below tech level 10, transactions may involve local currencies—printed paper money, minted coins, precious stones, rare shells, etc.—or even barter. Travellers should not expect to be able to use chipcards or even Imperial solars on such worlds.

Food and Lodging

Food and basic survival may be priced from the following information.

Basic Daily Cuisine

Daily food is available in a variety of forms and qualities. Prices reflect costs per person. Restaurant meals of ordinary quality

cost about Cr10 per day. Excellent quality meals range in price from Cr20 to Cr50 per person. Travellers' Aid Society facilities provide top quality meals to members and guests for Cr20.

Food purchased from vendors for preparation at home costs about Cr5 per day, and masses about 1 kg.

Preserved foods for rations on expeditions may be canned or packaged (Cr20 per day, masses 500 grams) or dehydrated (Cr25 per day, masses 200 grams, and dependent on locally supplied water). This food is designed to be filling, and has full nutrient support for as many races as it can be compatible with.

Subsistence on a Long-Term Basis

When long periods of time are passed over quickly during a campaign, players can determine the costs of living for those periods at the following values.

Starvation Level: A bare minimum of food, Cr60 per month; dismal lodging, Cr60 per month.

WHAT IS POVERTY AT TL12?

Regardless of what the Imperial Office of Human Relations might say, Imperial society is something less than one big happy family. There are people who live on the fringes of that society for one reason or another, who either have to live on the government dole or work at low-pay jobs in areas with a high cost of living.

What is it like to live on the edge? Typically, it means dwelling in a prefab housing unit—along with some hundreds of other people and families—a synthetic apartment block that took someone about a week to throw together and that has been ignored ever since. When first assembled, it was halfway nice...about a hundred years ago. The utilities work, and so do the elevators, but only because they were retrofitted with newer models about twenty years ago.

Maybe you got lucky when you moved in. If the old tenant ruined the place, your unit was refurbished before you took possession. Contractors came in and painted new wall screens in the kitchen and living room. The resolution isn't perfect, and the colors ran here and there, but at least it doesn't have big blotchy patches. Of course, it would hardly matter here anyway, given the apartment's bandwidth. The screen starts to fuzz whenever you talk to more than three people at once on the phone, and the picture breaks up entirely with more than six people on-screen at the same time. (You'll have to go over to your brother's place for the next family reunion if you want to do more than just talk to disembodied voices.)

But at least it beats being homeless. Sometimes you can see the unlucky ones, displaced from some menial job that got automated, unwilling or unable to learn new skills, and too proud or too stupid to do the make-work that the Economic Security Administration provides. Mostly these types don't hang around long. In an Imperial city, being unwilling to support yourself is considered a mental illness, and there are "cures" for that now. People with no ID and no credit are picked up by the ESA sooner or later. After treatment, they tend to volunteer for dangerous, dirty work that no one else wants. Sure, they're gainfully employed, but at what risk...

But even those who are dirt poor have significant technological conveniences at their disposal. They may not be able to compete in the business world with other people's castoffs and garbage, but they can scrounge all the used goods they want from people who have moved on to more technological pastures. The poor can scour junk yards to find clothing, appliances, working computers, and out-of-date software. It might not be compatible with modern hardware, software, or fashion, but it's still better than nothing. In fact, it is better than many a millionaire on a TL7 world would have.

Subsistence Level: Reasonable food, Cr120 per month; acceptable lodging, Cr180 per month.

Ordinary Level: Good food, Cr200 per month; good lodging, Cr200 per month.

High Living: Excellent food, Cr600 per month; excellent accommodations, Cr300 per month.

Starship Accommodations

Passengers and crew members on starships have their food and lodging provided, with costs covered by the life-support prices necessary for operation of the ship (see Chapter 8).

Computers

Computers first show up in a practical sense at TL7. While there are computational machines available as early as TL6 or even 5, they are primitive devices suitable only for raw mathematics like trajectory analysis, basic accounting, or figuring out the first few thousand digits of pi. In game terms, then, a computational level of 1 represents the power of the absolutely best parallel processing computer available at TL7. Quality personal computers at that tech level have a rating of 0, sufficient for basic tasks, or jobs that do not require results in a hurry.

Computational Ratings

Computers and their software are extremely sophisticated at TL12, even for mundane applications such as voice recognition programs and home appliance control. Such programs take up considerable space, but given the incredible storage sizes available, this is not a problem. Processing time, on the other hand, is worth considering.

If a computer has a rating equal to the task at hand, it takes about 10 seconds to process that program. Each computational rating higher than this divides the time by 10, so a rating 2 points higher than the task difficulty is effectively real time (instantaneous) processing. Computers that are designed and programmed for a specific task are counted as being one rating higher for that task, and one rating lower for general purpose tasks.

If a computer has a rating lower than the task, the time is multiplied by 10 for each point lower, and the computer is usually incapable of handling something more than double its rating+1. If 10+ computers are linked together for a specialized purpose, the rating of the combined system is increased by another point. A computer trying to run several programs at once will multiply the time required for each program by total number of programs running.

The maximum rating of a single machine at a given tech level is its TL minus seven (TL minus six for Imperial Intelligence, giving them an edge no one else has).

Homecomp

This is the standard house computer that most permanent dwellings have built into the utility closet. It costs about Cr2,000 for a standard model. Prices go down to as low as a few hundred credits for ultra-simple models (for that vacation cabin in the woods) and up to as high as a person wants to spend.

Personal Computer

This is a standard, general purpose home computer that would be used for tasks outside the parameters of a homecomp. However, the two can talk to each other in such a way that all the interfacing is actually through the homecomp and the personal computer just provides extra memory and processor power.

A personal computer has several hundred gigabytes of storage, a holographic display, voice input ability, and keyboard or other interface. It comes with a standard suite of interface, home management, finance, communication, and entertainment software.

Off-line storage is in the form of "blocks," encapsulated non-volatile memory chips in an irregular trapezoidal shape (so you can insert them only one way). A personal computer costs about Cr2,000, give or take the size of memory and display hardware, and has a computational rating of 2.

Personal Electronics

The items listed here are common to everyday life, but may have special application in adventure.

Aide

An aide is a small audio device placed in the ear canal. It serves as a remote earpiece for a comm (see following), and is therefore a useful link to home, ship or business computer system when a person wants inobtrusive communications. By bone conduction, it also acts as a microphone for a comm if necessary.

Normally an aide is programmed from the output port of a computer, using whatever software is proprietary to that model of aide. The aide is a passive device, responding to environmental cues in a predetermined way. It could screen the wearer's comm calls, for instance, so that only people on a certain list can get through while the user is sleeping.

Specialized aides also have the ability to translate a language for the wearer. (This works best if the speaker pauses every few seconds to let the aide have time to whisper the translation, and if there is only one speaker at a time.) Dedicated translation hardware is more efficient at this task.

A typical aide costs about Cr100, Cr300 if the buyer wants the outpatient surgery to have it implanted behind an ear and linked directly to the auditory nerves. It has a computational rating of 0.

Camera

An electronic recorder of visual images, a TL11 camera can record either single frames or sequential motion pictures, using information recorded on standard computer datachips. Each chip can hold more still images than a person is ever likely to need, or several hours of full-motion video.

Basic models cost around Cr200 and have minimal extra features. Units that cost Cr1000 or more usually have such features as a 100x zoom lens, low-light capability, remote control, etc. Most models mass about 0.5 kg and can fit into a pocket.

Comm

A comm is a ubiquitous piece of communication hardware that serves the function of personal appointment book, watch, and video cellular phone. Depending upon the capabilities of the model, comms are usually about the size of a man's wristwatch, although they can be made into pendants, sunglass lenses, large screen folding versions or even audio-only rings. Comms broadcast on a licensed part of the high-frequency radio spectrum, with basic TL12 encryption (difficulty level 2 to break) and spread-spectrum technology to prevent casual eavesdropping.

A personal comm contains basic information about the owner, and can be programmed by voice or computer. Typically, a comm will have its owner's name, address, next of kin, list of comm codes for friends and associates, and any other information the owner considers important enough to carry. Public comms have bigger screens and better bandwidth, and can handle more simultaneous calls than the limited capabilities of a wrist comm.

A basic wrist comm is capable of receiving and storing a small amount of voice, video, and computer data for later retrieval. This makes it capable of functioning as a low-quality

video camera and recorder, though its storage space is limited. Often, people who use a comm in this way have it transmit the audiovisual signal back to a personal computer with more recording space.

By the same token, many jurisdictions have a comm override command for law-enforcement use. In case of sufficient cause (fire, riot, etc.), all comms in an area can be commanded to broadcast to police HQ, giving officials hundreds of video feeds from different vantage points for later analysis and possible use in criminal prosecution.

Even with advances in electronics, a comm has a very low power output, and requires nearby antennas for retransmission of its weak signal. In populated areas and on major travel routes, this is not a problem. In rural or remote areas, however, a comm Booster is often carried. This is a wallet-sized amplifier and power supply that rebroadcasts the comm signal at sufficient strength to be picked up by satellite and routed to its destination. Dedicated use of a satellite channel is slightly more expensive than normal calling, however, enough so as to discourage casual use, but not so much as to prevent it altogether.

Comms run in price from about Cr50 for a cheap version, up to around Cr200 for a decent quality, full-feature model. They weigh no more than 0.1 kg unless set in a casing of precious metal. Comms with specialized encryption chips cost up to ten times the normal price, but have a level 4 encryption, sufficient to block most real-time eavesdropping. High-security communications require dedicated equipment too large to fit in a comm. Comm boosters are available (see the exploratory gear section). Comms have a computer rating 1.

RADIO TRAFFIC AT TL12

The radio waves in TL12 space are abuzz with activity. As is the case today, portions of the available frequencies are allotted to specific uses, such as comm traffic, roadgrid and air traffic control, police band, etc. To keep the rest of the spectrum from becoming totally clogged, most devices work at a low power level and thus have a short range (in some cases only a few meters). In addition, signals are digitally encoded with redundant information, and are spread over several precise frequencies. If the receiver is interfered with on one frequency, it can still get the information it needs from the others.

High-power communications are discouraged by surcharges on their use. Want to use a comm? That's cheap. Want to boost that comm signal for a long-range communication? That will add a surcharge to the monthly comm bill.

Most radio traffic is carried on frequencies that do not penetrate the ground very well. People entering a cave, for instance, are likely to lose their comm link to the outside. Boosters, relays, and signal reflectors can reduce the loss of signal. On the other hand, a signal can be jammed or blocked fairly easily if someone feels the necessity.

Privacy of air communication is handled by basic encoding of information. This can be easily cracked by anyone who wants to spend the time on it, and there are airwave voyeurs who do so just for the fun of it. Mainly, then, privacy is protected by the sheer volume of information on the airwaves. Keeping tabs on a specific person is usually not a problem for the authorities, but for an info-snooping police state to keep constant watch on everyone would slow down the system so much that daily life would grind to a halt.

The moral is, don't make yourself noticeable, and odds are you won't be noticed.

Display Screens

Display screens are big and cheaply installed. For a temporary screen (one that will last only a few years), two guide rods are glued to the appropriate (usually flat) surface, and the installation computer is attached. Then the electrical conductors and luminescent elements are sprayed on in layers. The guide rods send current through each layer, drawing and forming it into the appropriate pattern as it dries. (The same technology allows such trivialities as polka dots or striped spray paint.) The finished product is then given a transparent anti-abrasion layer. It will always have some blurry, off-color or missing picture elements.

Better quality screens come in wallpaper form, approximately 0.5cm thick, and are rolled onto the surface to be used as a screen. Cost ranges from Cr50 for a clipboard-sized screen, to Cr200 for a 1m x 1m version, to about Cr1000 per meter of length for the typical 2.5m high wallscreen. With the extra price comes the benefit of full photographic quality, screen-in-screen capability and self-configuring software and hardware to fully integrate the screen into any particular home computer and comm system.

Imperial ID

Also known as the "Universal ID," or more often just the "Universal," this contains authenticated identity information about a person, such as fingerprint, name, date of birth, holographic photo, and so on. This info is encrypted on the card, the encryption being updated every day or so based on an internal clock and computer.

Normally, most transactions just go through a person's comm, which has links to the necessary databases—bank account, passport control, etc. In cases where a more secure ID is required, however, the Office of Imperial Records also is queried, which in turn queries the person's Universal, decrypts the information there based on the current day-and-date code, and can thus provide backup identification.

A Universal is free on most Imperial worlds, but it can be a troublesome process to replace one that has been lost or stolen.

Tools

In order to accomplish many tasks, a person must have the right tools for the job.

Carpentry Tool Set

This includes basic tools necessary to cut, shape, and build with wood. Woodworking may include construction and repair of shelters, buildings, or furniture.

A boxed set of carpentry tools is a tech level 2 item, costing Cr300. It masses 25 kg.

Chain Saw

A motorized saw typically used for cutting and shaping trees, the chain saw is a tech level 6 item, costing Cr500 and weighing 8 kg.

Disguise Kit

A basic disguise kit is a TL7 item allowing its user to change his personal appearance on a temporary basis. The Disguise skill is used to successfully prevent recognition of the disguised character. To actually impersonate another character requires a more difficult roll versus this skill, as well as the use of the Acting skill.

A complete disguise kit costs Cr1000 and masses 5 kg.

Electronic Tool Set

These are tools necessary for basic electronic assembly and repair of such devices as communicators, detectors, sensors, and control instruments. A boxed set of electronics tools is a tech level 7 item, costing Cr2000 and weighing 5 kg.

THE VALUE OF ID

In the Imperium, ID is everything. Indeed, there are urban legends and trid dramas about people getting lost in the system. After having their ID scrambled somehow, their car would not start, their house locked them out, and they could not even place a comm call to Imperial Services to get the situation fixed.

There are now safeguards built into the system so that in the event this happens, a "safety net" will catch a person in the form of toll-free emergency lines, support services, etc. It can still be a terrible pain, but it happens to only about one person per million lifetimes.

Still, no one wants to be that one person.

Locksmith Kit

At high tech levels, a locksmith kit includes tools for repair of both mechanical and electronic locks, allowing the user to make keys and keycards, or simply to open the lock itself. Low-tech models allow for work only with mechanical locks.

Typical kits cost Cr10 times their tech level. They are illegal without a license on worlds with a law level of 8+. On such worlds the cost is ten times as much.

Mechanical Tool Set

This set includes basic tools necessary to repair and alter mechanical devices, including vehicles and guns. Typically, its use calls for a Mechanics roll. A boxed set of mechanical tools is a tech level 5 item, costing Cr1000 and weighing 20 kg.

Metalwork Tool Set

This set includes basic tools necessary for metalworking, welding, and shaping. Metalwork may include the construction and repair of shelters, vehicle bodywork, and alteration of metal structural items. Tasks involving metalwork typically call for Mechanics skill in order for the tools to be used properly.

A boxed set of metalworking tools is a tech level 4 item. It costs Cr1500 and masses 50 kg.

WHEN TO CHANGE BATTERIES

Most every consumer good at TL12 has some electronic component, right down to the box for breakfast cereal. But where does the power come from?

Most "paper" products have built-in batteries with limited lives, since this is a disposable medium. Many other electronics are low power, and with modern batteries can last quite a while—years in some cases (as long as the batteries in a digital watch).

Many items rely on passive recharging methods. For instance, a wrist comm has a warm side (next to the skin) and a cool side (facing out). This temperature differential can be used to generate a minute amount of electricity, day and night, and will usually be more than enough to keep the comm running indefinitely. Other personal items have an induction coil for non-contact recharging. Just dump the contents of your pockets on the bedside table before going to sleep, and the table's internal power grid will have them recharged by morning.

Items that require more power, such as portable searchlights, have rechargeable batteries of varying mass, which can normally be recharged in an hour or so, and which are good for a few thousand discharge cycles.

If a piece of equipment in this chapter has a finite electronic lifetime, it is noted in the description, and if it has replaceable power cells, their mass and cost are noted as well.

Exploration Gear

Items listed in this section are not of use in the everyday life of the average Imperial citizen. But adventurers are likely to find them very handy.

Backpack

A backpack will increase a character's carrying capacity by ten to twenty percent, due to even load distribution, but items in it are not readily accessible (requiring one full combat round to get at them).

Backpacks are available at nearly any tech level. TL11 versions cost between Cr50 and Cr200, depending on size, and they mass from 1 to 2 kg.

Binoculars

At tech levels of 7 or less, binoculars are simple optical devices that magnify an image for clearer view.

At tech level 8 or 9, they may include some electronic enhancement, from range finders and compasses to simple detection of non-visible wavelengths.

Binoculars at tech level 10 and higher are usually entirely digital in nature, with some optical focusing and magnification augmented by digital image manipulation and broad-spectrum detection capability. For instance, a person could look at a radio tower and see not only the tower in high detail, but also its temperature, distance, and the frequencies and power it is broadcasting on.

Binoculars can focus at distances as short as a few meters, which makes them useful industrial diagnostic tools, able to spot local overheating, radio emissions, radiation leaks, and so on. Budget models may have coarser adjustments and less precision, while high-end models include motion stabilization for use from moving vehicles, and a voice and computer interface as well as fingertip controls. Pocket models ("monocs" with only one lens tube) usually are fairly simple and have a number of fixed on/off type detection settings for easy one-hand use.

Sample prices and masses are as follows: TL5 binoculars cost Cr100 and mass 0.3 kg. At TL9, they cost Cr500 and mass 0.6 kg. TL11 monocs cost Cr300 and mass 0.1 kg.

Bullhorn

A bullhorn amplifies the user's voice to Very Long encounter range. The average bullhorn is a TL5 item, massing 0.5 kg and costing Cr120. Despite its relatively low weight, the item is bulky and awkward to carry.

Clothing, Cold Weather

Cold weather clothing protects against frigid condition. A typical outfit is a TL1 item, costing Cr200 and massing 2 kg. In combat, it is treated as cloth armor.

Comm Relay

Comm relays are designed to be set up at a base camp to link comm units in the vicinity of that base. Each comes packaged in a composite attaché case that, once opened, is staked to the ground and its antenna deployed. The comm unit can then relay all nearby comm traffic either to an orbiting ship or to other comm units on the ground that would normally be out of range from one another. Three subantennae can be pointed in given directions to increase transmission and reception range to comms or other comm relays.

The maximum practical range from a relay to an individual comm is twenty kilometers, or two hundred kilometers to another comm relay. Range to high-powered vehicle comm units is limited only by weather conditions and blockage of the signal by major geographic features. Typically, two thousand kilometers is a practical maximum.

Comm relays mass about 5 kg and cost Cr2000. They are made of "smart" materials that will flex and retract under extreme weather conditions, and then automatically re-deploy when conditions improve.

Compass, Magnetic

A magnetic compass indicates direction of local magnetic north, if the world has magnetic poles. It may give false readings in the vicinity of large masses of iron.

This is a TL3 device, costing Cr10. It has negligible mass.

Explosive, Plastic

Plastic explosive can be molded to any desired shape and will adhere to nearly any surface. It does not explode if burned, and can only be detonated by another explosion, usually provided by a blasting cap.

The explosive becomes available at TL11. A 1-kilogram block costs Cr100 and has a concussive damage rating of 8. Proper use of the Demolitions skill is necessary to get this level of effect, and failed rolls will result in lower yields. Each time the quantity is quadrupled, the damage rating is doubled.

Grav Belt

A standard model TL12 grav belt looks something like a parachute harness with a "stiffener" that runs down the back, a series of artificial gravity modules around the waist, and a set of low-energy thrusters for lateral motion. A grav belt masses about 20 kg, including its integral fusion plant, but once it is turned on, a neutral control setting eliminates this weight (though not its inertia).

Environmental Combat skill use is required for any maneuvering of the belt in combat or other crisis, but simple maneuvering requires only a few sessions to acquire familiarity with the device. A grav belt user can accelerate at about 0.5 G in standard 1 G gravity, which is enough to cover six outdoor bands from a standing start in one combat round. Top speed is about 200 kph, or 20 outdoor bands per round.

Lamp, Gas or Oil

A TL2 item, a gas or oil lamp provides about six hours of light (and heat) on a full tank of fuel. It costs Cr10 (Cr2 for enough fuel to refill the tank) and masses 500 grams.

Lamp, Pocket

A pocket lamp (pocket light, flashlight, etc.) provides useful amounts of visible light out to ground combat range of Medium. Many models have infrared filters for use with vision aids. High tech level models have a rechargeable battery that usually lasts about four hours at full power, or they can be used for up to 12 hours if the light is cut to Short range. The range and duration of lower tech models are typically shorter.

Pocket lamps are available at TL10 or above. Basic models such as those found in a TL12 vehicle glove box cost about Cr10 and weigh 0.2 kg, while adjustable models cost up to Cr40.

Lantern, Cold Light

This chemical lantern provides three days of light in continuous use (and no heat). It is a tech level 6 device costing Cr20 and weighing 250 grams. A recharge of glow chemicals costs Cr2.

Lantern, Electric

An electric lantern lasts for about six hours of continuous use. It is a TL5 item, costing Cr10 and weighing 500 grams.

Locator, Inertial

An inertial locator is a device carried by an individual to keep track of the direction and distance travelled from any preset starting loca-

tion. Most are accurate to within one-tenth of a percent of the total distance travelled if used alone. If linked to sursats, the accuracy of a locator is usually within five meters of actual location anywhere on a planetary surface.

Users should keep in mind, however, that most high-tech vehicles have inertial compensation, which completely thwarts an inertial locator's abilities. Consequently, locators are normally useful only when travelling by foot. They are of especial use during underground exploration.

An inertial locator is a TL11 item, weighing 0.3 kg and costing Cr200.

Multiscanner

A multiscanner (typically shortened to "multi") is a specialized computer designed for interpretation and analysis of environmental data. In its basic form, it is a rectangular box with a belt attachment and contoured hand grip. On its face is a 3-D screen and touchpad. One side of the device has up to four chip ports, and on the front there are four smaller data ports.

Typically, the user buys a set of programs and sensors appropriate to the tasks he wishes to perform. A geologist might buy a mass spectrometer and mineral analyzing database, while a botanist might have sensors for analyzing organic material, an anthropologist might have a language translator, and a meteorologist could have his multi linked to a portable weather station and sursats.

Multis can be programmed to run automatically to detect and alert the user if certain conditions are met, and are often used in this way by members of a survey team. This could include perimeter watch at night, alerts for radiation or atmospheric toxins, signals within a given part of the radio spectrum, and so on.

Many of the individual functions of a multi can be handled by cheaper and lighter special purpose tools, but most survey teams need a variety of functions, making a multi indispensable.

A multi is a TL10 item, has a mass of about 0.8 kg, and costs Cr3000. The price is high because the device can perform all the functions of a personal computer, but is smaller, more rugged and has more ability to handle non-digital data.

Night Glasses

These are simple wraparound sunglasses with full ultraviolet and low-power laser protection (count as reflex armor for laser shots to the face), combined with a thin film array for color image intensification.

Available at TL9 or higher, night glasses allow normal vision in conditions of nearly complete darkness. Technically, they are not transparent at all, but simply provide a computer image of whatever the user is looking at. Power consumption is low, and is further reduced by an off switch that is engaged when the unit is folded. Military and security versions have a temple-mounted switch that turns night images into shades of red rather than full color, to reduce loss of natural night vision.

Night glasses have negligible mass and cost about Cr500. Models that can be used as a computer display, and therefore a video comm unit or targeting adjunct, cost up to Cr500 extra, depending on the capabilities desired.

Radiation Counter

A radiation (rad) counter indicates the presence and intensity of radioactivity. It can be preset to give a warning signal if radioactive levels rise to dangerous levels.

A TL10 item, radiation counters cost Cr50 and have negligible mass.

Rebreather

A rebreather is a closed-circuit breathing system that can be used underwater or in non-corrosive, non-insidious atmospheres of thin density or greater. Its battery/chemical cartridge lasts about 12 hours.

The rebreather is a TL11 item, massing about 1.5 kg and costing Cr200, with cartridges costing around Cr20 each.

Restraints

The typical restraining device is a pair of handcuffs. They completely prevent use of hands by the prisoner.

The average set of cuffs is a TL 2 item, massing 0.3 kg and costing Cr25. Higher tech levels tend to produce lighter designs.

Rope

Professional quality rope, suitable for climbing and so on, is considered a TL10 item. It is cut resistant and abrasion resistant, and is impervious to the effects of mold, UV, and most other natural hazards. (Lower tech ropes can be acquired, but they are both heavier and less trustworthy.) A 50m length of rope with 2000 kg strength masses about 2 kg and costs Cr100.

Suit, Protective

A standard protective suit seals its wearer from the outside environment and protects against corrosive atmosphere at normal pressure levels. It can also offer continuous protection against insidious atmospheres if it is equipped with positive-pressure life-support. Without such a system, the suit protects against such invasive atmospheres for only several hours.

The suit does not come equipped with any life support or other accessories; these are usually worn separately under the baggy fabric of the suit. The suit provides a flexible armor rating of 1 versus cuts and abrasions, but nothing against other attacks. Cutting and puncturing attacks automatically violate the integrity of the suit. Because of the suit's bulkiness, the wearer suffers a -1DM to all Dexterity-based tasks.

A protective suit is a TL10 item. It masses 3 kg, and costs Cr2000.

Suit, Soft

This is a minimum-duty vacuum suit (see below), and is generally used in situations when locker space for a regular vac suit is unavailable. A soft suit provides atmosphere and temperature support for twelve hours on an all-in-one power/chemical/oxygen pack, which can be replaced even in vacuum conditions. The suit protects against temperatures of +50° C to -40° C, and it is proof against minor cuts and abrasions, but has no real effect as armor.

A TL10 item, the soft suit has a weight of 4 kg and costs Cr3000.

Suit, Vacuum (Vac Suit)

This is a semi-standard design in use by any number of ship crews as a general purpose EVA suit. It provides its wearer with full life-support for up to 24 hours, including heating, cooling and atmosphere recirculation.

Its multiple layers and insulation provide the equivalent protection of a flexible armor rating of 2 over the body, and an equal rigid armor rating over the head. But the suit's bulkiness causes the wearer to suffer a -2 DM to all Dexterity-based tasks. It is also heavy, though this is not a problem in zero-G environments.

Any attack with a penetration of 3 or more will rupture the suit. Other attacks can damage the fabric and mechanisms, requiring repair, though not actually breaching suit integrity. The suit has limited self-sealing ability, but was not designed with combat in mind.

Vac suits normally have a video comm and regional range radio, but no other instrumentation aside from diagnostic readouts.

A generic vac suit is a TL12 item, costing around Cr5000 and weighing 20 kg. It is rated for about a year of daily use before the integrity warranty expires.

Sursats

These are cheap, small research satellites that planetary survey teams will often deploy. With a stored volume of 0.25 cubic meters and a mass of 50 kilograms, over a dozen may be stored in the hold of a typical ship for a multisystem survey team.

When deployed from an airlock, sursats use a built-in fusion plant to maneuver into the desired orbit, and begin cataloging data based on survey team needs. Typical information gathered includes meteorological data, geography, radio and radiation emissions and electrical power use, and major urban areas or apparently non-natural structures of significance. In addition, sursats can receive signals from comm boosters and relay them elsewhere on the planet or in orbit, and also act as a global comm locating system, provided at least six sursats are in proper orbits.

Sursats cost about Cr100,000 each, and are not designed to be stealthy or to take much damage. They should not be used for clandestine missions or deployment in hostile environments of any kind.

Survey Shield

With the fall of the old Imperium a millennium ago, many high-tech worlds suffered terrible battles both in space and on the ground. As the new Imperium pushes to explore the galaxy once again, lightly armored survey ships may find themselves facing dangerous orbital debris and high ground-radiation levels. And it is expected that some worlds will still have significant orbital installations, possibly hostile to explorers. On a related note, extended research near high radiation sources like intense magnetospheres might result in unacceptable levels of radiation exposure.

For ships in parking orbits that have to deal with any of these problems, a collapsible shield has been developed. This is a one-metric-ton, self-rigidizing assembly of hexagonal foamed metal plates, with high-density ceramic backing and on-board sensors, telemetry and microthrusters. The survey shield can be placed in front of most ship designs of up to 1000 tons displacement by manipulator arms, ship's boats, or even by ejecting it from an airlock and maneuvering it into place with microthrusters. Once set, it will maintain station and report on radiation, micrometeor and macroscopic projectile impacts. Each 30cm hexagonal panel is capable of sacrificially absorbing the energy of 10km/sec particles up to 1cm in diameter, and providing a safe shadow from exposure of up to 500 rads per hour. In the latter case, production of radioactive byproducts may preclude retrieving the shield aboard ship for later use.

A survey shield costs about Cr10,000 and is available through Imperial channels or third-party contractors.

Survival Still

No one really likes survival stills, but most survey teams have used one on occasion. The still is a small fusion plant and chemical distiller and synthesizer that turns almost any organic material into water and something edible (and usually tasteless as well).

If material is introduced that cannot be safely converted, the still will not process anything in the hopper until that material is removed. The input hopper will hold several liters of material, and can chew it up and spit out what is affectionately referred to as "glop" in about two hours' time. Glop is usually served supplemented with known edible material or rations in "glop stew," or it can be dried and used as ration bars.

The still is a simple version of a ship's recyclers, which under computer control and more volume can turn glop into synthetic food with a bit more texture and flavor. If a crew has a survey ship capable of landing, the still is used only to provide raw glop to the ship's recyclers, because while everyone knows what normally goes into the ship's recycler, no one really wants to think about it.

A survival still usually masses about 30 kg, and runs off a vehicle power plant or portable generator like a cold fusion unit. It costs about Cr5000, and is internally a fairly complex bit of machinery.

Tarpaulin

A canvas or waterproof cloth sheet used for temporary shelter, a tarp is a tech level 1 item, costing Cr10. It measures 2 meters by 4 meters, and masses 2 kg.

Tent, Camping

The standard cheap camping tent is a bundle about one liter in volume. Press the stud on the end, and the built-in battery stiffens a network of polymer chains woven into the thin fabric of the tent. Within about thirty seconds, a two-man dome with a volume of approximately four cubic meters is formed (2.5m diameter), with a floor and adhesive-seal doorway and windows. For stability, stakes are used to fasten the thing to the ground, as has been the case with tents for millennia.

To repack the tent, just turn off the power, and wrap the deflated fabric as tightly as possible. Another touch of the stud, and current is reversed; the package shrinks down upon itself to make a bundle just slightly too large to fit back in the original container.

A more upscale version of the camping tent is much the same in operation, but will usually be made of better material, have a replaceable power cell, and automatically adjust fabric color and porosity to keep the interior space close to the human comfort range. It may also have a variety of height settings, so that in windy areas it can be made into a flattened, more streamlined shape, for instance.

A cheap camping tent costs about Cr50 and masses about 0.5 kg. Its battery will last for several weeks of active use, by which time it and the tent will probably have reached the end of their useful lives. The more expensive type of tent costs about Cr200 for a two-man version, or about Cr500 for one capable of holding four people and some gear (four-meter diameter). The two-man version masses about 0.5 kg, and the four-man tent is 2 kilograms.

Tent, Survival

This is a standard item for exploration teams, and ship's boats often have one stowed behind a panel with other emergency supplies. It comes in two cylindrical parts, the top being removed before activation. If directions are followed carefully (and survival may depend on it!), the lower half becomes a two cubic meter "airlock" with an attached hemisphere enclosing 17 cubic meters (4m diameter, 2m high), inflated with breathable air from a separate canister.

The half-dome and airlock quickly become permanently rigid from a catalytic reaction triggered upon activation. They are then anchored to the ground if necessary.

The survival tent has a marginal solar power supply built into the fabric, and three windows of reasonable transparency. The "doors" are simply panels of rigidized fabric, and internal atmospheric integrity is maintained by gluing them shut after each use. The airlock has no means of pressure control, and some of the external atmosphere (if any) will get into the tent with each use, while some of the internal atmosphere will escape to the outside.

The remaining half of the original cylinder is a combination emergency beacon and atmosphere circulator, which can provide breathable air for up to six people indefinitely, and filter out traces of harmful atmospheres like chlorine, ammonia and methane. Corrosive atmospheres will eat through the tent in seven to ten days, depending upon local factors.

The emergency beacon uses metal fibers within the tent fabric as an antenna, which also help the tent reflect radar scans. It is presumed that anyone using such a tent on an inhospitable world is expecting rescue within a few weeks, but if not, a small supply of euthanasia patches is provided (patches, so you can change your mind anytime before becoming unconscious).

On hospitable worlds, a survival tent can be used as an equipment locker, shower, radio hut, or any form of semipermanent dwelling by slapping on a few adhesive strips to act as door hinges and latches, and cutting out the windows for air circulation.

A survival tent is about a meter long and 0.2 meters in diameter. It masses about 20kg. These tents are available through Imperial channels for about Cr2000. Basic catalytic tents without the extra features (airlock, emergency beacon, etc.) cost about Cr750 and mass 15kg.

Medical Gear

Adventurers sometimes get hurt. That is when the following gear becomes invaluable.

Cryoberth

Typically referred to as the "icebox," this is a means of long-term stabilization for an individual who is dying. While the preparation of an individual for cryo should be done by trained medical personnel, it has been handled successfully in emergency situations by completely untrained individuals.

If properly interred, the individual will be placed into a state of cryostasis with negligible extra tissue damage. He can be thawed out at any later time and revived in a condition no different than when he entered. Cryoberths are usually powered by a vehicle's power plant, but have a backup unit good for several days. Long-term independent power can be provided in the form of a fusion unit for an additional cost.

A cryoberth has a mass of about 200 kg plus the mass of the occupant, has a volume of roughly 2.5 cubic meters, and costs Cr50,000.

Medications

Six common types of medication (or "meds") are well-known among travellers: slow drug, fast drug, combat drug, medical drug, anagathics, and truth drug. Psi drug is a seventh, less common type. (See Chapter 11 for details of its use.)

For the sake of uniformity and ease of use, the six med types are typically available in consistent, one-dose pill form. The referee may vary this to reflect diverse sources of the medication.

Taking more than one med at the same time (except medical drug) can cause an adverse effect called synergy. Whenever a character takes one medication while another is in effect, roll one die for each drug taken, and multiply the die results together. The product indicates the damage the character receives as a result of synergy. These are suffered at the end of the period of the drugs' effect.

The use or possession of certain meds may be restricted by local law. Roll the local law level or greater for a specific drug to be legal and unrestricted on any particular world. DMs may be allowed for starship crews, medical personnel, or other specifically authorized individuals.

Availability of these medications varies, as detailed in the "Trade Classifications" section of Chapter 11.

Slow Drug: Slow drug is named because it makes the universe (from the user's viewpoint) appear to move more slowly. This effect is achieved by accelerating the user's metabolism. In effect, the user lives approximately twice as fast as normal.

Slow drug takes effect after one minute, and it continues to function for ten minutes. At the end of its effect, the user suffers 1D in wounds.

A person under the influence of slow drug is allowed to move and act twice during a combat round (because he or she is living at twice the normal rate). The character moves and acts once at his normal initiative, then moves and acts again at the end of the round, after all other characters have taken their turn. (Each of the movement/action combinations is treated as a separate combat round for purposes of the multiple actions rule.) Because of his increased metabolism, the character also suffers an extra point of fatigue each combat round. (See Chapter 5 for details of initiative, movement, action, multiple actions, and fatigue.)

A medical version of slow drug is also available, being used to hasten recovery from wounds or illness. One dose causes unconsciousness, and the passage of thirty days' equivalent time in one day. During this period, ordinary healing takes place. No wounds or hits are received from the use of medical slow drug.

An antidote is available for drug drug. It takes effect immediately after being administered, and returns the user to normal time sense.

Fast Drug: Fast drug is named because it makes the universe appear to move much more quickly to its user. The drug slows down personal metabolism at a ratio of approximately 60 to 1. Users are extremely vulnerable because they are living at such a slow rate, but physical aging is also slowed, and the need for consumable supplies is reduced, thus allowing conservation of air and food.

Fast drug takes effect immediately upon ingestion. One dose lasts for 60 days, making that time appear to be only one day.

Like slow drug, fast drug has an antidote that takes effect immediately and returns the user to normal speed.

Combat Drug: Combat drug is taken by fighters (usually military personnel) prior to combat. It increases personal Strength and Endurance each by two. The effect begins two combat rounds after being taken, and lasts for 30 combat rounds. When the effect wears off, the user suffers 1D in wounds.

Medical Drug: Medical drug (often called panacea) is a general term describing the set of medications used in the treatment of illness or injury. Generally, medical drug must be administered by a person with medical expertise, and the drug serves as medical treatment. Medical drug is often used in conjunction with medical slow drug.

Anagathics: Medications that counteract the aging process are termed anagathics. A regimen of regular monthly doses enables an individual to avoid the effects of aging.

The first month that the drug is taken, it has no appreciable effect, but beginning with the second consecutive month and each month thereafter, the character simply does not age. As a result, persons taking anagathics are not required to roll for attribute loss, nor do they suffer any other signs of aging.

Halting the anagathic regimen causes the character to begin aging once again at a normal rate. (If the character later begins taking regular monthly doses again, effects start with the second month, as before.)

Because of the rarity and demand for anagathics, they are quite expensive, and are often unavailable at any price.



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Truth Drug: Truth drug is used to compel individuals to answer interrogation truthfully. One dose is sufficient to assure truthful answers for two minutes, after which the user experiences one hour of unconsciousness, and 2D in wounds.

Medkit

This is a professional paramedic kit for situations where a hospital is unlikely to be available. It includes a diagnostic computer, which can read the vital signs of the patient (human, alien, or even animal, with the appropriate chip), access medical information from his comm, and do basic non-invasive internal scanning (thermal, ultrasound, X-ray), with computer-analyzed 3-D graphics. With blood samples, it can also do basic bloodwork and identify foreign compounds in the bloodstream.

The kit also includes basic supplies of stimulants, sedatives, antibiotics, metabolic enhancers, and (as a last resort) metabolic reducers which can slow the life processes (and degenerative symptoms), allowing a chance to get the patient to a cryoberth or full medical facility.

A medkit (TL8) weighs about 8 kilograms and costs about Cr1,000. Aside from the prescription drugs, these kits are available on the open market. Full medkit drug supplies are available to any individual with professional medical training.

Combat Gear

Personal fusion plants have created a dichotomy of weapons and armor. On the one hand, a person can have very powerful energy support weapons and fusion-powered armor. On the other hand, both are expensive, and the former is really needed to carry the latter at any rate of speed. Then there is everyone else, who is stuck with weapons powered by less advanced means, and limited to the mass they can carry with their natural strength.

To non-military characters, the point is moot, of course, as both technologies are prohibited for civilian use (the exception being cargo-handling exoskeletons). On the Imperial core worlds, weapons possession is discouraged, and is limited to non-lethal technologies (with appropriate permit) and blades that would normally be carried as tools instead of weapons.

Weapons

Players should keep in mind that a weapon doesn't *have* to be fired to be useful. Weapon are intimidating.

Blades

Edged and pointed melee weapons were once the most common weapon used, having their heyday in low-tech wars. Today, they are often relegated to the roles of tools. Still, they can be handy as improvised weapons versus unarmored foes, particularly among starship crews, who value them as a means to repel boarders without risking serious damage to the ship itself.

A dagger is a TL1 weapon requiring use of the Short Blade skill. Its cost is Cr50, and it masses 0.25 kg. Ground combat range for its use is Contact for hand-to-hand strikes, or the weapon can be thrown. Its damage rating in either case is 1.

A broadsword is a TL1 weapon requiring use of the Long Blade skill. Its cost is Cr675, and it masses 2.5 kg. Its ground combat range is Contact, and it cannot be thrown with any accuracy. Its damage rating is 2.

Blur

Chemical sprays have long been outlawed on the Imperial core homeworld as incapacitation agents. In their place, there is blur. People who wouldn't think of carrying a weapon often have no qualms about blurring an assailant, although its use in commission of a crime carries added penalties.

Blur is an intense topical anesthetic, and a spray to the exposed flesh will almost instantly deaden all sensation. Hands will drop weapons, attacks become uncoordinated, deadened legs lose balance, etc. In addition, face hits will often cause severe sensory distortion, hence the nickname of the spray. Blur usually has an indelible skin dye for easy identification of an attacker.

A small can of blur costs about Cr25. High-end models for the security conscious have a small flashlight and bargain-basement comm unit built-in, any use of the blur taking a picture of what was aimed at and sending it to the police. More restrictive localities insist on use of this model rather than any others; it costs about Cr100. In either case, a can is good for about 10 sprays before it needs to be replaced.

Blur is a TL 11 item, using Pistol skill to hit. It has a cost of Cr25 and a mass of 0.2 kg. For purposes of ground combat, it is treated as a single-shot weapon with a range of Contact (maximum range of Very Short) and a damage rating of 1. One can holds 10 shots.

Bow & Crossbow

Bows and crossbows are archaic ranged weapons now used primarily for hunting and sport. Still, some primitive or poverty-stricken cultures (tech level 1 or 2) use them for battle. Explorers should be aware, however, that some such cultures may still have the capability of manufacturing explosives, making even these archaic ranged weapons potentially very dangerous.

Both bow and crossbow are TL1 weapons operated with the Bow Combat skill. Cost is not normally a factor; a person is more likely to barter for such an item than to actually purchase it. Bows cost Cr300 each, mass 1.5 kg, crossbows cost Cr475 each and mass 3 kg. Both are single-shot weapons. A bow has a ground combat range of Very Short and a damage rating of 2. A crossbow has a range of Short and damage of 3.

Firearms, Black Powder

Early chemical-powered weapons, black powder firearms are used only for historical purposes within the Imperium, but they are actively used in battle by cultures of tech level 2 to 4. Regressed

IMPERIAL WEAPON PERMITS

Violent crime is not unheard of in the Imperium. Far from it. Crimes of passion and stupidity continue to occur, and there is legal precedent that mandates that individuals have a right of self-defense. In law, this is interpreted as the force needed to subdue or incapacitate an attacker if there is no other viable option.

To exercise this right of self-defense with a weapon requires a permit, which is actually nothing more than a file-tag on your Universal. Usually, such a permit requires basic familiarity with the weapon or device in question (any skill level above the default), and no criminal background that would indicate abuse of this weapon.

All civilian ranged weapons have a microcam built in, which takes a picture every time the gun is fired. This is not normally downloaded by the authorities, nor does it send out any signals. However, in the event of a possible criminal investigation, this evidence may serve to exonerate the user. On the other hand, deactivating the camera before use of the weapon may tend to imply guilt.

Imperium government buildings do not allow civilians to enter with weapons, despite permits, but other public structures or places of business cannot restrict this. The exception is that a person never has to allow another with a weapon into his home, unless the arms bearer is acting under military or police authority.

cultures, which retain modern weapon knowledge but lack the tooling to make modern firearms, may make similar weapons from leftover high-tech materials, using modern propellant mixtures in place of the black powder. A typical black powder weapon is a TL3 item. Costs vary widely for such weapons, from highly expensive, carefully crafted replicas for the collector, to cheap pieces bartered for on low-tech worlds. Black powder pistols normally go for Cr400 each, mass 1.0 kg, have a ground combat range of Contact, and have a damage of 2. Black powder rifles cost Cr800, mass 5 kg, have a range of Very Short, and have a damage of 3. Both weapons are single-shot devices, manually reloaded between each shot.

Hand Grenade

Grenades are small, fragmentation explosives thrown at a target (using Throwing skill). There is usually a three-second lapse between the safety pin is pulled until the grenade explodes—just enough time for it to cover the distance to the target.

A grenade is a TL5 weapon with a cost of Cr250 and a mass of 1kg each. It has combat range of Very Short and a damage rating of 7-Fragmentation (see the explosives section in Chapter 5).

Pistol, Body

Even in civilized society, there are some people who want or need to carry an effective ranged weapon at all times. Some are criminals; others are government operatives. Each finds use for a body pistol.

A body pistol is a small firearm with limited clip capacity, designed expressly to avoid casual detection by sensors. In general, a disguised item can pass through remote sensors of *less* than its TL without being detected, and if suitably disguised, can evade visual checks as well.

Imperium-designed body pistols are TL13, while most of those manufactured illegally are TL12. Most remote scanners are still TL10 to 11, but more and more of them are being upgraded to TL12, and the actual tech level of scanners at sensitive installations is classified.

Body pistols can be disguised as comms, wallets, souvenirs or any other palm-sized item that would not normally arouse suspicion. Entertainment dramas routinely have the villain or hero use a body pistol that was surgically implanted, but so far there are no actual reports of this practice.

A body pistol has a cost of Cr1500 and a mass of 0.1 kg. It is a single-shot weapon with a ground combat range of Contact and a damage rating of 2. The weapon holds 5 rounds of ammunition. It cannot be reloaded.

Pistol, Laser

A high-energy weapon that fires energy beams using current from a small backpack battery/power pack. The power pack can generate 20 shots before recharging, which requires at least four hours connected to a high energy source. The laser pistol is connected to the power pack by a heavy duty cable.

Laser pistol is a TL12 weapon, with a cost of Cr2200, and a mass of 2 kg (3 kg for power pack). It has a ground combat range of Long and a damage rating of 6.

Pistol, Magnum Revolver

Among nobles who fancy themselves leaders of men rather than merchant princes, this is the commonly accepted dress sidearm. Not that it isn't an effective weapon, but it *is* a throwback to an earlier era of weapon design. To compensate for its lack of electronics, low rate of fire, and small magazine capacity, the gun is usually manufactured to precise tolerances from the best materials, making it very accurate and usually custom balanced for the buyer.

Ammunition is not standardized as for official Imperium weapons, and may be subject to local availability. The large bore allows a wide variation of custom loads, and individuals take advantage of this as befits their temperament and style.

A magnum revolver is a TL7 pistol costing Cr450 and weighing 1.5 kg. It is a single-fire weapon with a ground combat range of Short and a damage rating of 10. The weapon holds 6 rounds of ammunition.

Pistol, cP003

The standard Imperial sidearm, the Pc-03 is also the weapon likely issued to non-combatants with a legitimate self-defense need while on exploration missions. It is a somewhat bulky but lightweight firearm with a just reputation for lethality. Unconfirmed rumor claims that reason for the acquisition of this design is that the caseless shaped charges are hard to manufacture and strictly inventoried, and the somewhat bulky composite construction is difficult to conceal, thus limiting usefulness to the criminal element.

The Pc-03 is equipped with a standard dual-mode laser sight, and is capable of semiauto, burst and full autofire. Normal clip capacity is 10 rounds, but 20-round clips are also available. For non-lethal or training use, elastomer projectiles with a penetration rating of 1 can be purchased. The pistol is a TL11 item with a cost of Cr1200 and a mass of 0.5 kg (0.1 kg for the normal magazine). It is a single-shot weapon with a ground combat range of Very Short and a damage rating of 5. The weapon holds 10 rounds of ammunition (20 with the large clip).

Pistol, Staple Gun

This is the standard sidearm for non-human Imperial troops, who are usually relegated to non-front line duties due to the expense of refitting equipment for nonstandard anatomies. Technically designated the P786c, the staple gun fires 5mm caseless rounds, and is capable of autofire from its 25-round clip. The design is such that it can be gripped and fired by a large range of manipulative members, and minor modifications allow even greater flexibility.

The staple gun is a TL11 pistol with a cost of Cr550 and a mass of 0.75 kg. It is a single-shot weapon with a ground combat range of Very Short and a damage rating of 2. The weapon can fire single shots or autofire, and it holds 25 rounds of ammunition.

Pistol, Thud Gun

This is the most popular civilian self-defense sidearm, and the most powerful. It shoots an elastic ball at subsonic velocity, and transfers almost all its energy to the target in the form of a powerful punch. It is named for the characteristic sound the projectiles make when hitting something.

The thud gun operates by electrically heating a liquefied inert gas cartridge to propel the ball. It is possible to tinker with the internals to boost the penetration of a shot by a point, and possibly even make it look like an accidental malfunction. Some lawbreakers have loaded the gun with a marble rather than an elastic ball, increasing the penetration by one point as well.

A thud gun is a TL11 pistol with a cost of Cr550 and a mass of 1kg. It is a single-shot weapon with a ground combat range of Very Short and a damage rating of 1. It holds 10 rounds of ammunition.

Rifle, Bullpup

The bullpup is any one of several designs that have become so generic that people seldom give them manufacturer's designations. It is a solidly constructed autofire carbine using 5mm caseless rounds. It has no sighting enhancements or vision aids and was meant to be cheap, durable, and effective. Any ship capable of landing on a habitable planet probably has a few of these gathering dust in a locked cabinet somewhere, or stowed under the seat of their pinnace.

A typical bullpup is a TL9 Rifle with a cost of Cr300 and a mass of 3.5 kg (plus 0.5 kg for the magazine). It is a single-shot weapon with a ground combat range of Short and a damage rating of 4. The weapon holds 50 rounds of ammunition.

Rifle, Laser

This standard weapon fires high-energy bolts using current from a backpack battery/power pack. The laser rifle is capable of sustained action, and is sturdily constructed. The power pack can provide 100 shots before recharging. The laser rifle is connected to the power pack by a heavy-duty cable.

This is a TL12 rifle with a cost of Cr6500 and a mass of 5kg (plus 15 kg for the power pack). It has a combat range of Long and a damage rating of 7.

Rifle, cR898/cR898 Advanced Combat

The cR898 is a conventional assault rifle issued to light infantry units. It uses standard 7mm caseless ammunition, with a discarding sabot covering a 4.5mm tungsten/iridium core for optimum penetration. The cR898 comes with mounting brackets for Imperial-standard sighting aids and under-barrel attachments, and its range reflects the addition of a basic heads-up display. Normal mode of fire is semiauto, with three-round burst available as an option. The ammunition of the older cR776 is compatible with the cR898, and vice versa. The designs are similar in other respects. The cR776 is now available to qualified parties for export purposes. Export of tooling for manufacture of cR776 ammunition is currently limited to non-discarding sabot rounds.

The cR898 is a TL11 rifle with a cost of Cr2500 and a mass of 4.5 kg (plus 0.6 kg for the magazine). It has a ground combat range of Medium and a damage rating of 5. The weapon holds 100 rounds of ammunition.

The cR776 is a TL10 rifle with a cost of Cr2000 and a mass of 5.2 kg (plus 1.2 kg for the magazine). It has a ground combat range of Medium and a damage rating of 5. This weapon also holds 100 rounds of ammunition.

Rifle, pR903

This is the civilian model of the cR898 rifle described above. It lacks the mounting brackets for various military attachments, and can fire only in semiauto mode; it cannot fire three-round bursts.

Shotgun

The basic weapon for maximum shock effect without regard to accuracy, the shotgun has an 18mm diameter barrel and fires shells containing either six 7mm bullets, or one hundred thirty 3mm pellets. In either case the projectiles weigh a total of 30 grams. A cylindrical magazine containing 10 shells is inserted under the barrel and parallel to it. Cartridges are then fed automatically into the shotgun for firing. Reloading consists of replacing the cylindrical magazine and takes two combat rounds. One shot is fired for each pull of the trigger.

Magazines measure approximately 350mm long by 20mm in diameter and are quite clumsy to carry.

Shotguns are equipped with a sling for carrying. They may be fitted with a folding stock.

A shotgun is a TL4 weapon, with a cost of Cr550 and a mass of 3.75kg (plus 0.75kg for the magazine). It has a combat range of Very Short and a *maximum* damage rating of 4D, instead of 3D.

Spear

A spear is a long polearm with a pointed tip, usually of metal. Often made by the soldier himself, the spear is quite inexpensive. It can be used in hand-to-hand combat (requiring Melee Combat skill) or thrown at a target (using Throwing skill).

A spear is a TL1 weapon with a cost of Cr275 and a mass of 2kg. It has range of Contact in melee combat, or Short when thrown, and a damage rating of 2.

Submachinegun

This small automatic weapon is designed to fire pistol ammunition (though still using Submachinegun skill). Magazines holding 30 cartridges are inserted into the weapon forward of the trigger guard or in the pistol grip, depending on the design. The gun fires four rounds per pull of the trigger. Submachinegun ammunition (but not magazines) is interchangeable with automatic pistol ammunition.

Submachinegun is a TL5 weapon with a cost of Cr550 and a mass of 2.5kg (plus 0.5kg for reloads). It has a combat range of Very Short and damage rating of 2.

Accessories

The following special accessories are generally available for the various weapons.

Telescopic Sights

High-quality telescopic sights for attachment to rifles and carbines, for increasing their accuracy, especially at longer ranges. A rifle equipped with such sight has a DM of +4 to hit at Long and Very Long ranges.

Telescopic sights are delicate, however, and may be jarred out of alignment by any violent action (such as being left unattended in a moving truck, a close explosion, or being dropped) on a roll of 7+. When the sights go out of adjustment, the basic target number to hit should not be revealed to the firer, and he will always miss.

This is a TL6 item with a cost of Cr500 and mass of 800g.

Electronic Sights

Electronic sights with image enhancement and low-light capabilities are available to provide the capability to see and hit in the dark. Electronics are treated like telescopic sights for damage and reliability, and function similarly.

This is a TL9 item with a cost of Cr2000 and a mass of 1500g.

Silencer

Devices are available to muffle or eliminate the sound of guns firing, but so far they have proven practical only when applied to body pistols and automatic pistols. A silencer attaches to the muzzle of the pistol, increasing its total length, and making it impossible to holster until the silencer is removed. Silencers are not interchangeable, one must be purchased for each specific model of pistol used.

Silencer is a TL 6 item with a cost of Cr500, and mass varied from 500 to 700g.

Shoulder Stocks

It is possible to produce a shoulder stock which may be attached temporarily to a pistol or revolver, resulting in a crude carbine arrangement and some greater accuracy at longer ranges. The overall length of the pistol is increased by the length of the stock, and the pistol cannot be holstered. Attaching the stock (or detaching it) requires five combat rounds.

This is a TL5 item with a cost of Cr100 and mass of 1kg.

Folding Stocks

Rifles and shotguns can be equipped with folding stocks which make it possible to reduce overall length of the weapon by 300mm, but adds 500g to the weapon.

This is a TL6 item with a cost of Cr150 and mass of 500g.

Armors

In hostile situations, a bit of armor can make all the difference between life and death. Of course, armor also tends to be bulky.

Flex

The standard Imperial body armor for non-powered units is called flex. It consists of a full-torso, load-bearing harness, composed of ballistic fabrics, with a total flexible armor rating of 5. It masses 3 kilograms and acts equally well versus all weapons except shaped charges, which treat its rating as halved.

A flex harness costs about Cr300 and comes in sizes suitable for most humans. It is not prohibited to possess Flex, but the thickness of its built-in ventilation makes it unconcealable, and it is of little use on the core worlds unless a person plans to get into a lethal firefight. Because of its bulkiness, the wearer suffers a -2 DM to all Dexterity-based skills and -1 DM to all Endurance-based skills.

Reflec

Reflec is not so much an armor as a coating on armor. It provides an additional 3 points of armor versus laser attacks, at an additional twenty percent mass to the armor. The reflec is normally covered with a darker layer, which is ablated off on any hit, as otherwise it would be highly visible. As is, any reflec-equipped armor is much more visible to remote sensing equipment, and is normally found only on augmented infantry units, whose power signatures make them highly visible anyway.

Helmet

This is Imperial standard head armor for non-powered units. It consists of a rigid helm with articulated neck plates and a retractable full-face visor, all of which have a rigid armor rating of 6. It masses 1 kg, and its armor applies versus all types of attack. The visor is coated to absorb harmful laser wavelengths and has sensors and electronic tinting to prevent flash blinding. The inside and outside of the helmet have mechanical and electrical connections for the addition of extra sensing or targeting gear.

Cloth

Heavy-duty outdoor clothing has an armor rating of 1 versus most forms of attack, but this does not add to the rating of any other armor worn. Attacks that are not affected by cloth are sharp punctures (knives, flechettes), large blunt attacks (fists, clubs), chemicals, and any form of shaped-charge weapon.

A regular bodysuit has a mass of about 2.5 kg and cost around Cr100. Piecemeal acquisition such as a hunting jacket, brush pants, etc., will double the cost. Military fatigues are usually counted as this type of protection. While this sort of clothing is not suitable for formal use, it does not appear out of place in casual settings, and is not culturally perceived as armor anymore than a leather jacket is today.

Diplo Armor

The well-dressed and well-prepared dignitary usually has some form of body armor on under his formal wear. This type of protection is colloquially referred to as "diplo" (short for diplomat, the type of person prone to needing this protection). Diplo usually masses about 1 kg and protects the vital organs with a flexible armor rating of 3. The lack of air circulation tends to make it uncomfortable in hot climates. The wearer will suffer a -1 DM on End-based rolls.

Archaic Armors

Archaic armors are worn usually for historical re-creations and entertainment productions, but they are also used by primitive (tech level 1 to 3) cultures to protect against weapon attacks. It may be made of organic or simple alloys, depending upon availability of materials. Such armors provide protection rating of 1 or 2 against primitive attacks, and not more than 1 against modern weapons.

A typical full-body armor with rating 1 has a mass of approximately 10 kg and costs the equivalent of Cr500 in local currency. For an extra Cr500 and 5 kg, the torso and head can be increased to a rating of 2 points of rigid armor.

Battle Dress

Battle dress is the heaviest armor a person is ever likely to wear, and it provides head-to-foot protection from a number of threats. Its mass precludes use in extended combat situations, because the soldier cannot carry his own food, shelter or other heavy gear. Typically, then, it is relegated to assault teams, high profile guard duty, or other specialty units.

Battle dress provides a rigid armor of 5 to arms and legs, 3 to the hands and 7 to the torso and head. (For snapshots, the referee can treat it as a generalized armor rating of 6). Consequently, it is proof against most small arms.

A basic suit is a TL11 item, costing Cr5000 and massing 12 kg. Most suits add tactical computers, scrambled communications, IR signature masking, atmosphere recirculation, vision enhancements, and other unspecified (or classified) options, making them mass 15 kg and cost up to KCr20.

Battle dress normally causes a -2 DM to all Dexterity-based and Endurance-based tasks, but units fitted to a particular individual halve these penalties. Persons using the armor without training in Battle Dress skill suffer double these DMs.

Battle dress is not normally available for private purchase.

Battle Dress, Augmented

This is the natural expansion of the battle dress concept that occurred after the invention of cold fusion. Augmented battle dress is heavier than regular battle dress, but has strength augmentation, powered by a back-mounted cold fusion unit.

Aside from providing Strength 12, double movement distance, and +4 Endurance to the user, the armor also has an overall rigid armor rating of 8, with reflec augmentation under a "stealth" coat.

Known abilities include full life-support, antigrav movement, tactical communications, broad-spectrum sensing capabilities, and limited point defense versus hand-launched missiles. Normal weaponry is some form of gauss or laser weapon powered from the cold fusion unit. Other capabilities are classified, although anyone with Battle Dress skill of 2 or more would know most of them, and may have served in such a unit.

This armor cannot be used effectively at all without Battle Dress skill, and the *lower* of the user's Battle Dress skill or other Dexterity skill is used when trying to perform complex Dexterity tasks.

The suit is a TL12 item. Its cost is estimated at KCr200, and deployment of Augmented Battle Dress units is classified. These suits are not available for personal possession.

Equipment in the TRAVELLER Universe



Rebreather

Grav Belt

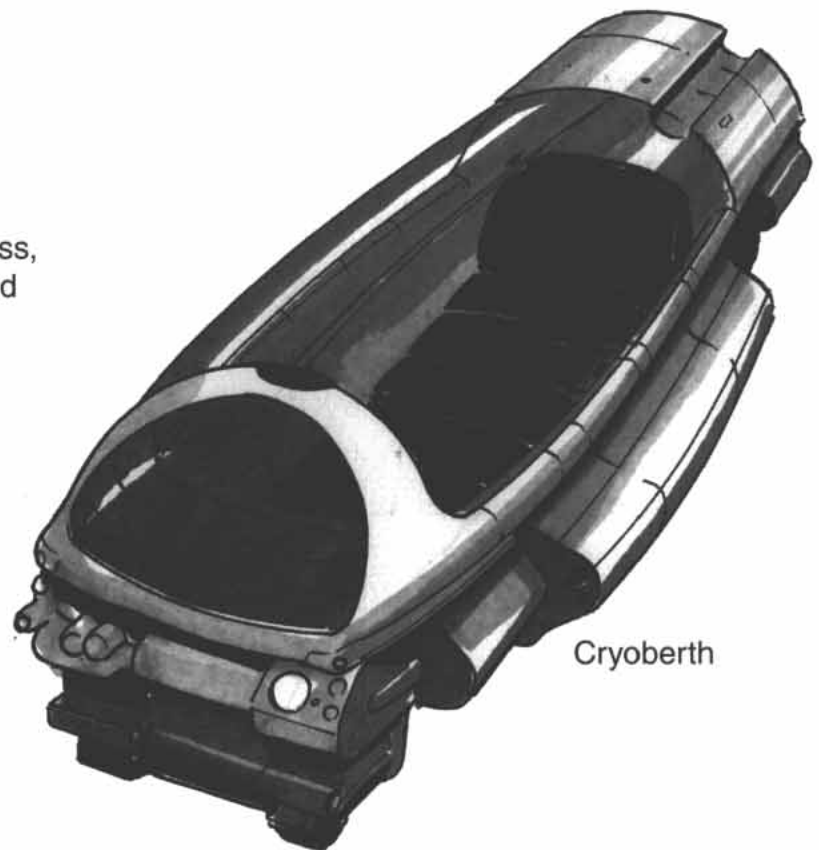


Imperial I.D.



Battle Dress,
Augmented

Flex Armor



Cryoberth

PROCESSING TIMES

Net Rating*	Processing Time
3	Real-time
2	0.1 sec.
1	1 sec.
0	10 sec.
- 1	100 sec.
- 2	1000 sec. (15 min.)
- 3	10,000 sec. (2.5 hr.)
- 4	100,000 sec. (1 day)

*Computer rating minus program difficulty.

SAMPLE COMPUTER RATINGS

Item	Rating
Personal comm unit*	1
Home or personal computer	2
Business computer	3
Corporate mainframe	4
Best Imperial computer	5
Global communications net**	6
Imperial Intelligence net***	7

*See the personal electronics section.

**A cluster of specialized 4s.

SAMPLE PROGRAM DIFFICULTIES

Program	Difficulty
Language translation	0
Locate someone via comm	1
Replay tactical of starship combat (must be done in real time)	2
Run all mundane programs of a starship (i.e. life support, communications, etc.)	3
Bypass security measures of classified documents	4
Run the global comm net	5
Reprogram the global comm net	6

EQUIPMENT

Item	TL	Mass	Cost
Food			
Meal, self-prepared	—	0.5 kg	Cr1-2
Meal, restaurant	—	—	Cr5-15
Meal, preserved	10-12	1-2 kg	Cr6-7
Meal, dehydrated	10-12	60-70 g	Cr8-9
Computers			
Homecomp	11	—	Cr100+
Personal Comp	11	0.5 kg	Cr2,000
Personal Electronics			
Aide	11	0.1 kg	Cr100-300
Camera	11	0.5 kg	Cr200-
1000+			
Comm	12	0.1 kg	Cr50-200
Display Screen	12	—	Cr50-1000
Imperial ID	12	—	—
Tools			
Carpentry Tool Set	2	25 kg	Cr300
Chain Saw	6	8 kg	Cr500
Disguise Kit	7	5 kg	Cr1000
Electronic Tool Set	7	5 kg	Cr2000
Locksmith Kit	4-12	0.3 kg	Cr10 x TL
Mechanical Tool Set	5	20 kg	Cr1000
Metalwork Tool Set	4	50 kg	Cr1500
Exploration Gear			
Backpack	11	1-2 kg	Cr50-200
Binoculars	5-12	0.1-0.6 kg	Cr100-300
Bullhorn	5	0.5 kg	Cr120
Clothing, Cold Weather	1	2 kg	Cr200
Comm Relay	11-12	5 kg	Cr2000
Compass, Magnetic	3	—	Cr10
Explosive, Plastic	11	1 kg	Cr100
Grav Belt	12	20 kg	KCr100
Lamp, Gas or Oil	2	0.2 kg	Cr10
Lamp, Pocket	10+	0.2 kg	Cr10-40
Lantern, Cold Light	6	0.25 kg	Cr20
Lantern, Electric	5	0.5 kg	Cr10
Locator, Inertial	11	0.3 kg	Cr200
Multiscanner	10	0.8 kg	Cr3000
Night Glasses	9	—	Cr500-1000
Radiation Counter	10	—	Cr50
Rebreather	11	1.5 kg	Cr200
Replacement Cartridge	—	Cr20	
Restraints	2+	0.3 kg	Cr25
Rope	10	2 kg	Cr500
Suit, Protective	10	3 kg	Cr2000
Suit, Vac, Soft	10	4 kg	Cr3000
Suit, Vac	12	20 kg	Cr5000
Sursat	12	—	KCr100
Survey Shield	12	—	KCr10
Survival Still	11	30 kg	Cr5000
Tarpaulin	1	2 kg	Cr10
Tent, Camping	11	0.5-2 kg	Cr200-500
Tent, Survival	12	15-20 kg	Cr750-2000
Medical Gear			
Anagathics	11	—	—
Cryoberth	12	200 kg	KCr50
Fast Drug	11	—	
Medical Drug	11	—	
Medkit	9	8 kg	Cr1000
Slow Drug	11	—	
Truth Drug	11	—	

Equipment in the TRAVELLER Universe



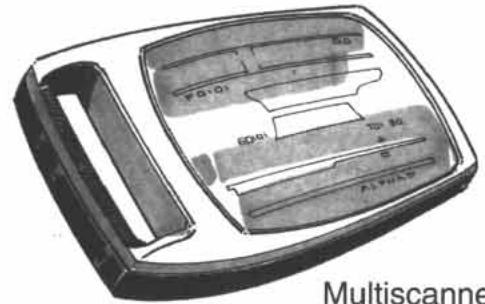
Com Relay



Survival Still



Wrist Comm



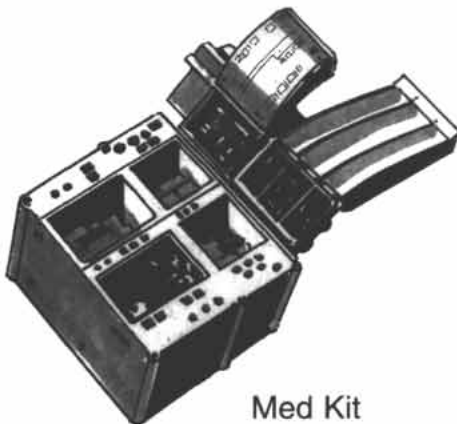
Multiscanner



Protective Suit



Helmet



Med Kit



Vac Suit

WEAPON TABLE

Name	Damage	TL	Range	Shots	Mass	Reloads^	Cost
Club/Bat	2	0	Contact	-	1kg	-	Cr30
Blade, Dagger	1	1	Contact/Short	-	0.25 kg	-	Cr50
Blade, Fencing Foil	1	1	Contact	-	0.5 kg	-	Cr675
Blade, Broadsword	2	1	Contact	-	2.5 kg	-	Cr450
Spear	2	1	Contact/Short	-	2.0 kg	-	Cr275
Bow	2	1	Very Short	1	1.5 kg	-	Cr300
Crossbow	3	1	Short	1	3.0 kg	-	Cr475
Hand Grenade	7F	5	Very Short	-	1.0 kg	-	Cr250
Pistol, Black Powder	2	3	Contact	1	1.0 kg	0.2 kg	Cr400
Pistol, Magnum Revolver	3	10	Short	6	1.5 kg	-	Cr450
Pistol, cP003	5	11	Very Short	10/20	0.5 kg	0.1 kg	Cr750
Pistol, Staple Gun	2	11	Very Short	25	0.75 kg	-	Cr550
Pistol, Thud Gun	1	11	Very Short	10	1.0 kg	-	Cr550
Pistol, Laser	4	12	Medium	20	2.0 kg	3.0 kg	Cr2200
Pistol, Body	2	13	Contact	1	0.1kg	-	Cr1500
Submachinegun	2	5	Very Short	30	2.5kg	0.5 kg	Cr550
Shotgun	4*	4	Very Short	10	3.75kg	0.7 kg	Cr550
Rifle, Archaic ACR	4	6	Medium	30	5.0 kg	0.8 kg	Cr2700
Rifle, Big Game	6	8	Long	2	5.0 kg	-	Cr2500
Rifle, Black Powder	3	3	Short	1	5.0 kg	-	Cr800
Rifle, Bullpup	4	9	Short	50	3.5 kg	0.5 kg	Cr300
Rifle, cR776	4	10	Medium	100	5.2 kg	1.2 kg	Cr2000
Rifle, cR898	5	11	Medium	100	4.5 kg	0.6 kg	Cr2500
Rifle, pR903	5	11	Medium	50	2.5 kg	0.6 kg	Cr1900
Rifle, Laser	7	12	Long	100	20.0 kg	15.0 kg	Cr6500
Blur	1	11	Contact	10	0.2 kg	-	Cr25

*The shotgun does 4D wounds maximum instead of 3D.

^Reload mass is considered extra clip or powerpack.

Common Weapons Throughout the TRAVELLER Universe



Laser Rifle



Laser Pistol



Auto Rifle



Shotgun



Dagger



Auto Pistol

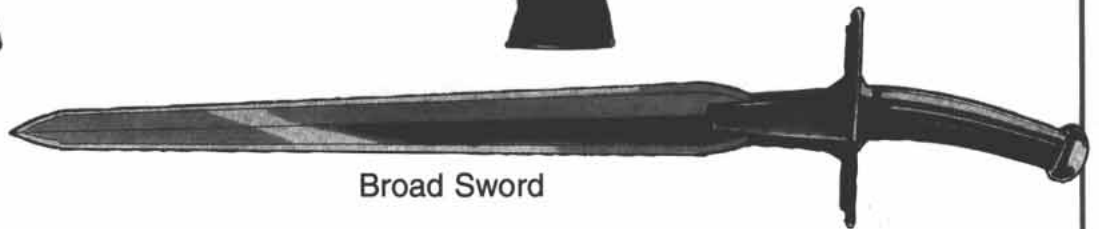


Submachinegun

Staple Gun



Revolver



Broad Sword



Body Pistol



Foil



Rifle



Life is hard for a free trader. Whether cargoes are available or not, ship payments must be made, crew salaries must be paid, and operating costs must be met on a regular basis. Still, a merchant captain faces each new voyage with eager anticipation. There are fortunes to be made by those bold enough to see an opportunity and seize it.

Whether in space or on a world, **Traveller** characters often find themselves in need of transport. This chapter covers the vehicles that they may encounter—from ground cars to starships—giving details as to their function, appearance, and cost.

Not all of a star traveller's time is spent in space. Much adventure takes place on worlds, where starships are of little or no use.

Consequently, player characters will find themselves operating or riding in a variety of planetary craft, whether on a world's land surface, on or under its oceans, in its atmosphere, or even in low orbit. The following are general guidelines for use of such vehicles

Primitive Transportation: On worlds with low technology levels (0 through 3), the local means of transportation will tend to depend on beasts of burden, animal-drawn carts, and watercraft such as galleys and sailing ships. Prices for such items will depend on local situations: animals and wagons are priced in hundreds of credits; ships are priced in thousands and tens of thousands of credits.

Local beasts of burden and riding animals are usually domesticated herbivores similar to animals in local encounter tables, and generally of the 200 to 400 kilogram range or above. It is interesting to note that low passage berths had their origin in the transport of animals, and can carry a 400 kg animal if player characters wish to bring their own riding beasts along during starship travel. Many nobles travel with their prize horses, dogs, and even cats in this manner.

Modern Transportation: The transport vehicles available to a modern technological society include aircraft, grav vehicles, tracked vehicles, wheeled vehicles, and watercraft. Aircraft are further divided into helicopters, propeller-driven aircraft, and jet-propelled aircraft. Watercraft are further categorized as small watercraft, hovercraft, submersibles, and large watercraft. In addition, interplanetary ships and interplanetary small craft are available.

Transport Skills: The categories of vehicles available parallel the available transport skills for characters. Individuals usually must have skill in a specific vehicle type in order to legally operate that form of transportation. Nearly anyone can grab the controls in an emergency, but only skilled characters have much chance of handling that situation well, and on many worlds it is illegal to operate a vehicle without a license.

Hull and Armor Ratings: Some vehicles are specifically armored to avoid damage, but even unarmored craft provide some protection to their crew and passengers by virtue of their hull materials. In the following listings, vehicles are given an armor rating to reflect this, even if they technically have no actual armor. Players should keep in mind, however, that this protection applies only to attacks that actually hit the hull. An open-topped vehicle provides no protection against attacks from above, for instance.

Aircraft

Aircraft generate lift by passing air over their wing surfaces, either fixed wings (as in most aircraft) or rotating (as in helicopters). Aircraft are usable only on worlds with at least thin atmospheres (atmosphere of 4 or better). Although true winged craft appear only at tech level 5 or higher, engineless gliders may be constructed as far back as tech level 0, becoming fairly common at tech level 3.

Aircraft require frequent maintenance (between flights, or daily, whichever comes first) in order to insure reliability. The basic roll for a malfunction is 3 or lower, with a +1 DM for each missed maintenance.

The following are some examples of aircraft.

Primitive Biplane Aircraft

A biplane is a very small, propeller-driven, early model aircraft. It can achieve a cruise speed of 150 kph, with bursts to a maximum of 200 kph. Range is three hours flying time. The biplane's engine depends on chemical fuel. It carries two persons (a pilot and a passenger) and 100 kg of cargo.

Tech level 5; cost Cr20,000; mass 1 ton; armor 0.

Fixed-Wing Aircraft, Prop

A higher-tech descendant of the biplane, the standard propeller-driven aircraft may have one, two, or more engines, though typically no more than four. Landing gear is typically wheels, but some prop planes are designed with floats as well, for water landings.

A single-engine version can cruise at 220 kph, with a top speed of 300 kph. Typical carrying capacity is two persons and 100 kg of cargo besides. Range is four hours flying time.

Twin-engine prop planes can cruise at speeds of 325, with top speeds of 450 kph. They can carry up to four persons and 200 kg of cargo. Range is five hours flying time.

Triple-engine and quad-engine prop planes can cruise at roughly 270 kph, reaching top speeds of roughly 350 kph. Carrying capacity is 3000-4000 kg. Range is seven to eight hours flying time when fully loaded.

Tech level 6 to 8; cost ranges from Cr25,000 to Cr100,000; mass 1 to 15 tons; armor 0 to 1.

Fixed-Wing Aircraft, Jet

This is a twin jet, monoplane aircraft intended for cargo transport. The plane cruises at 600 kph (maximum speed is 700 kph) with a range of 3600 km or six hours. Fuel is standard chemical jet fuel. The craft requires a crew of two (only one of whom actually needs Aircraft skill) and can carry six passengers and five tons of cargo. Typical wingspan and length are both 15 meters. Other versions exist, including seaplanes, and larger, or armed versions.

Tech Level 6; cost Cr1,000,000; mass 5 tons; armor 1.

Helicopter

A single engine, rotary wing aircraft, the helicopter is capable of vertical takeoff and landing, as well as maneuverability in tight places. It can cruise at 200 kph, with a top speed of 250 kph. Range is 600 km. The helicopter has a crew of one, plus seven passengers and 500 kg of cargo.

Tech level 6; cost Cr100,000; mass 1 ton; armor 1.

Grav Vehicles

Grav vehicles are the main form of transportation for a high technology society. Above tech level 10, other vehicle types are rarely seen except in a few specialized situations. All grav vehicles are essentially similar in handling, differing only in performance.

Grav Craft skill is necessary to operate a grav vehicle.

Grav vehicles can operate in any environment and are capable of reaching orbit from a world surface (although most cannot do so very rapidly).

ROLEN *POLITESSE* GRAV CAR

With gravity repulsion as a driving force comes the corollary of gravity repulsion as an inertial compensator. Since small vehicles often have a much better power-to-mass ratio than large ones, a small vehicle like a grav car can have extremely good performance.

The Rolen *Politesse* (Rolen Exosphere Transport Company) provides an apt example of a high-quality grav car. The *Politesse* can accelerate at up to 10 Gs and compensate for it so that passengers feel only a slight acceleration, or even none at all.

The vehicle is powered by a cold fusion plant, with an emergency battery capable of handling interruptions of up to several seconds in main power. In event of catastrophic power loss, it has a backup drogue parachute and complete air bag protection. Rear and bottom gravity repulsors provide lift and forward thrust, while computer modulated repulsors in the passenger bay and cargo space act to protect crew and cargo. Should any or all of the compensators fail, the on-board computer reduces vehicle speed and performance to safe levels.

The windscreen and all windows are double-pane industrial diamond sheets, with anti-UV additives, electrochromic tinting and a high lead content to filter radiation (such as that found at high altitudes, where a world's atmosphere is thin). Between these panes is a sealant layer to prevent explosive decompression in event of a puncture.

There is a navigational antigrav unit facing forward from the nose of the car, designed to deflect any microscopic orbital debris the vehicle might encounter. In atmosphere, this unit is controlled to provide optimum streamlining and minimum turbulence at high Mach numbers, minimizing sonic booms, or even eliminating them entirely.

Life-support is provided by a small unit that pulls carbon dioxide from the air, strips and vents the carbon, and recirculates the oxygen as necessary. (Passengers would die of thirst long before running out of breathable air.) No other life support is usually provided, although a small wet bar is a luxury option.

Manual controls are available in the vehicle, but most governments require computer-controlled navigation and flight in their crowded airspace. What's more, human reflexes are not really up to getting the full performance out of a vehicle like this.

Prices for this vehicle start at Cr50,000, depending upon options purchased. The *Politesse* masses 6 metric tons. It can carry four people, plus 200 kg of luggage (with a total recommended load 600kg). It has a maximum atmospheric speed of 900 kph. Its 50-liter water tank provides enough hydrogen for two weeks of *continual* driving. As long as power is available, the car can provide full internal atmosphere, and the windows tint automatically for solar protection. The on-board computer can maintain medium orbital range communications with the ground, continental range radar. It also includes an automatic transponder and acts as a navigational computer of rating 1. The hull acts as rigid armor with a rating of 4, and is self-sealing for small punctures, in order to maintain internal atmosphere.

Air Raft

This is a light antigravity vehicle that uses null-grav modules to counteract gravity for both lift and propulsion. An air raft can cruise at 100 kph (but is extremely subject to wind effects), with some capability of higher speeds to about 120 kph. It can reach orbit in

ILIAN *LION S* Grav Car

A low-end grav vehicle, the Ilian *Lion S* (Iliar Enterprises) often referred to as an air raft, has only the basic safety features of the high-end model, like reserve power, drogue chute, and air bags. It is not sealed any more than a regular car, and skimps on power and repulsors, making it slower than more expensive models. It costs around Cr30,000, masses 4 metric tons and can sustain 3 Gs of acceleration, with a maximum speed of 120 kph. It can run for up to two weeks continually at maximum performance, off its 50-liter water tank. Cargo capacity is 6 passengers and up to 1000 kg of cargo, although it can fit up to 14 passengers with no other cargo (with a total recommended load of 1600 kg). The vehicle has no environmental systems, but does a reasonable mix of avionics, including medium-range communications and radar, a transponder, and a navigational computer of rating 1. (Without the avionics, the vehicle is Cr10,000 cheaper, but it is then legally restricted to 10 meters of altitude. It still retains a road-grid control package, however, and many such *Lion Ss* are used as shuttle buses, short-range goods haulers, or delivery trucks.) Its hull acts as rigid armor with a rating of 2.

several hours (a number of hours equal to the world's planetary size), but it is unpressurized and usually open-topped, so passengers must wear vac suits to do so. Interplanetary travel in an air raft is not possible. Range in time or distance on a world is effectively unlimited, requiring refueling from a ship's power plant every two weeks or so. An air raft can carry four plus four tons of cargo.

Tech level 8; cost Cr600,000; 4 tons; armor 1.

GCarrier

An enclosed military or quasi-military grav vehicle, the GCarrier is basically a large, armored air raft intended originally for troop carrier duties. The vehicle is generally enclosed and has a gun mount and an armored rear hatch door. It requires a crew of one (with Grav Craft skill), plus a gunner for the weapon, if any. It can carry 14 persons (including the driver and gunner), plus two tons of cargo. For each passenger less, 250 kg of cargo can be substituted. (It could carry a driver, gunner, and five tons cargo, for example).

Tech level 8; cost Cr100,000; mass 8 tons; armor 5.

MYLIN *RANGER* GRAV CAR

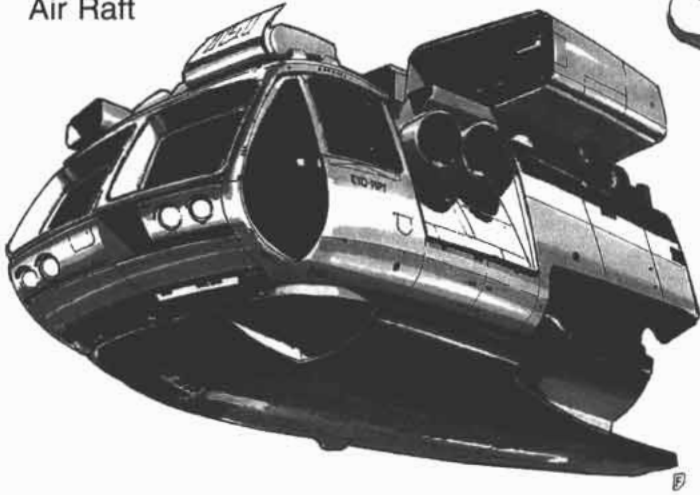
A midrange grav car, the Mylin *Ranger* (Mylin, Inc.) has all the features of a high-end vehicle, except those needed for extra-atmospheric use. Top speed is a bit less than for more expensive grav cars. The body is air-tight enough for most altitudes, with a small compressor to counter any leakage, and windows are all single-pane diamond, with or without the electrochromic tinting option. While the vehicle is technically capable of extra-atmospheric operation, it provides no navigational, life-support or radiation abatement equipment. The price for a mid-level grav car is about 40,000Cr, depending on options.

Cargo capacity for the vehicle is six passengers, or four plus up to 300 kg of luggage (for a total recommended load of 700 kg). This grav car masses 5 metric tons and can sustain up to 8 Gs of acceleration, with a maximum atmospheric speed of 600 kph. It can run for up to two weeks at maximum performance on its 50-liter water tank.

Environmental equipment is minimal, with some atmospheric pressure compensation, and automatic window tinting. Avionics include regional range communications and radar, a transponder, and a navigational computer rated at level 1. The hull acts as rigid armor with a rating of 3.

Common Vehicles Throughout the TRAVELLER Universe

Enclosed
Air Raft

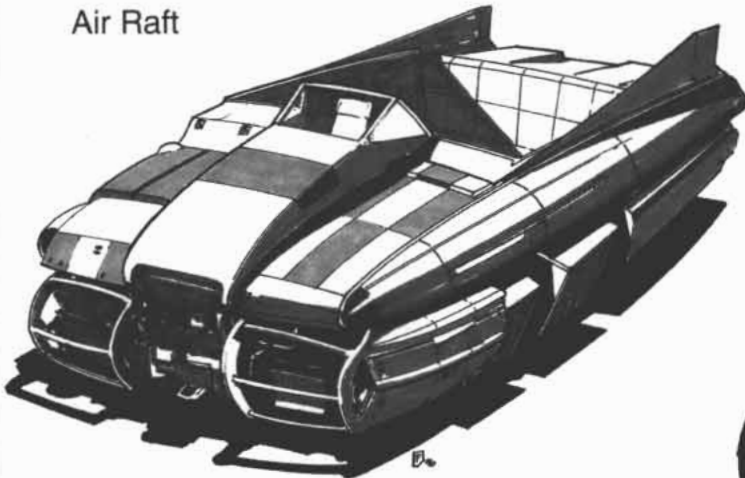


Speeder

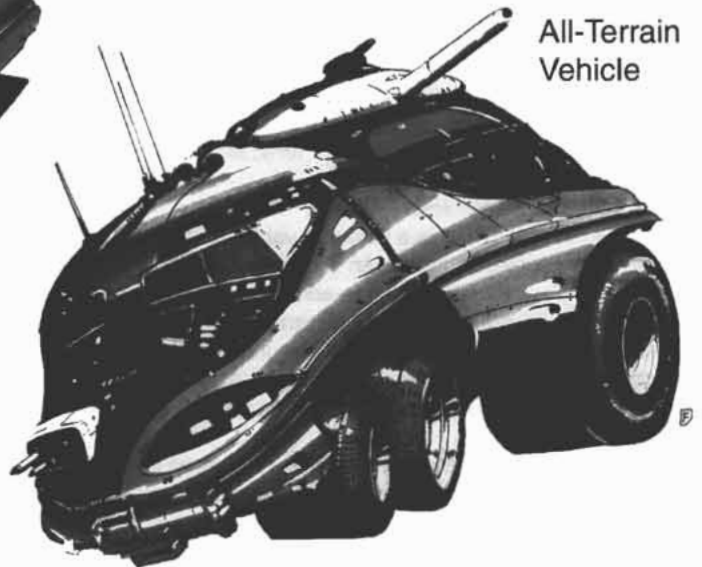
G-Carrier



Air Raft



All-Terrain
Vehicle



Speeder

A streamlined grav-powered craft, the speeder is intended for high-speed transport between points on a world surface. Similar in principle to the air raft and the GCarrier, the speeder is streamlined and concentrates on speed. It is capable of a cruise speed of 1000 kph (maximum speed is 1200 kph), and has a virtually unlimited range. It carries a driver, a single passenger, and 100 kg of cargo. It is capable of reaching orbit within an hour. Refueling is required every two weeks.

Tech level 8; cost Cr50,000; mass 6 tons; armor 2.

Wheeled Vehicles

Wheeled ground vehicles depend upon relatively smooth and unobstructed terrain (roads, prairies, plains) for optimum operation. The category includes cars, trucks, most road vehicles, and wheeled all-terrain vehicles.

Any character can operate a wheeled vehicle at slow speeds and under safe conditions without the Ground Craft skill. Racing, long-distance, or long-period operation calls for some level of skill, however.

When characters use wheeled ground vehicles, the referee may require some specific rolls concerning their use. Roll 12 or lower to avoid mechanical difficulty or failure, allowing DMs for personal expertise, terrain, and perhaps the age and condition of the vehicle. Apply a DM of -2 if travel is not on roads or smooth terrain such as plains or prairies, or include such items on animal encounter tables for the current world surface. Note that local law level can be used as the roll (law level or higher) to avoid such things as speed traps or traffic violation arrests.

The following are examples of wheeled ground vehicles.

Ground Car

A ground car is an ordinary self-powered, wheeled vehicle suitable for local use in civilized areas or on roads. Typically, a ground car has a range of 1000 km, cruises at 100 kph, and has a maximum speed of 150 kph. If capable of off-road travel at all, speed is generally limited to 10 kph.

Fuel for a ground car depends on local tech level and fuel sources. It is usually chemical fuel (hydrocarbons or hydrogen) or electric batteries. Most ground cars require a driver, although at higher tech levels the car will steer itself (and on highly civilized worlds driving under human control is actually illegal in cities).

A ground car can carry five additional passengers plus their luggage. Special models (convertibles, sports models, limousines, trucks, motorcycles, unicycles, vans, etc.) may be available at varying prices. The basic ground car is unpressurized. Ground cars are mass produced, manufactured for a specific world. They tend to malfunction when transferred to a world not similar to their world of origin.

Tech level 5; cost Cr8,000; mass 2 tons; armor 2.

Wheeled All-Terrain Vehicle

An all-terrain vehicle (ATV) is a wheeled vehicle intended for transport across undeveloped areas. An ATV has a range of 5000 km, cruises on roads at 60 kph, and can achieve a maximum speed of 100 kph. Off roads, speed depends on terrain. On open plain, it will approach normal road performance, while in difficult terrain, maximum speed will be 20 kph or less. (Tracked ATVs are somewhat slower than wheeled versions, but are more reliable in difficult terrain.)

An ATV may be powered by a battery recharged from a ship's power plant, or it may contain a cold fusion pack, requiring hydrogen or water for fuel. The ATV is designed to serve admirably on many different worlds under widely varying conditions, including vacuum and insidious atmospheres, and high or low gravity.

ILIANT *Cub LE* Ground Car

Almost all personal ground transport within the Imperium is by electric vehicles. While the full potential of electrical storage has not kept up with chemical storage for internal combustion engines, increases in efficiency and the ability to draw power from the road grids means that electric vehicles have a flexibility unmatched in any other age.

Consider the Iliant *Cub LE* (Iliar Enterprises), for example. It comes equipped with a standard grid control system, whose use is usually mandatory on urban thoroughfares. Through this system, the computerized road-grid itself controls all acceleration, deceleration and steering decisions, taking the operator of the vehicle to the exit nearest his destination before relinquishing control. (In many cities, grid control is possible to all points, and indeed, many city dwellers with private cars do not actually know how to drive. Cars like taxicabs, which are specially built for urban travel, may even be several hundred Credits cheaper than usual, because manual controls have been completely eliminated.) The *Cub LE* comes equipped with its own comm unit, and it can communicate with either the driver's personal comm or home comm to get information on destinations and personal names.

Like most other ground cars, the *Cub LE* is built with a composite structure that incorporates the outer skin of the vehicle and separate basic structural elements. (Since ground cars are expected to last twenty years or more of regular use, people often change the outer styling of the vehicle every few years to match whatever style is currently "in." There is a thriving market in replacement body panels for popular cars.)

Power is provided by chemical batteries in the floor, front, and rear of the vehicle. Motive power is by individual electric motors in the rear wheels. The bearings, suspension, and braking functions are all magnetic, and have no surface-to-surface contact; consequently, they have an almost unlimited life. Controls are a simple steering wheel, acceleration pedal, and forward/reverse switch, plus the normal array of controls for climate, signaling, etc. (although the latter can be voice controlled).

Windows in the *Cub LE* are microthin diamond sheets, with good impact and scratch resistance, prestressed to fragment harmlessly in the event of significant impact. Body panels are molded in the final color of the vehicle, and as an option, can be coated with display screen elements to make the car body display visuals of the driver's choice.

Safety is provided by full air bag protection and impact-absorbing design. In the event of a grid-controlled vehicle crash, the grid will attempt to mitigate damage by micro-correcting the speed and direction of all vehicles involved. This is seldom a concern, however, as it takes a serious grid disruption or completely unanticipated road conditions to cause that great a loss of control. Like other grid-equipped vehicles, the *Cub LE* has an "emergency" button, which activates a comm channel to emergency services, and an "emergency stop" button, which can pull the car from the traffic flow as fast as possible and park it at the nearest available spot. But use of either of these in a non-emergency situation can result in heavy fines.

It masses 1.5 metric tons, costs Cr8000, and can carry two passengers and 100 kg of cargo, or three passengers (for a total recommended load of 300kg). Its acceleration is a modest 0.3G, and it has maximum speed of 120 kph. The car can run for up to two weeks straight on its 25-liter water tank. It has no environmental devices (other than normal heater and air conditioning). Electronics included are a basic communications package and road-grid control. The body counts as rigid armor with a rating of 1. Cheaper versions are available: no manual controls (Cr500 less), battery power rather than cold fusion (Cr500 less), and no road-grid control (manual only, Cr1000 less).

An ATV requires one driver. Passengers can number up to sixteen. The vehicle is fully pressurized and contains complete (though cramped) eating, sleeping, and travel facilities for eight. The vehicle may be lightly armored, and can carry a turret mounted laser or other local combat weapon.

Tech level 6; cost Cr30,000; mass 10 tons; armor 2.

Wheeled Armored Fighting Vehicle

A wheeled vehicle reinforced with armor and mounted with heavy weapons for combat, the armored fighting vehicle (abbreviated AFV) is very similar to the ATV in performance, range, and fuel requirements. However, the AFV is armored to withstand most forms of attack, and is equipped with a turret mounted a laser or other weapon. A crew of three (one with Ground Craft skill, one with Gunnery skill, and one with no skill required) is called for, with few or no interior facilities provided. No provision for passengers or cargo is made. A wheeled AFV is more commonly used in urban areas where roads are available.

Tech level 6; cost Cr70,000; mass 10 tons; armor 7.

Tracked Vehicles

Tracked ground vehicles are capable of traversing almost any type of terrain, restricted only by chasms, sheer cliffs, and other insurmountable obstacles. They are generally slower than wheeled vehicles. Tracked vehicles include all-terrain vehicles, armored fighting vehicles, and construction equipment.

When characters use tracked ground vehicles, the referee may require some special rolls governing their use. Roll 11 or lower to avoid mechanical difficulty or failure, allowing DMs for personal expertise, terrain, and perhaps age and condition of the vehicle. Note that local law level can be used as the target number (law level or higher) to avoid such things traffic violation arrests.

The following are examples of tracked ground vehicles:

Tracked All Terrain Vehicle

A tracked ATV is generally intended for world surface exploration. It has a range of 5000 km, cruises on roads at 40 kph, and can achieve a maximum speed of 80 kph. Off roads, speed depends on terrain. On open plain, it will approach normal road performance, while in difficult terrain, maximum speed will be 30 kph or less. (Wheeled ATVs are somewhat faster than tracked versions, but are less reliable in difficult terrain.) A tracked ATV is powered by similar sources as a wheeled ATV, and protects its passengers from the similar hostile environments.

Tracked ATV requires one driver. Passengers can number up to 16. The vehicle is fully pressurized and contains complete (though cramped) eating, sleeping, and travel facilities for eight. It may be lightly armored, and carry a turret mounted laser or other.

Tech level 6; cost Cr30,000; mass 10 tons; armor 3 to 5.

Tracked Armored Fighting Vehicle

A tracked vehicle reinforced with armor and heavily armed for combat, the tracked AFV is very similar to the tracked ATV in performance, range, and fuel requirements. However, the AFV is armored to withstand most forms of attack, and is equipped with a turret mounted laser or other weapon. A crew of three (one with Ground Vehicle skill, one with Gunnery skill, and one with no skill required) is called for, with few or no interior facilities provided. No provision for passengers or cargo is made. Tracked AFVs are best suited to combat in cross-country or unsettled situations.

Tech Level 6; cost Cr70,000; mass 10 tons; armor 9

Dirtmover

This large, tracked piece of construction equipment is intended to shift ground cover or construction materials for the building of

bases, shelters, or installations. The vehicle requires one operator, and can operate (much like an ATV) for approximately 5,000 km. Maximum speed for the vehicle is 30 kph; generally it operates at much lower speeds. The dirtmover can shift 100 cubic meters of material per hour.

Tech level 8; cost Cr40,000; mass 10 tons; armor 4.

Watercraft

Watercraft float on or under the oceans of worlds, and are useful only in bodies of water typical on worlds with hydrographic percentages of ten percent or better. In situations where hydrographic percentages represent non-water oceans, watercraft specifically designed for local conditions may be available.

Small watercraft are operable by one person. Typically, they do not exceed 100 tons. Large watercraft call for more than one person to operate, and they generally exceed 100 tons.

The following are some examples of watercraft.

Small Steamship

Vessels of this type vary widely; most are capable of 30 kph for sustained periods. Fuel is some form of basic combustible. The ship can carry a crew of five, ten passengers, and 50 tons of cargo.

Tech level 4; cost Cr60,000; mass 100 tons; 4.

Motor Boat

These are advanced small craft utilizing hydrofoils to allow high-speed performance. A motor boat can cruise at 60 kph, with bursts of speed to 100 kph. The ship's engines depend on local fuel sources, such as hydrocarbons or electric batteries. A crew of three operates the craft, which carries eight and 10 tons of cargo.

Tech level 5; cost Cr60,000; mass 60 tons; armor 1.

Submersible

Submersibles are underwater vessels intended to avoid surface weather conditions for safety and convenience. On worlds with large water percentages (especially those with no land mass at all) submersibles ply the routes between underwater domed cities.

A submersible is capable of 40 kph cruising underwater, and about half that on the surface in good weather. It has depends on local energy sources for refueling or recharging. It has a crew of five and provision for ten passengers and 30 tons of cargo.

Tech level 6; cost Cr2,000,000; mass 500 tons; armor 4.

Destroyer

The destroyer is an advanced large watercraft intended for naval operations including escort and patrol. The ship's engines depend on a fusion power plant. Deck-mounted turrets may fire heavy guns or missiles. Operated by a crew of 10, the destroyer can cruise at 40 kph and may reach speeds of 60 kph for short periods. Cargo capacity amounts to 40 tons, mostly used to carry ammunition. Provision for passengers and crew is provided with 20 staterooms.

Tech level 9; cost Cr2,000,000; mass 800 tons; armor 8.

Hovercraft

Hovercraft are ground-effect vehicles supported on a cushion of air (at about one to three meters altitude). Usable only on worlds with at least a thin atmosphere (rating 4 or greater), hovercraft are capable of cruise speeds of 60 kph, with bursts of speed to a maximum of 150 kph. Distance before refueling is 2000 km.

Hovercraft may move over both land and water with equal ease, but encounter difficulty with broken ground, precipices, and storms. A crew of one is sufficient to operate the vehicle. Hovercraft can carry up to 15 passengers plus the operator. Cargo capacity is approximately 3 tons. No armor or weaponry is generally provided.

Tech level 7; cost Cr200,000; mass 8 tons; armor 1.



Entering orbit around a world not listed on official Imperial charts, a free-trader is fired upon by a killer satellite, and nearly loses its external cargo crane. Is the satellite an automated Imperial defense? Or is it the relic of the ancient civilization rumored to have left its ruins on this planet?

This section outlines the concepts and steps of starship operations, design, and movement in **Traveller**. Also included is a Quick-Ship-Design System (abbreviated QSDS) for creating customized ships. With the systems in this chapter, a player design nearly any type of spacecraft, up to 5000 tons in displacement.

Several example spacecraft are included as well, for on-the-spot use.

Movement

Starships move through ordinary space using maneuver drives. Two different maneuver drives are prevalent: HEPlaR and thrust plates. At TL10, the standard maneuver drive is a type of fusion rocket using High-Energy Plasma Recombination (HEPlaR). These drives require both electrical power and fuel for reaction mass. The thrust-plate drive is developed at TL12, and is the standard spacecraft drive. It uses gravitic principles, and requires only electrical power to operate.

All ships are equipped with artificial gravity, through inertial dampers. Ships designed to enter planet atmospheres or gravity wells are equipped with contragrav technology. Contragrav is used to negate a planet's gravity while the ship is in the atmosphere of a planet. The ship's maneuver drive supplies thrust, unless alternatives are provided.

Starships move across interstellar distances using jump drives. Jump distances are calculated in parsecs (3.26 light-years), which is the scale of the subsector grid mapping hexagons. Jump-1, for example, indicates the ability to jump one parsec, or one hex. Jump numbers range from 1 to 6; higher jump numbers are not possible in ordinary usage, although misjumps can carry ships over greater distances. Any jump, regardless of number, takes approximately one week (150 to 175 hours). Ships in jump space are untouchable and cannot communicate with other ships or stations. Although jumps are usually made at low velocities, the speed and direction that a ship held prior to jump is retained when it returns to normal space.

Because of the delicacy of jump drives, most ships perform maintenance operations on their drives after every jump. It is possible for a ship to make another jump almost immediately (within an hour) after returning to normal space, but standard procedures call for at least a 16 hour wait to allow cursory drive checks and some recharging. Most commercial vessels spend a week between jumps, using the time to maneuver to a world, land, unload old cargo, load new cargo, then leave the world for the next jump.

Fuel used for ships is hydrogen, which is available in the atmospheres of gas giants (similar to Saturn or Jupiter) or from oceans of water. Gas giants are present in any system on a roll of 9 or less, and gas may be taken from them by dipping or skimming, a process that involves diving into the atmosphere and opening fuel scoops. Such a maneuver is possible for streamlined and partially streamlined hulls (configurations 1 to 6). Large ships often carry streamlined fuel tankers, which can skim fuel and return it to the unstreamlined parent ship. Water may also be used to provide hydrogen; it is available on any world with a hydrographics percentage of 3 or greater (lower hydrographic percentages require effort and referee control; see Chapter 12). Water is dipped from oceans by ships landing in the body of water and opening fuel cocks, or through the use of fuel shuttles. Skimmed or dipped fuel is unrefined, and may result in misjumps. Fuel purification plants can convert such unrefined fuel to refined fuel for safe use.

Any ship can land on a world with an atmosphere of 0 or 1 (see chapter 11). For all other worlds, streamlining is required. Dispersed structures and planetoids, however, cannot land on any world. Worlds with class A or B starports or with naval or scout bases present have orbiting stations serving as ports for partially streamlined and unstreamlined ships. They also provide shuttle service to the world surface.

Offensive Technology

The standard devices designed for use as spacecraft weapons include lasers, particle accelerators, meson guns, and missiles.

Lasers: Lasers use focused beams of coherent light to impart energy to enemy targets over a very small area. Relative to other long-range beam weapons, lasers give good penetration, but generate less explosive force and damage. Lasers are comparatively superior against ship armor, but can be blocked by sandcasters and black globes.

Particle Accelerators: Particle accelerators fling subatomic particles (almost exclusively neutral atoms such as hydrogen) at very high speeds toward enemy targets. These have less penetration rate than do lasers, but generate a much greater explosive force. Unlike lasers, particle accelerators require long accelerator tunnels, and so most are built as spinal mount weapons, running the entire length of the ship. Particle accelerators can be blocked by ship armor, sandcasters, and black globes.

Meson Guns: Meson guns also accelerate subatomic particles at enemy targets. But in this case the particle is a meson, which does not interact with matter, and therefore passes through all objects without resistance. The meson has only a short life, after which it decays into other more destructive particles. By delaying the decay through particle acceleration, then timing for the decay to begin as a group of mesons pass through an enemy ship, powerful explosions can be created within enemy targets without having to penetrate the armor. Meson guns may only be blocked by meson screens and black globes.

Missiles: Missiles are small, unpowered spacecraft with explosive warheads. The warheads can carry either conventional high explosives, nuclear explosives, or use a nuclear reaction to create high-energy X-ray laser shots. Missiles attempt to maneuver as close to their target as possible before detonating. Missiles may be blocked by sandcasters and, for nuclear warheads, dampers. Laser batteries on the target ship may also engage missiles.

Defense Technology

Among the technologies available for defense in space combat are listed armor, sandcasters, meson screens, nuclear dampers, and black globes.

Armor: Armor is a passive defense that provides not only physical protection against damage, but also sheer bulk to block radiation. While other types of defenses are better at negating specific types of attacks, the advantages of armor are that it is always "on" and it requires no energy to use.

Sandcasters: Sandcasters fire canisters of ablative crystals, commonly known as "sand." Each sandcaster contains a generator of fields that manipulates the collective location and shape of the crystals. At early tech levels, these fields are electromagnetic in nature, and require the use of magnetic sand. More advanced systems are able to supplement or supplant the magnetic manipulation with gravitic manipulation, allowing the use of more effective non-magnetic crystals. These clouds of crystals are placed in the path of incoming beam weapons, causing them to expend energy burning through the cloud. The sandcaster operator uses laser warning sensors installed in the sandcaster to detect fire control locks and anticipate incoming beam fire. Sandcasters may be used against laser, missiles, and particle accelerator hits.

Meson Screen: Meson screens project energy field that interact with incoming mesons, causing them to decay harmlessly outside the vessel's hull. Meson screens may be used against only meson gun hits. A meson screen is not directed at a specific meson gun hit, since the ship's meson screens automatically protect it against all incoming meson gun hits that turn.

Nuclear Dampers: Nuclear dampers are based on the manipulation of the so-called strong nuclear force which holds atomic nuclei together. By properly projecting this force onto incoming nuclear missile warheads, the damper can prevent nuclear or thermonuclear reactions.

Black Globes: Black globes are highly sophisticated and exotic defensive screens. They are recovered relics from an ancient civilization that predated humanity's star-faring days. Black globes are therefore only rarely encountered. Although these weapons are very advanced from a scientific and engineering standpoint, their application is very simple: black globe generators create around themselves a spherical field that absorbs all energy that crosses it. This energy is then channeled into capacitors within the hull of the protected vessel where it is stored.

Sensor Technology

Sensors are the eyes and ears of a spacecraft. They fall into two types: active and passive. Sensors can be thwarted by masking and jamming.

Active Sensors: Active sensors detect targets by sending out pulses of energy, such as radio waves or lasers, which then bounce off their targets and back to the sensor. The time that it takes the pulse to return, the shift in frequency of the pulse, and a myriad other factors are calculated to determine the distance and direction of the target, its motion relative to the sensor, and other detailed information about the target. The two main drawbacks of the active sensor are that it broadcasts its own presence by filling space with pulses of energy, and that it requires a lot of power to generate pulses strong enough to bounce back from very distant targets.

Passive Sensors: Passive sensors do not betray themselves by emitting energy. Rather, they detect targets by sensing the energy given off by them. Passive sensors are typically less effective than active sensors in terms of absolute range, but are more tactically useful for ships wishing to remain unnoticed.

Electromagnetic Masking: Ships equipped with electromagnetic masking packages reduce the effectiveness of active and passive sensors used against them. Electromagnetic masking not only disguises a vessel's passive signature, it also cuts down the echo of active sensor energy.

Jamming: Vessels may be equipped with jammers to block enemy active sensors. Deceptive jammers do not attempt to blot out intruding sensor energy, but instead deceive the enemy sensors by sending back false echoes regarding their target's location and flight path.

Shipborne Computers

The computer installed on a ship regulates all activities within, especially to enhance weapons fire and defensive actions. It also controls maneuver and jump drives, and conducts the routine operation of all ship systems.

Each computer model as originally furnished includes a basic software package of commonly used programs. All necessary software for a ship is delivered when the ship is launched. Additional computer programs must normally be acquired separately through purchase (or they may be written by a character who has Computer skill).

The purchaser must have a ship's computer capable of receiving the computer program (in tech level). If a character is doing the programming, the programmer must have received training at the required tech level.

Each ship's weapon battery must have its own copy of the necessary additional software to gain the advantages listed. If only one copy of the program is available, for example, the ship may have only one battery take advantage of the program per turn. A different battery could use the program the next turn, if required.

Programming: The Additional Software Table gives skill values necessary for a character to write a given program. The first number is the computer skill required. The following skill or skills are also necessary to write the program. After each week of effort by a qualified programmer or team, a task roll is made against the listed difficulty to find if the program works. If the roll fails, the programmer or team may continue for another week and try again for success.

Sophisticated software ciphers and protection codes are built into the software packages to disable any attempt at multiplying or copying the software. Characters, however, may attempt to alter the code, and "hack" a patch around the ciphers and protection codes. For programs that control weaponry, a failure in successfully hacking the program may cause the weaponry to fire sporadically, or at friendly targets. The anti-hijack program is especially annoying when unsuccessfully hacked, treating the programmer and all other personnel as hijackers!

Sale of pirated additional software packages is an Imperial offense.



Their cargo vessel crippled by an automated laser satellite, the free-trader crew lands by ship's boat and sets out to explore this Imperially interdicted world. Led by their Scout contact, they seek the source of a strange electromagnetic pulse their ship sensors detected from orbit.

THE DESIGN SEQUENCE

The design of the starship is an easy process of following the sequence below. The goal of the design sequence is to fill in the Universal Ship Profile (USP) of the new ship. This will provide all of the necessary details of the ship, from cargo capacity to fighting weaponry and defenses. Ship design is finished when the USP is completed.

1. Select Mission
2. Select Hull
3. Select Jump Drive
4. Select Maneuver Drive
5. Select Controls
6. Select Weapons
7. Select Miscellaneous Equipment
8. Select Power Plant
9. Calculate Crew Requirement
10. Workstations
11. Bridge
12. Quarters
13. Cargo Space
14. Calculate Cost
15. Complete the USP

The Universal Ship Profile

(USP) describes the capabilities of a starship. It is a simple way to analyze what a vessel can do and what it requires. USP is also integral to Starship Combat for the vital ship information it provides.

The Quick Ship-Design System

For referees and players of **Traveller** who have needs for ships different from those provided, the Quick Ship-Design System (QSDS) is a simple way of customizing and designing starships. Vessels designed with the QSDS are modular starships, assembled at the shipyard from standardized components.

Using standardized components makes starships constructed with this system cheaper than custom designs. The design tables show the regular price of the components, but starships designed under QSDS receive a 25% discount over the equivalent custom-built ship. When the ship design is completed, multiply all the final cost by 75% to reflect the allowance for standardized, modular construction.

Step 1: Mission

Select the tech level and mission for the ship. This will determine how the ship is outfitted. For example, a long-range military cruiser will require a bigger hull and greater jump drives, not to mention weapons, whereas an intra-system cargo vessel may only require a short jump drive, lots of cargo space, and no weapons at all. The requirements for weapons, defenses, passengers, and cargo are dictated by the ship's mission.

Step 2: Hull

Select a hull from the table on the next page. All systems must fit in the volume of the ship hull chosen. The surface area of the ship is also critical in determining the type and number of external fittings. The surface area of equipment and fixtures cannot exceed the total available surface area of the ship.

Hull size is measured in standard displacement tons (tons), equivalent to 14 cubic meters, or the volume of one metric ton (1000kg) of liquid hydrogen. All hulls include a life support system, controls, airlocks (one per hundred tons displacement), cargo hatches (one per two hundred tons displacement), artificial gravity, inertial compensation systems, and contra-gravity lifters. Streamlined hulls also include fuel scoops capable of taking in 40% of the hull volume per hour. All of these hulls are available at any building yard TL10 or above, or any starport with an A rating.

Step 3: Jump Drive

The jump drive enables a starship to traverse interstellar distances. Vessels that have a jump drive installed are starships. Vessels that do not are non-starships, used in-system only. Starships and non-starships also have a maneuver drive for travelling within a star system.

On the following table, cross-index the jump level desired with the size of the hull. The chart will indicate the size (in displacement tons) of the drive required, and the minimum tech level of the drive. Other characteristics of the drive are derived from the drive size and are listed on the Standard Jump Drive table. Also note the fuel requirement (from the bottom of the Jump Drive Potential Table): jump drives require fuel equal to 10% of the total displacement of the hull, per parsec jumped.

Step 4: Maneuver Drive

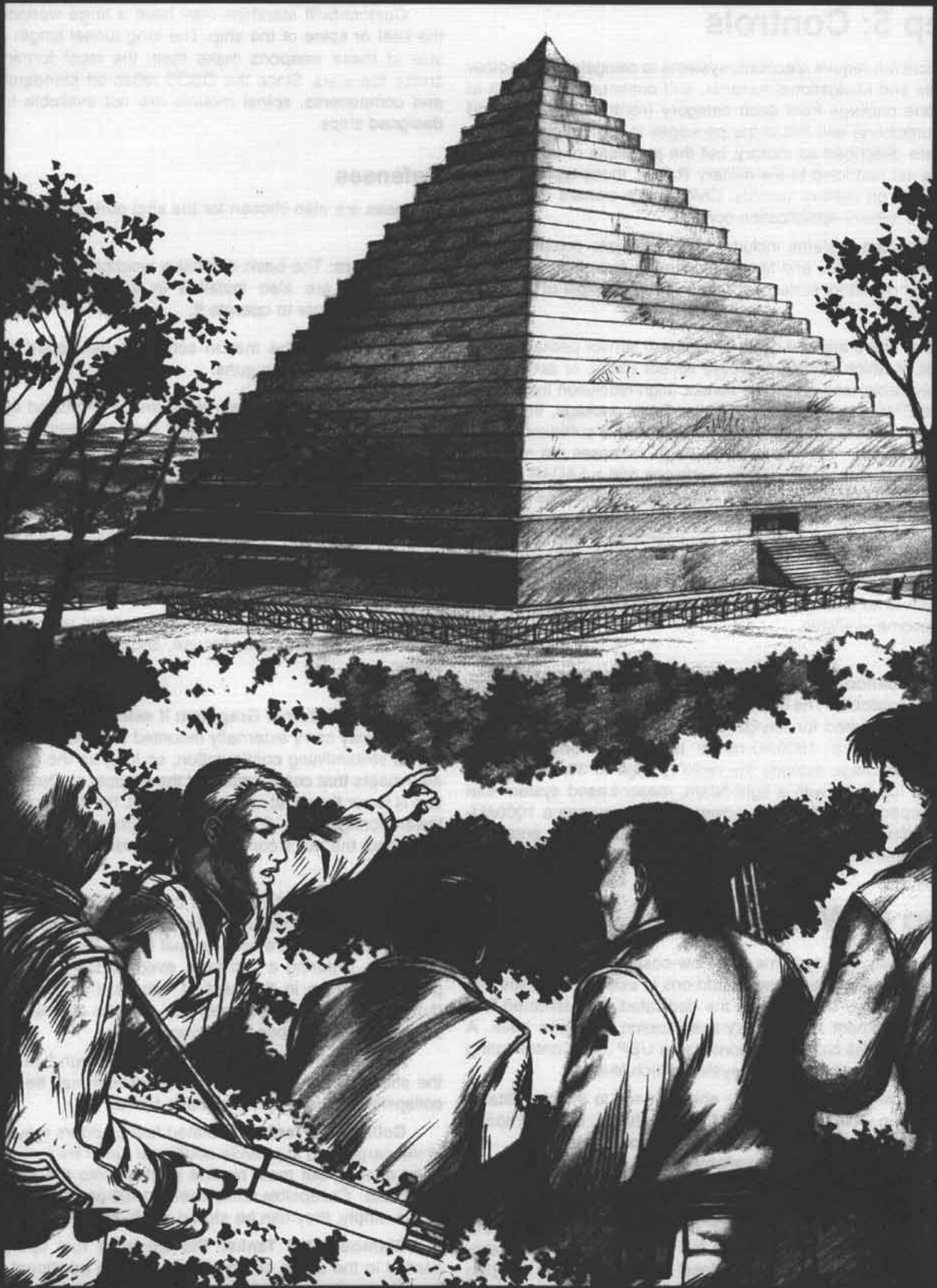
There are two types of maneuver drive: HEPIaR and thrust.

HEPIaR Drive: At TL10, the standard maneuver drive is a variant of fusion rocket using High-Energy Plasma Recombination (HEPIaR). These drives require both electrical power and fuel for reaction mass.

To install a HEPIaR maneuver drive, cross-index the size of the hull with the maneuver Gs desired on the HEPIaR Drive Potential Table for the volume of the drive in displacement tons. To find the other characteristics of the drive, including the fuel required for 20 hours of operation, use the drive size on the Standard HEPIaR Drives table.

Thrust-Plate Drive: The thrust plate drive is developed at TL12, and is the standard spacecraft drive from that point onward. It uses gravitic principles, and requires only electrical power to operate.

To install a thrust plate drive, cross-index the maneuver Gs required with the size of the hull on the Thrust Plate Drive Potential Table to determine the drive's volume (in displacement tons). Use the Standard Thrust Plate Drives Table for other characteristics of the drive.



As the Imperial Scout points out, the pyramid is ancient, but the perimeter fence is of modern design, as are the weapons carried by the guards at each entrance. What secret lies within this ancient edifice, that it would cause the Imperium to screen this site from public knowledge?

Step 5: Controls

All spacecraft require electronic systems to navigate, detect other vehicles and navigational hazards, and communicate. Select at least one package from each category (controls, sensors, and communicators) and install the packages in the hull. Some systems are described as military, but the purchase of such equipment is not restricted to the military. Rather, these types are typically used on military vessels. Civilian ship owners may freely purchase military-specification controls.

All control systems include the appropriate computer systems, flight controls, and terrain-monitoring instruments to allow flight over planetary surfaces for those ships capable of doing so.

Sensors: There are four types of standard sensor package available, all of which contain an active sensor (radar, or active EMS when available) and a passive sensor (high-resolution thermal, or passive EMS when available). In the Basic package, the active sensor is too short-ranged for combat use, but is sufficient for collision-avoidance. The Improved package increases the range of the basic sensors. Both military packages add a LADAR system for accurate range-finding and target designation, as well as improved antenna sizes for the active and passive sensors. The antenna diameter determines the minimum size of ship these sensors may be mounted on. The medium military package provides an identical back-up active sensor to better withstand battle damage, as well as adding neutrino sensors and densitometers when they become available.

Communications: In QSDS, three types of communicator packages are available. The basic package contains only the systems absolutely required for navigation: a 3000km-range radio communicator and a 1000AU-range laser communicator. The improved package extends the radio's range to 30,000km, and replaces the laser with a tight-beam, maser-based system that offers superior reliability. The advanced system uses a 1000AU-range radio communicator, two maser communicators, and adds a laser communicator as an inexpensive back-up system.

Step 6: Weapons

Civilian weapons systems are low-cost, low-power models intended for widespread use as add-ons to existing starships. For this reason, they don't include the dedicated, sophisticated fire-control equipment that military-specification weapons have. A ship that mounts civilian weapons has a USP Fire-Control rating of 0, regardless of the control system's tech level.

Most worlds allow military ship owners to install military-specification weapon systems. Missile batteries, bay and spinal weapons are available only to authorized purchasers.

Missile launchers are available in two sizes: turret and the larger barrette. Both systems can launch their entire supply of ready missiles in a single turn. Missile launchers do not have to be crewed when operating as part of a missile battery under the control of a Master Fire Director, but if assigned, a crew member may launch missiles under local control from the weapon mount.

The number of in-flight missiles a ship may control simultaneously depends on the capacity of its missile Master Fire Directors (MFDs). Any number of MFDs may be installed. Each requires a crew member to operate it. No ship may have a MFD of a TL higher than that of its controls system.

Custom-built starships may have a large weapon forming the keel or spine of the ship. The long tunnel length and large size of these weapons make them the most formidable that cruise the stars. Since the QSDS relies on standardized hulls and components, spinal mounts are not available for QSDS-designed ships.

Defenses

Defenses are also chosen for the ship during this step.

Sandcasters: The basic defensive weapon of starship combat, sandcasters are also installed in turrets. Each sandcaster requires a gunner to operate it.

Meson Screen: The meson screen is developed at TL12 to defend against meson guns.

Nuclear Dampers: Nuclear dampers are installed in batteries or turrets. They target incoming nuclear missiles, using the damper to deactivate them. Each damper requires a gunner to operate it.

Step 7:

Miscellaneous Equipment

Different equipment can be purchased for use on starships. Their costs, requirements for use, and any notes are described below:

Small Craft External Grapples: If external grapples are used, the ship may carry externally mounted craft without compromising its streamlining configuration, so long as the mounted craft also meets that configuration. If the grapple or craft's configuration is lower than that of the overall hull, the ship is limited to the lower configuration if it is carrying the craft. If the craft is detached, the hull's configuration may be used.

Extra Fuel Tanks: Any volume of space within the hull may be designated as fuel tankage. There is no additional cost, surface area or power requirement for fuel tanks. Starship fuel is liquid hydrogen. Entering a fuel tank, even partially-filled, is fatal to personnel (even in the best of vac suits). Empty fuel tanks, though, still contain hydrogen gas, may be entered, but should be treated as insidious type atmospheres.

Normally, the designer will provide enough fuel tankage for the ship's primary purpose. Additional fuel may be added with collapsible tanks, or dismountable tanks.

Collapsible Tanks: Insulated fuel bladders may be carried in the cargo hold to provide additional fuel. This fuel may not be used directly, but must be first pumped into the ship's normal fuel tanks. Collapsible tanks cost Cr1400 per ton of fuel carried. When empty, they can be stored at 5% of their full volume.

Dismountable Tanks: Dismountable fuel tanks may be carried in the ship's cargo hold to provide additional fuel. Fuel from these rigid tanks may be used directly by the ship's drives. Dismountable tanks cost Cr2800 per ton of fuel carried, but must be stored at their full volume. A version is also available that can be disassembled to store in 25% of its full volume, at a cost of Cr7000 per ton.

Step 8: Power Plant

All vessels require a power plant to provide electrical power to run the ship's systems. Total the power required for all systems. Select power plants from the table below until the power requirement has been met. You can add the power output of more than one plant to meet the total power requirement.

Step 9: Crew Requirement

During this step, crew quarters and work stations must be calculated.

Engineering Crew: Total the crew requirements for power plants, maneuver drives, and jump drives. Drop fractions less than 0.2, round others up to the next whole number. This is the number of engineering crew members needed. Each engineering crew member requires a workstation.

Electronics Crew: Total the crew requirements for sensors and communications equipment. Drop fractions less than 0.2, round others up to the next whole crew member. This is the number of electronics crew members needed. Each electronics crew member requires a workstation.

Maneuver Crew: All starships require an astrogator, and any spacecraft with a maneuver drive requires a pilot as well. The pilot and astrogator each require a workstation.

Gunnery Crew: One gunner is required for each weapon, sand-caster and nuclear damper battery installed. Each gunner requires a workstation.

Meson Screen Crew: Crew members are required for the ship's meson screens, as indicated in the meson screen table. These crew members do not require workstations.

Small Craft Crew: The crew of the small craft, as well as any maintenance personnel (at least one per craft carried, unless otherwise specified), must have quarters aboard the mothership.

Troops: Any number of troops (marines) may be carried. They will require quarters (but not workstations).

Command Crew: Total the above crew, and divide by six (round fractions to the nearest whole number). This is the number of command crew. They require workstations.

Stewards: Ships that carry high passengers, or have a total crew larger than 25, must have at least 1 steward. One steward is required per 8 high passengers (or command crew), plus 1 steward is also required per 50 middle passengers (or non-command crew). Round all fractions up. Stewards don't require workstations.

Medical: Ships that carry passengers of any type must have at least one medic aboard. One medic is required per 120 people carried, plus one per 20 low berths installed. Medical crew does not require workstations, but ships with a total complement of 120 or more should have a sickbay.

Small Ships and Combined Jobs: Any fractional crew requirement less than one (before rounding), can be combined into one position, as long as the total of the combined requirement is still less than or equal to one. Small ships can also be operated under routine conditions (not combat) by fewer than the normal crew. A ship of 100 tons or less can be operated by a single person, and a ship of 200 tons or less can be operated by a crew of two.

Step 10: Workstations

Multiply the number of crew members that need workstations by the workstation characteristic above. The results will be the volume and cost of the workstations. Note: if there are fewer than 25 crew, the cost of the workstations may be ignored.

Step 11: Bridge

If a ship requires two or more command crew member, a bridge must be installed. The electronics, maneuver, gunnery, and command workstations must be located on the bridge. A bridge requires 0.5 displacement tons per workstation installed, in addition to the workstations themselves.

Step 12: Quarters

Living quarters must be installed for the crew and passengers. High passengers require a large stateroom, and middle passengers require at least a small stateroom. Crew members may have any type of living quarters, but command crew should have quarters larger than enlisted crew. Commercial ships typically allocate a large stateroom for the captain (and possibly the executive officer), and small staterooms for all other crew members. Low berths are used for low passengers. Emergency low berths are installed on some vessels as a safety measure. They can hold four people in an emergency situation, or can be used for transporting large animals safely in cold sleep.

Multiply the number of occupants by the characteristics of the selected type of quarters to determine the volume, power, and cost of quarters. The power requirement can be ignored for ships with a total complement of less than 50.

Step 13: Cargo Space

Any volume of space within the hull may be designated as cargo holds. There is no additional cost, surface area, or power requirement for cargo holds. The required cargo hatches are already included in the price of the hull. Cargo holds are assumed to be set at the ship's standard environment (gravity, temperature, and air pressure and composition) unless changed by the ship's crew. The ship's environmental controls allow each cargo hold to be set for a wide range of conditions, so that a hold could be arranged to carry refrigerated cargo, or animals requiring a simulated desert environment.

Step 14: Calculate Cost

Add all of the costs of all of the systems installed in the ship together, from hull to quarters. This is the full cost of the ship. Multiply the cost by 75% to calculate the cost of actually building the ship at a shipyard. The savings is generated because of the use of standardized modules.

Step 15:

Universal Ship Profile

All data to create the Universal Ship Profile are now available. Fill in the necessary information. The ship design process is complete.

Tons: Enter the tonnage of the vessel, in standard displacement tons.

Volume: Enter the volume of the vessel in cubic meters. Volume equals tonnage multiplied by 14.

Cost: Total the cost of the ship in MCr, rounded to the nearest tenth, and enter it here.

Crew: Enter the total number of the crew (including stewards and medics).

High Passengers: Enter the total number of high passengers carried.

Medium Passengers: Enter the total number of medium passengers.

Low Passengers: Enter the number of low berths.

Cargo: Enter the total volume of the ship's cargo holds, in displacement tons.

Controls: Enter a short description of the ship's controls. "Std" indicates standard control systems, "Fib" indicates military-specification fiber-optic systems. If the ship has a bridge, place "/Bridge" after the control system type.

TL: Enter the controlling TL of the design.

Size Rating: Enter the number corresponding to the volume of the ship (in displacement tons) from the Size Rating Table.

Jump Rating: Enter the jump drive capacity of the ship, in parsecs.

Fire Control Rating: If all of the batteries of the ship are military weapons, enter the number corresponding to the ship's from the Fire Control Rating Table. Otherwise enter zero.

G Rating: Enter the maximum acceleration of the maneuver drive, in Gs, as well as the type of drive (HEPIaR or Thrust Plate).

Power Plant Rating: Multiply the total power output by the ship's power plants (in Mw) by 2, and divide by the ship's volume rating in displacement tons. This is the power plant rating.

Fuel Rating: Enter the total volume of fuel carried, in standard displacement tons. If the ship is equipped with fuel scoops (all streamlined and airframe hulls designed with the QSDS are), enter an S after the amount of fuel. If the ship is equipped with a fuel purification plant, also enter an R (for refining capability).

Sandcaster Rating: Enter the number of sandcasters, and in parentheses, the total number of canisters carried in ready storage.

Meson Screen Rating: Enter the USP number from Standard Screens Table.

Damper Rating: Enter the number of nuclear damper turrets or barbets installed.

Sensor Rating: Enter the sensor rating from the controls section.

Armor: Enter the armor rating given on the Hull Table.

Structure: Enter the structure rating given on the Hull Table.

Batteries: For each distinct type of battery carried by the ship, make a battery entry. This entry consists of the number of batteries of this type, a battery identifier (such as "Long-Range Laser" or "Missile Bay"), and the USP combat statistics from the battery table.

Missiles: If the ship is equipped with missiles, note the number of missiles capable of being fired in one salvo, and in parentheses, the number of missiles that are held in ready storage for use by the battery.

Notes: Note additional information about the ship here, including the hull shape, streamlining, and details of any carried craft.

Starship Economics

The operation of starships in interstellar commerce requires an understanding of the economics that govern trade between the stars. Prices and returns on effort and investment are controlled by the supply and demand that exists in the commercial system. Because starships are so expensive, many of the prices in this section are expressed in megacredits (abbreviated MCr); a megacredit is one million credits.

Starship Purchase

Bank financing is available to qualified individuals for the purchase of commercial starships. After a down payment of 20% of the cash price of the starship is made, the shipyard will begin construction of a specific vessel. Upon completion, the vessel is delivered to the buyer, with the bank paying off the purchase price to the shipyard. Because the bank now holds title to the ship, the price must be paid off in a series of monthly payments to it. Standard terms involve the payment of 1/240th of the cash price each month for 480 months. In effect, interest and bank financing cost a simple 120% of final cost of the ship, and total financed price equals 220% of the cash purchase price, paid off over a period of 40 years.

In addition, the bank will insist that the purchaser submit an economic plan detailing the projected activity that will guarantee

that monthly payments are made. Unless a character has some form of guaranteed income (perhaps large rents from some property he owns), this condition will generally rule out purchases (at least financed purchases) of yachts, military vessels, or exploratory vessels.

Subsidies

The government may subsidize larger commercial vessels (built on type 600 hulls or larger), primarily to assure consistent service to specific worlds. These subsidized merchants are generally assigned a specific route connecting from 2 to 12 worlds of varying characteristics. The route will generally be determined before a subsidized merchant is purchased, to allow tailored design features as may be necessary. When a subsidized merchant is ordered, the character himself must make the 20% down payment, with the government assuming responsibility for the payments upon delivery, and taking 50% of the gross receipts of the ship while in service. The character is responsible for all expenses and costs of operation.

Subsidized merchants are also subject to mobilization (and use as auxiliaries) in the event of emergency or hostilities. At the end of 40 years, the vessel is completely paid off, and full title passes to the character, but the vessel remains subject to mobilization in case of government need.

Starship Expenses

There are five basic expenses (in addition to the bank payment, if necessary) associated with starship operation:

Fuel. Starship fuel costs Cr500 per ton (refined) or Cr100 per ton (unrefined), at most starports. Fuel consumption is based on formulae related to the size of the starship power plant and the jump drive.

Life Support. Each occupied stateroom on a starship involves an overhead cost of Cr2000 per trip (two weeks) made. Each occupied low passage berth involves an overhead cost of Cr100 per usage. There is a normal limit of one person per stateroom, traveling couples or groups usually taking adjoining staterooms. Military vessels or chartered ships may be used with a double occupancy system, but this requires twice the normal cost.

Routine Maintenance. Annually, a starship should be given a complete overhaul in order to insure that it is kept in good working order. Such maintenance costs 0.1% (1/1000th) of the cash price of the ship, and requires two weeks at a class A or B starport. The owner must make provision for payment of the maintenance fee when it comes due. Crew members generally take their vacations at this time, but must still be paid. The ship owners must make provision for expected loss of revenue while the ship is out of service.

Crew Salaries. Crew members must be paid monthly. Non-player characters must be paid using the standard Crew Salary Table (with suitable modifications for expertise or seniority, generally +10% for each level of expertise above level-1). Player characters may bargain for better pay rates, or they may elect to accept worse. In addition, player characters may participate with the owner-captain and accept shares in the proceeds of the ship's activities.

Characters who take working passage are not paid, receiving passage, room, and board in lieu of salary (but continuous working passage for more than three trips results in automatic hiring and receipt of salary). The starship captain is usually the pilot or navigator, and serves as owner-aboard, drawing his pay from the profits. Not all crew positions are required on all ships, and some ships will have more than one person performing the same function. For example, a large liner may have more than one steward.

Berthing Costs. Landing fees, handling costs, facilities use charges, and other starport fees are a common practice, and such

costs must be paid as they occur. The average cost is Cr100 to land and remain for up to six days; thereafter, a Cr100 per day fee is imposed for each additional day spent in port. In some locations this fee will be higher, while at others local government subsidies will lower or eliminate it.

Revenue

Ships generate revenue from cargo, passengers, and mail.

Cargo: Starships may inquire at a starport about the number, sizes, and destinations of cargos awaiting transportation. The referee should determine all worlds accessible to the starship (depending on jump number), and calculate cost of a cargo. Then he should roll to determine the number of major, minor, and incidental cargos available on the world of origin; modifiers take into account the world of destination. After rolling for the number of cargos, roll one die for each cargo to determine its size. Multiply the die roll for major cargos by 10, minor cargos by 5, and incidental cargos by 1 to determine the number of tons in each. For example, if a ship is on a Population 6 world, going to a Population 3 world with a Tech Level 3 less than the current world, the referee rolls one die for major cargos; he rolls a 4 (+2 from the table, -4 for the low population of the destination, +3 for the Tech Level difference), giving five major cargos. He then rolls one die for each cargo and multiplies each result by 10 to determine their individual tonnage. Each cargo is a distinct shipment and cannot be subdivided, but the ship may accept or reject specific cargos based on the best fit within the cargo hold. All cargos are carried at Cr4,000 per ton. Starship owners may purchase goods locally and ship them at their own expense, speculating that they can later sell at a profit.

Passengers: After a starship has accepted cargo for a specific destination, passengers will present themselves for transport to that destination. The Passenger Table is used to determine the number of passengers desiring passage to the announced world based on the origin world's population and on the destination world's population and travel-zone status. Roll the dice specified. Apply any indicated DMs.

Passengers will pay the standard fare for the class of transportation they choose: Cr10,000 for high passage, Cr8,000 for middle passage, and Cr1,000 for low passage. Passage is always sold on the basis of transport to the announced destination, rather than on jump distance.

Differences in starship jump drive capacity have no specific effect on passage prices. A jump-3 starship charges the same passage price as a jump-1 starship. The difference is that a jump-3 ship can reach a destination in one jump, while the jump-1 ship would take three separate jumps (through two intermediate destinations, and requiring three separate tickets) to reach it. Higher jump numbers also may make otherwise inaccessible destinations within reach. But for two ships of differing jump numbers going to the same destination in one jump, each would charge the same cargo or passage price.

Mail and Incidentals: Subsidized merchants may receive mail delivery contracts, usually as an adjunct to their established routes. Five tons of ship cargo capacity must be committed to postal duty on a full-time basis, the ship must be armed, and a gunner must be a part of the crew. The starship is paid Cr25,000 (Cr5,000 per ton of postal cargo area) for each trip made, regardless of the actual mail tonnage carried. Such tonnage will not exceed 5 tons per trip.

Other ships may be approached to deliver private messages, at times through the ship's owner or captain, and at times clandestinely through a crew member. Private mail is usually intended for delivery to a specific point (such as the Travellers' Aid Society building, or a tavern keeper), and is generally accompanied by a Cr20 to Cr120 honorarium. Roll 5- for a private mes

sage to be awaiting transmittal, and determine randomly which crew member is approached to carry it. Serving as a carrier for private mail also serves as an introduction to the recipient trustworthy person.

Trade Customs

The following are standard procedures in interstellar commerce.

Delivery: Goods taken on in orbit are delivered when placed in orbit around the destination. Goods loaded on a planetary surface are delivered when off-loaded on the surface of the destination. This custom applies to cargo, passengers, and mail.

Shuttle Service: At any location with a class A, B, or C starport, shuttles routinely operate between orbit and the world's surface. Typical shuttle fares are Cr10 per ton of cargo and Cr20 to Cr120 per passenger.

Charters: Charter price for a starship is computed based on its revenue-generating capacity. Starships are chartered in 2-week blocks; the charge is Cr900 per ton of cargo hold plus Cr9,000 per high passage berth and Cr900 per low passage berth. The owner pays all overhead and supplies a crew.

The three travel formulae assume constant acceleration to midpoint, turnaround, and constant deceleration to arrive at the destination at rest, as shown in the diagram above. There are three variables; if any two are known, the third can be determined using one of the formulae at right. The variables are time (T) in seconds, distance (D) in meters, and acceleration (A) in meters/second². Other units must be converted to these three before using the formulae. For example, suppose a player, using the units in the miniatures rules described later in this book, wishes to determine how long it would take (in 1000-second turns) to travel 3 scale meters (or 300,000 kilometers; each millimeter equals 100 kilometers) at 1 G. To get meters from kilometers he must multiply by 1,000 (300,000 km=300,000,000 meters); to get meters/second² from Gs he must multiply by 10 (1G=10 meters/second²). The formula is then: $T(\text{in seconds}) = \sqrt{2x / (300,000,000/10)}$, or 10,954. To translate into 1000-second turns, he divides by 1,000 to get about 11 turns.



Launch - 20ton



Ships Boat - 30 ton



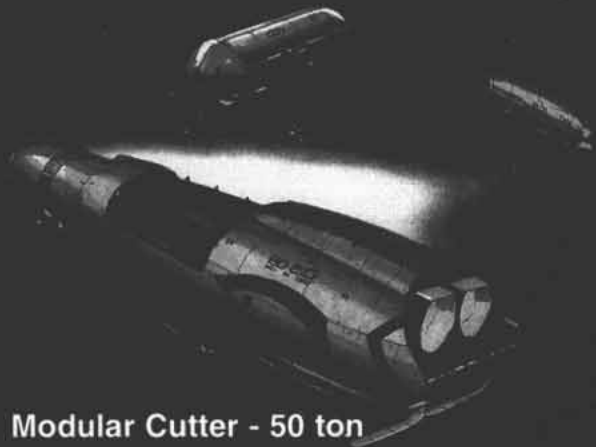
Slow Boat - 30 ton



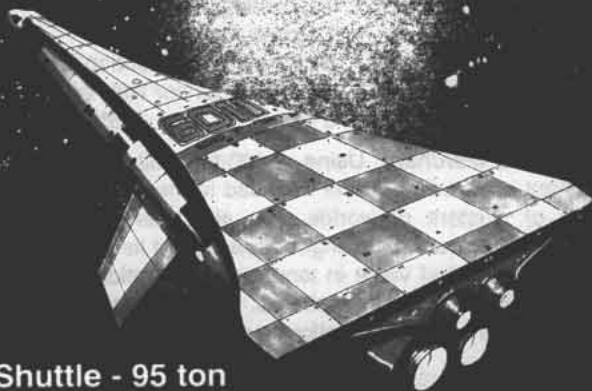
Gig - 20 ton



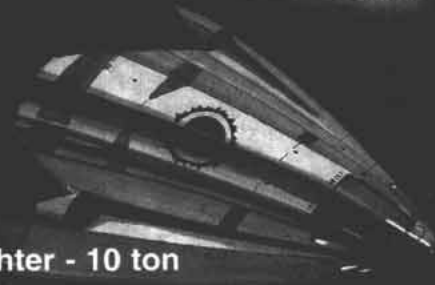
Slow Pinnacle - 40 ton



Modular Cutter - 50 ton



Shuttle - 95 ton



Fighter - 10 ton

THE UNIVERSAL SHIP PROFILE

Type and Name of Ship

Tons	Volume	Cost in MCr
Crew	Passengers High/Medium	Passengers Low
Cargo	Controls	Tech Level
#	Size Rating	# Jump Rating
#	Fire Control Rating	# G Rating/Maneuver Drive
#	Battery 1 -#, #, #, #	# Power Plant Rating
#	Battery 2 -#, #, #, #	# Fuel Rating/Scoop/Refine
#	Battery 3- #, #, #, #	# Meson Screen Rating
#	Battery 4- #, #, #, #	# Sandcaster Rating
#	Battery 5- #, #, #, #	# Damper Rating
#	Battery 6- #, #, #, #	#A #P #J Sensor Rating
#	Battery 7- #, #, #, #	# Armor # Structure

Slow Boat

Tons 30	Volume 420	Cost in MCr 15
Crew 2	Passengers High/Medium 10	Passengers Low 0
Cargo 10	Controls: Civilian Standard	TL9
7	Size Rating	0 Jump Rating
0	Fire Control Rating	3 G Rating
		4 Power Plant Rating
		6 Fuel Rating/Scoop/Refine
		0A 2P 0J Sensor Rating
		0 Armor 3 Structure

Slow Boat: Using a 30-ton hull, the slow boat is capable of 3G acceleration, carries 1 ton of fuel tankage, and has a crew of two. It is used to move small cargo from ship to ship at or around a space platform.

Ship's Boat

Tons 30	Volume 420	Cost in MCr 16
Crew 2	Passengers High/Medium 6	Passengers Low 0
Cargo 6	Controls: Civilian Standard	TL9
7	Size Rating	0 Jump Rating
0	Fire Control Rating	6 G Rating/Maneuver Drive
		6 Power Plant Rating
		6.5 Fuel Rating/Scoop/Refine
		0A 2P 0J Sensor Rating
		0 Armor 6 Structure

Ship's Boat: Using a 30-ton hull, the ship's boat is capable of 6-G acceleration, carries 1.8 tons of fuel tankage, and has a crew of two. It is used mainly to move small cargo from planet surfaces into space and back again. It can be used as a small fighting ship when needed.

Pinnacle

Tons 40	Volume 560	Cost in MCr 20
Crew 2	Passengers High/Medium 8	Passengers Low 0
Cargo 12	Controls: Civilian Standard	TL9
7	Size Rating	0 Jump Rating
0	Fire Control Rating	5 G Rating
		5 Power Plant Rating
		8.4 Fuel Rating/Scoop/Refine
		0A 2P 0J Sensor Rating
		0 Armor 6 Structure

Pinnacle: Using a 40-ton hull, the pinnacle is capable of 5G acceleration, carries 2 tons of fuel, and has a crew of two. It is used to move passengers and large cargos between facilities and ships.

Launch

Tons 20	Volume 280	Cost in MCr 14
Crew 2	Passengers High/Medium 6	Passengers Low
Cargo 6	Controls: Civilian Standard	TL8
7	Size Rating	0 Jump Rating
0	Fire Control Rating	1 G Rating
		1 Power Plant Rating
		5 Fuel Rating/Scoop/Refine
		0A 2P 0J Sensor Rating
		0 Armor 1 Structure

Launch: Using a 20-ton hull, the launch is capable of 1-G acceleration, carries 1 ton of fuel tankage, and has a crew of two. It is used to handle small transport tasks not suited for larger vessels.

Subsidized Merchant

Tons 400	Volume 5600	Cost in MCr 49.728
Crew 5	Passengers High/Medium 10	Passengers Low 10
Cargo 207.9	Controls: Civilian Standard	TL12
8	Size Rating	1 Jump Rating
0	Fire Control Rating	1 G Rating/Thruster
		1 Power Plant Rating
		51.3 Fuel Rating/Scoop/Refine
		1A 3P 0J Sensor Rating
		0 Armor 8 Structure

Subsidized Merchant: Using a 400-ton hull, the subsidized merchant is a trading vessel intended to meet the commercial needs of clusters of worlds. The ship has an impressive amount of cargo and passenger capacity, but its range is short, making it of limited value in long-range operations. It has the capability of entering atmospheres, making it good for service to planets without orbital platforms or stations.

Modular Cutter

Tons 50	Volume 700	Cost in MCr 28
Crew 2	Passengers High/Medium 12	Passengers Low 0
Cargo 15	Controls: Civilian Standard	TL9
7 Size Rating	0 Jump Rating	
0 Fire Control Rating	4 G Rating/Maneuver Drive	
	4 Power Plant Rating	
	13.5 Fuel Rating/Scoop/Refine	
	0A 2P 0J Sensor Rating	
	0 Armor	6 Structure

Modular Cutter: Using a 50-ton hull, the cutter is capable of 4G, carries 2 tons of fuel, and has a crew of two. It has 30 tons committed to special detachable modules; the craft has 2.5 tons excess space available for weaponry or ancillary items.

Three interchangeable modules are routinely available for the modular cutter:

The **ATV module** (which includes an operational ATV) is 30 tons. It can land (and retrieve) an ATV on a world surface. The module can serve as an ATV storage location, if desired.

The **fuel module**, with 30 tons of fuel tankage, serves as a fuel skimming vehicle and storage tank.

The **open module** is a customizable frame with 30 tons of excess space, which can be allocated to passenger couches, fuel, cargo, cabin, or staterooms.

Subsidized Liner

Tons 600	Volume 8400	Cost in MCr 69.98
Crew 9	Passengers High/Medium 30	Passengers Low 20
Cargo 73.8	Controls: Civilian Standard	TL12
8 Size Rating	3 Jump Rating	
0 Fire Control Rating	1 G Rating/Thruster	
	1 Power Plant Rating	
	211.1 Fuel Rating/Refine	
	1A 3P 0J Sensor Rating	
	10 Armor	12 Structure

Ship's Boat

Subsidized Liner: Using a 600-ton hull, the subsidized liner is a passenger and freight carrier committed to long-haul routes. It is not streamlined, but the ship's boat integral to the subsidized liner is used to shuttle passengers and cargo to other ships or to planets' surfaces.

Yacht

Tons 200	Volume 2800	Cost in MCr 33.252
Crew 4	Passengers High/Medium 10	Passengers Low 0
Cargo 19.9	Controls Civilian Standard	TL12
8 Size Rating	1 Jump Rating	
0 Fire Control Rating	1 G Rating/ Thruster	
	1 Power Plant Rating	
	20.8 Fuel Rating/Scoop/Refine	
	A2 P3 J0 Sensor Rating	
	20 Armor	11 Structure

Yacht: Built on the 200-ton hull, the yacht is a noble's plaything, used to entertain friends and undertake political or commercial missions. There are three ship's vehicles: an air raft, a 30-ton ship's boat, and an ATV. The ship's boat is fitted to ferry the ATV from orbit to surface and back. The yacht is not streamlined, and relies on its ship's boat for inner-atmosphere cargo and passenger transfers.

Light Fighter

Tons 10	Volume 140	Cost in MCr 18
Crew 1	Passengers High/Medium 0	Passengers Low 0
Cargo 1	Controls: Military Standard	TL12
7 Size Rating	0 Jump Rating	
1 Fire Control Rating	6 G Rating	
L Battery 1 - 2, 0, 0, 0	6 Power Plant Rating	
	10 Fuel Rating/Scoop/Refine	
	5A 2P 2J Sensor Rating	
	8 Armor	2 Structure

Light Fighter: Using a 10-ton hull, the fighter is capable of 6G acceleration, carries 1 ton of fuel, and has a crew of one. The Imperium's main military advantage over other civilizations is the existence of the fighter.

Patrol Cruiser

Tons 200	Volume 5600	Cost in MCr 236.04
Crew 10	Passengers: 8 Troops	Passengers Low 0
Cargo 0	Controls: Military Standard	TL12
8 Size Rating	3 Jump Rating	
2 Fire Control Rating	4 G Rating	
L Battery 1 - 3, 3, 2, 0	7 Power Plant Rating	
L Battery 2 -3, 3, 2, 0	162.2 Fuel Rating/Scoop/Refine	
M Battery 3 -Barbette 5	8 Sandcaster Rating	
M Battery 4 -Barbette 5	10A 4P 4J Sensor Rating	
	40 Armor	14 Structure

GCarrier and Ship's Boat

Patrol Cruiser: Using a custom 200-ton hull, the patrol cruiser is a military vessel used for customs inspections, piracy suppression, and normal safety patrols. There are two ship's vehicles: a GCarrier and a 30-ton ship's boat. The ship is streamlined to chase offenders wherever they go, regardless of atmosphere.

Scout/Courier

Tons 100 Volume 1400 Cost in MCr 21.75
 Crew 1 Passengers High/Medium 3
 Passengers Low 0
 Cargo 12.9 Controls: Military Standard TL12
 8 Size Rating 2 Jump Rating
 0 Fire Control Rating 2 G Rating
 3 Power Plant Rating
 20.7 Fuel Rating/Scoop/Refine
 2A 3P 0J Sensor Rating
 10 Armor 6 Structure

Scout/Courier: Using a 100-ton hull, the scout/courier is intended for exploration, survey, and courier duties, with many in service throughout known space. It is used when a ship of long-range duration and high sensor capabilities are called for. The ship is fast, and capable of operating for months without returning to a base or home planet.

Mercenary Cruiser

Tons 800 Volume 11200 Cost in MCr 285.352
 Crew 30 Passengers 40
 Passengers Low 4
 Cargo 23.6 Controls: Military with Bridge TL12
 8 Size Rating 3 Jump Rating
 2 Fire Control Rating 2 G Rating/ Thruster
 L Battery 1 -3-3-2-0 3 Power Plant Rating
 L Battery 2 -3-3-2-0 303.2 Fuel Rating/Refine
 M Battery 3 - Barbette 5 2 Sandcaster rating
 M Battery 4 -Barbette 5 1 Damper Rating
 10A 4P 10J Sensor Rating
 60 Armor 14 Structure

Mercenary Cruiser: Using an 800-ton hull, the mercenary cruiser is built to carry small troop units for corporate or government operations. There are five ship's vehicles: two modular cutters (one open passenger and cargo module and one fuel module), two ATVs (in ATV modules), and one air raft. The hull is unstreamlined.

Shuttle

Tons 100 Volume 1400 Cost in MCr 18
 Crew 2 Passengers High/Medium 10
 Passengers Low 0
 Cargo 71 Controls: Civilian Standard TL8
 8 Size Rating 0 Jump Rating
 0 Fire Control Rating 3 G Rating
 4 Power Plant Rating
 15 Fuel Rating/Scoop/Refine
 0A 2P 0J Sensor Rating
 0 Armor 8 Structure

Shuttle: Using a 100-ton hull, the shuttle is capable of 3G acceleration, carries 2.85 tons of fuel, and has a crew of two. It is used as the prime mover of material from space to a planet's surface or the reverse. Before TL12, the shuttle was the smallest effective spaceworthy vessel.

Safari Ship

Tons 200 Volume 2800 Cost in MCr 36.558
 Crew 5 Passengers High/Medium 6
 Passengers Low 0
 Cargo 4.9 Controls: Civilian Standard TL12
 8 Size Rating 2 Jump Rating
 0 Fire Control Rating 1 G Rating/ Thruster
 L. Battery 1 -2-0-0-0 1 Power Plant Rating
 40.9 Fuel Rating/Scoop/Refine
 A2 P3 J0 Sensor Rating
 10 Armor 9 Structure

Safari Ship: The safari ship is an excursion vessel intended for trophy-taking (real or photographic) expeditions to other worlds. There are two ship's vehicles: an air raft and a 20-ton launch. Two 7-ton capture tanks hold specimens, and a 7-ton trophy lounge serves as a hunter's recreation area. The hull is streamlined.

Free-Trader

Tons 200 Volume 2800 Cost in MCr 30.75
 Crew 4 Passengers High/Medium 6
 Passengers Low 20
 Cargo 75.9 Controls: Civilian Standard TL12
 8 Size Rating 1 Jump Rating
 0 Fire Control Rating 1 G Rating/Thruster
 L Battery 1 -1, 0, 0, 0 1 Power Plant Rating
 L Battery 2 -1, 0, 0, 0 20.7 Fuel Rating/Scoop/Refine
 1A 3P 0J Sensor Rating
 0 Armor 6 Structure

Free-Trader: Using a 200-ton hull, the free-trader is an elementary interstellar merchant ship, carrying cargo and passengers. It is used as the primary trade and passenger mover in the Imperium. Other civilizations have similar designs for the same purpose. It has the capability of entering atmospheres, making it good for service to planets without orbital platforms or stations.

Far Trader

Tons 200 Volume 2800 Cost in MCr 31.397
 Crew 4 Passengers High/Medium 6
 Passengers Low 10
 Cargo 64.9 Controls: Civilian Standard TL12
 8 Size Rating 2 Jump Rating
 0 Fire Control Rating 1 G Rating/ Thruster
 1 Power Plant Rating
 40.7 Fuel Rating
 A1 P3 J0 Sensor Rating
 0 Armor 6 Structure

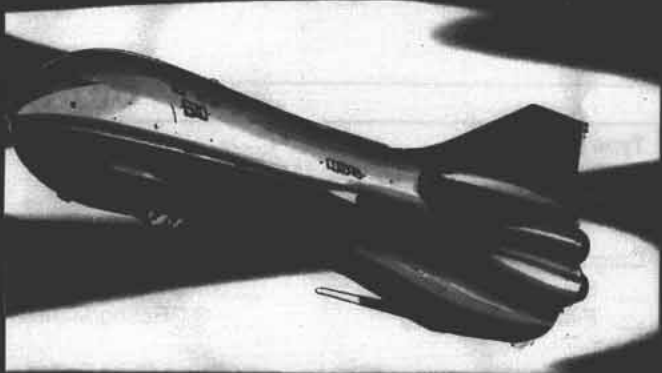
Far Trader: Based on a 200-ton Box streamlined hull, the Far Trader carries TL 12 Basic commo and a 10-ton capacity fuel purifier. The crew has Small Staterooms, and there are 6 Large Staterooms and 10 Low Berths on board.



Scout/Courier - 100 ton



Free-Trader - 200 ton



Subsidized Merchant - 400 ton



Yacht - 200 ton



Mercenary Cruiser - 800 ton



Patrol Cruiser - 400 ton



Laboratory Ships - 400 ton



Safari Ship - 200 ton

Laboratory Ship

Tons 400 Volume 5600 Cost in MCr 145.209
 Crew 15 Passengers High/Medium 20
 Passengers Low 10
 Cargo 11.9 Controls: Military w/ Bridge TL 12
 8 Size Rating 2 Jump Rating
 0 Fire Control Rating 1 G Rating/ Thruster
 1 Power Plant Rating
 82 Fuel Rating
 A10 P4 J10 Sensor Rating
 0 Armor 6 Structure

Laboratory Ship: Using a 400-ton hull, the laboratory ship is a mobile base for scientific analysis and investigation. It contains labs for 20 scientists, and there are three ship's vehicles: two air rafts and one 40-ton pinnacle, used mainly for research in space, or moving any cargo or passenger. Laboratory space on board equals 85 tons. The ship is unstreamlined, and often customized to best serve its scientific mission.

Gig

Tons 20 Volume 280 Cost in MCr 22
 Crew 3 Passengers High/Medium 0
 Passengers Low 1 (Emerg)
 Cargo 1 Controls Civilian Standard TL12
 7 Size Rating 0 Jump Rating
 0 Fire Control Rating 3 G Rating/ Thruster (T Plates)
 L Battery 1 -1-0-0-0 5 Power Plant Rating
 0.5 Fuel Rating/Scoop/Refine
 1 A 3 P 0 J Sensor Rating
 2 Armor 6 Structure

Gig: The 20-ton Gig is a small, armed, light craft designed to be carried by other larger ships. It can take the place of small craft when an armed and slightly armored boat is of more use. The gig has been shown to be especially useful in mail deliveries and important small-cargo transfers.

THE UNIVERSAL SHIP PROFILE

Type and Name of Ship

Tons	Volume	Cost in MCr
Crew	Passengers High/Medium	
	Passengers Low	
Cargo	Controls	Tech Level
# Size Rating	# Jump Rating	
# Fire Control Rating	# G Rating/Maneuver Drive	
# Battery 1 -#, #, #, #	# Power Plant Rating	
# Battery 2 -#, #, #, #	# Fuel Rating/Scoop/Refine	
# Battery 3- #, #, #, #	# Meson Screen Rating	
# Battery 4- #, #, #, #	# Sandcaster Rating	
# Battery 5- #, #, #, #	# Damper Rating	
# Battery 6- #, #, #, #	#A #P #J Sensor Rating	
# Battery 7- #, #, #, #	# Armor # Structure	

Type and Name :

Tons:	Volume:	Cost in MCr:
Crew:	Passengers High/Medium:	
	Passengers Low:	
Cargo:	Controls:	Tech Level:
__ Size Rating		__ Jump Rating
__ Fire Control Rating		__ G Rating/Maneuver Drive
__ Battery 1 - __, __, __, __		__ Power Plant Rating
__ Battery 2 - __, __, __, __		__ Fuel Rating
__ Battery 3- __, __, __, __		__ Meson Screen Rating
__ Battery 4- __, __, __, __		__ Sandcaster Rating
__ Battery 5- __, __, __, __		__ Damper Rating
__ Battery 6- __, __, __, __		__ A __P __J Sensor
__ Battery 7- __, __, __, __		__ Armor __ Structure

Ship Notes:

ADDITIONAL SOFTWARE

TL	MCR	Title	Function	Skills	Difficulty
10	2	Predict-1	+1 DM on to-hit roll for one battery	1, Astrogation-1	Average
10	4	Predict-2	+2 DM on to-hit roll for one battery	1, Astrogation-2	Average
11	6	Predict-3	+3 DM on to-hit roll for one battery	1, Astrogation-3	Difficult
12	6	Predict-4	+4 DM on to-hit roll for one battery	1, Astrogation-4	Difficult
13	8	Predict-5	+5 DM on to-hit roll for one battery	2, Astrogation-5	Formidable
10	1	Gunner	Add Gunnery skill to-hit for one battery	2, Gunnery-2	Average
9	1	Evade-1	- 1/4 Pilot skill DM to being hit	1, Pilot-2	Average
10	2	Evade-2	- 1/2 Pilot skill DM to being hit	2, Pilot-3	Difficult
11	3	Evade-3	- 3/4 Pilot skill DM to being hit	2, Pilot-4	Difficult
12	4	Evade-4	- Pilot skill DM to being hit	2, Pilot-5	Formidable
10	0.5	Return Fire	Automatic response if attacked	2, Gunnery-3	Average
8	0.1	Anti-Hijack	Helps prevent hijacking	1, Tactics-1	Average
8	0.3	Library	Contains local information	1, Access to local info	Easy

STANDARD THRUST PLATE DRIVES

Volume	Power	Cost	Area	Crew	Volume	Power	Cost	Area	Crew
2	28	0.5	1	0.1	65	910	16.3	13	1.7
4	56	1.0	1	0.1	72	1008	18.0	15	1.7
6	84	1.5	2	0.2	75	1050	18.8	15	1.8
8	112	2.0	2	0.3	81	1134	20.3	17	1.8
9	126	2.3	2	0.3	86	1204	21.5	18	1.9
11	154	2.8	3	0.4	90	1260	22.5	18	1.9
13	182	3.3	3	0.4	97	1358	24.3	20	2.0
15	210	3.8	3	0.5	108	1512	27.0	22	2.1
17	238	4.3	4	0.6	143	2002	35.8	29	2.4
18	252	4.5	4	0.6	161	2254	40.3	33	2.6
22	308	5.5	5	0.7	179	2506	44.8	36	2.8
25	350	6.3	5	0.8	215	3010	53.8	43	3.2
27	378	6.8	6	0.9	268	3752	67.0	54	3.7
29	406	7.3	6	1.0	286	4004	71.5	58	3.9
33	462	8.3	7	1.1	322	4508	80.5	65	4.2
36	504	9.0	8	1.2	358	5012	89.5	72	4.6
38	532	9.5	8	1.3	429	6006	107.3	86	5.3
43	602	10.8	9	1.4	447	6258	111.8	90	5.5
45	630	11.3	9	1.5	536	7504	134.0	108	6.4
49	686	12.3	10	1.6					
50	700	12.5	10	1.5					
54	756	13.5	10	1.5					
58	812	14.5	12	1.6					
63	882	15.8	13	1.6					

Explanation of Columns:
Volume: The size of the drive, in tons.
Cost: The cost of the drive, in MCr.
Area: Surface area/the drive's emitter plates, in meters².
Crew: The crew factor required to operate the drive.

STANDARD MILITARY CONTROLS

TL	Power	Volume	Crew	Cost	Area
9	1.6	2.2	0.0	3.8	0.4
10	1.9	2.6	0.0	6.2	0.4
11	2.2	3.0	0.0	12.2	0.3
12	2.5	3.4	0.0	18.2	0.3
13	2.8	3.9	0.0	24.2	0.2
14	3.1	3.4	0.0	30.2	0.2
15	3.4	3.0	0.0	36.2	0.2

Explanation of Columns:

- TL:** The technology level (TL) of the equipment.
- Power:** The power required to run the controls, in Mw.
- Volume:** The volume required of the installation, in displacement tons.
- Crew:** The number of crew members required to operate the system.
- Cost:** The price, in MCr.
- Area:** The surface area required for antennas.

STANDARD CIVILIAN CONTROLS

TL	Power	Volume	Crew	Cost	Area
9	0.9	1.1	3.0	2.0	0.4
10	1.0	1.3	3.0	3.2	0.4
11	1.2	1.5	2.0	6.2	0.3
12	1.3	1.7	2.0	9.2	0.3
13	1.5	1.9	2.0	12.2	0.2
14	1.6	1.7	1.0	15.2	0.2
15	1.8	1.5	1.0	18.2	0.2

Explanation of columns:

- TL:** The Technology Level (TL) of the equipment.
- Power:** The power required to run the controls, in Mw.
- Volume:** The volume required of the installation, in displacement tons.
- Crew:** The number of crew members required to operate the system.
- Price:** The price, in MCr.
- Area:** The surface area required for antennas.

STANDARD SENSOR SYSTEMS

TL	Description	Min Hull	Power	Cost	Area	Volume	Crew	USP
9	Basic	100	2.2	13.5	45.0	1.1	1.3	A0 P2 J0
9	Improved	100	3.2	18.5	47.5	1.4	1.3	A0 P2 J0
9	Small Military	300	15.3	90.0	167.0	4.5	2.6	A2 P3 J1
9	Medium Military	2000	23.1	171.0	621.3	7.2	3.3	A4 P4 J2
10	Basic	100	15.2	9.4	14.0	0.3	0.9	A0 P2 J0
10	Improved	100	35.2	17.4	22.0	0.6	0.9	A0 P2 J0
10	Small Military	300	82.7	67.0	154.4	1.9	1.4	A4 P4 J0
10	Medium Military	2000	545.1	254.0	574.4	14.0	2.7	A16 P5 J8
11	Basic	100	15.1	8.2	10.0	0.3	0.6	A0 P2 J0
11	Improved	100	25.1	12.2	14.0	0.5	0.6	A1 P2 J0
11	Small Military	300	142.7	88.0	88.1	2.1	1.2	A10 P4 J4
11	Medium Military	2000	465.3	186.8	561.5	14.1	2.1	A16 P5 J16
12	Basic	100	11.1	6.8	12.4	0.3	0.4	A1 P3 J0
12	Improved	100	12.6	7.4	13.0	0.3	0.4	A2 P3 J0
12	Small Military	300	85.2	62.5	44.6	1.2	0.8	A10 P4 J10
12	Medium Military	2000	201.2	92.9	262.0	4.5	1.2	A16 P5 J16

Explanation of Columns:

TL: The Tech Level of the sensor system.

Description: A short description of the sensor.

Min Hull: The smallest hull that can mount the sensor, in displacement tons.

Power: The power required, in Mw.

Cost: The price, in MCr.

Area: The surface area required for the system's antennas.

Volume: The volume of the system, in displacement tons.

Crew: The number of crew members required to operate the system.

STANDARD COMMUNICATOR SYSTEMS

TL	Type	Volume	Power	Cost	Area	Crew
9	Basic	0.3	1.3	0.2	11.0	1.3
9	Improved	0.2	10.6	0.3	101.0	1.3
9	Advanced	0.1	21.5	2.0	203.0	2.6
10	Basic	0.2	1.3	0.2	11.0	0.9
10	Improved	0.2	10.6	0.3	101.0	0.9
10	Advanced	0.1	21.5	2.0	203.0	1.8
11	Basic	0.1	1.3	0.2	11.0	0.6
11	Improved	0.1	10.6	0.3	101.0	0.6
11	Advanced	0.0	21.5	2.0	203.0	1.2
12	Basic	0.0	1.3	0.2	11.0	0.4
12	Improved	0.0	10.6	0.3	101.0	0.4
12	Advanced	0.0	21.5	2.0	203.0	0.8

Explanation of Columns:

TL: The Tech Level of the system.

Type: A short description of the communicator.

Volume: The volume of the system, in displacement tons.

Power: The power required, in Mw.

Cost: The price, in MCr.

Area: The surface area required for the system's antennas.

Crew: The number of crew members required to operate the system.

STANDARD CIVILIAN LASER BATTERIES

TL	Wpns	Volume	Power	Area	Cost	USP
11	1	3.0	11.0	10.0	2.1	1-0-0-0
11	1	3.0	22.0	10.0	2.1	2-0-0-0
12	1	3.0	13.3	10.0	1.4	1-0-0-0
12	1	3.0	26.7	10.0	1.4	2-0-0-0
13	1	3.0	14.5	10.0	1.5	1-1-0-0
13	1	3.0	29.0	10.0	1.5	2-2-0-0
14	1	3.0	21.0	10.0	0.7	1-0-0-0
14	1	3.0	42.0	10.0	0.7	2-0-0-0
15	1	3.0	21.0	10.0	0.9	1-1-1-1
15	1	3.0	42.0	10.0	0.9	2-2-2-2

Explanation of Columns:

TL: The Tech Level of the laser battery.

Wpns: The number of weapons mounts in the battery.

Volume: The total volume in displacement tons, of the battery and all its control equipment.

Power: The total power required for the battery, in Mw.

Area: The total surface area required for the battery, in square meters.

Cost: The cost of the battery, in MCr.

USP: The USP damage ratings of the battery at a given range, proceeding from Very Short on to Short, Medium, and Long.

STANDARD HULL CONFIGURATIONS

Config	MaxG	Armor	Tons	Volume	Power	Cost	Area	Structure
Wedge S	2	10	100	94.1	27.3	4.4	708.0	6
Needle S	4	20	100	92.8	27.2	4.5	612.0	9
Wedge A	6	20	100	89.2	26.9	5.4	924.0	10
Disk S....	2	10	200	189.6	54.6	8.8	832.0	9
Box S	1	0	200	190.6	54.7	8.5	832.0	6
Cylinder S	4	20	200	187.8	54.5	8.8	760.0	11
Needle S	6	40	200	178.7	53.8	9.6	904.0	12
Disk S....	4	20	300	281.9	81.7	13.7	1120.0	12
Cylinder A	1	0	400	381.3	109.4	17.3	1684.0	9
Needle A	3	10	400	376.2	109.0	17.9	1996.0	12
Wedge U	6	40	400	358.5	107.7	17.8	1993.0	16
Slab S	4	20	500	469.3	136.2	21.9	1996.0	16
Cylinder S	2	10	600	570.8	164.0	25.7	1708.0	12
Open Frame U	1	0	700	666.6	191.4	28.9	1916.0	10
Disk A....	1	0	800	763.1	218.8	34.2	2931.2	11
Sphere U	2	60	800	724.2	215.9	36.7	2096.0	14
Sphere S	4	30	800	749.0	217.7	35.8	1856.0	18
Cylinder U	2	10	900	857.0	246.0	37.4	2498.0	15
Needle S	3	10	1000	947.8	273.0	43.1	2828.0	18
Needle A	6	20	1000	931.5	271.8	45.9	3701.6	23
Open Frame U	1	0	2000	1908.4	547.0	82.5	3710.0	16
Slab A....	4	30	2000	1855.6	543.1	95.1	6548.0	25
Clsd Structure U	2	10	3000	2859.6	820.3	123.9	6938.0	23
Box U	1	0	4000	3825.2	1094.6	164.9	7240.0	20
Wedge U	4	20	5000	4745.3	1365.6	208.2	10396.0	28

Explanation of Columns:

Config: The code for the ship's overall shape and degree of streamlining. (See explanations below.)

MaxG: The maximum Gs of maneuver acceleration for the hull configuration.

Armor: The USP armor rating of the hull.

Tons: The exterior volume of the hull, in standard displacement tons (ton = 14 cubic meters).

Volume: The remaining, usable interior volume of the hull, in tons.

Power: The power required to run the hull's systems (life-support and gravitics).

Cost: The cost of the hull and all its systems, in millions of credits (MCr).

Area: The remaining, usable surface area in square meters.

Structure: The USP structure rating of the hull.

The degree of streamlining is indicated by a code appended to the configuration. Unstreamlined hulls (code U) have no aerodynamic qualities. Such ships cannot enter an atmosphere without risk, and cannot skim gas giants for fuel. Streamlined ships (code S) have sleekly shaped hulls capable of high-speed travel through an atmosphere. Such ships may land on any world, and may skim for fuel. Airframe hulls (code A) have lifting surfaces added so that they can fly (or at least glide) and maneuver aerodynamically within an atmosphere. Airframe ships may land on any world, and may skim for fuel.

STANDARD JUMP DRIVES

Volume	Cost	Area	Crew	27	8.1	9.0	0.9	120	36.0	40.0	2.2
2	0.6	0.7	0.1	28	8.4	9.3	0.9	140	42.0	46.7	2.4
3	0.9	1.0	0.1	30	9.0	10.0	1.0	150	45.0	50.0	2.5
4	1.2	1.3	0.1	35	10.5	11.7	1.2	160	48.0	53.3	2.6
5	1.5	1.7	0.2	36	10.8	12.0	1.2	180	54.0	60.0	2.8
6	1.8	2.0	0.2	40	12.0	13.3	1.3	200	60.0	66.7	3.0
7	2.1	2.3	0.2	42	12.6	14.0	1.4	210	63.0	70.0	3.1
8	2.4	2.7	0.3	45	13.5	15.0	1.5	240	72.0	80.0	3.4
9	2.7	3.0	0.3	48	14.4	16.0	1.6	250	75.0	83.3	3.5
10	3.0	3.3	0.3	49	14.7	16.3	1.6	280	84.0	93.3	3.8
12	3.6	4.0	0.4	50	15.0	16.7	1.5	300	90.0	100.0	4.0
14	4.2	4.7	0.5	54	16.2	18.0	1.5	350	105.0	116.7	4.5
15	4.5	5.0	0.5	56	16.8	18.7	1.6				
16	4.8	5.3	0.5	60	18.0	20.0	1.6				
18	5.4	6.0	0.6	63	18.9	21.0	1.6				
20	6.0	6.7	0.7	70	21.0	23.3	1.7				
21	6.3	7.0	0.7	80	24.0	26.7	1.8				
24	7.2	8.0	0.8	90	27.0	30.0	1.9				
25	7.5	8.3	0.8	100	30.0	33.3	2.0				

Explanation of Columns:

Volume: The size of the drive, in tons.

Cost: The cost of the drive, in MCr.

Area: The surface area for the drive's jump grid, in square meters.

Crew: The number of crew required to operate the drive.

STANDARD HEPLAR DRIVES

Volume	Power	Cost	Area	Fuel	Crew
1	10	0.0	1	7.2	0.0
2	20	0.0	2	14.3	0.1
3	30	0.0	3	21.4	0.1
4	40	0.0	4	28.6	0.1
5	50	0.1	5	35.7	0.2
6	60	0.1	6	42.9	0.2
7	70	0.1	7	50.0	0.2
8	80	0.1	8	57.2	0.3
9	90	0.1	9	64.3	0.3
10	100	0.1	10	71.4	0.3
11	110	0.1	11	78.6	0.4
12	120	0.1	12	85.7	0.4
13	130	0.1	13	92.9	0.4
15	150	0.2	15	107.2	0.5
17	170	0.2	17	121.4	0.6
18	180	0.2	18	128.6	0.6
20	200	0.2	20	142.9	0.7
22	220	0.2	22	157.2	0.7
29	290	0.3	29	207.2	1.0
33	330	0.3	33	235.7	1.1
36	360	0.4	36	257.2	1.2
43	430	0.4	43	307.2	1.4
54	540	0.5	54	385.7	1.5
58	580	0.6	58	414.3	1.6
65	650	0.7	65	464.3	1.7
72	720	0.7	72	514.3	1.7
86	860	0.9	86	614.3	1.9
90	900	0.9	90	642.9	1.9
108	1080	1.1	108	771.4	2.1

Explanation of Columns:

Volume: The size of the drive, in tons.

Cost: The cost of the drive, in MCr.

Fuel: The amount of fuel (liquid hydrogen) in tons required to operate the drive for 20 hours.

Area: The surface area required for the drive's exhaust nozzles, in square meters.

Crew: The crew factor required to operate the drive. Multiply crew factor times volume for the number of crew.

Thrust Plate Drive Potential

Gs	1	2	3	4	5	6
100	2	4	6	8	9	11
200	4	8	11	15	18	22
300	6	11	17	22	27	33
400	8	15	22	29	36	43
500	9	18	27	36	45	54
600	11	22	33	43	54	65
700	13	25	38	50	63	75
800	15	29	43	58	72	86
900	17	33	49	65	81	97
1000	18	36	54	72	90	108
2000	36	72	108	143	179	215
3000	54	108	161	215	268	322
4000	72	143	215	286	358	429
5000	90	179	268	358	447	536

MILITARY MISSILE LAUNCHERS

TL	Missiles	Volume	Power	Cost	Area	Mount
8	2	3	0.2	0.1	10	Turret
8	5	6	0.2	0.1	20	Barbette

Explanation of Columns:

TL: The Tech Level when the launcher system is introduced.

Missiles: The number of missiles in ready storage.

Volume: The volume of the system, in displacement tons.

Power: The power required, in Mw.

Cost: The price, in MCr.

Area: The surface area required for the system's antennas.

HEPLAR DRIVE POTENTIAL

Hull	Maneuver Gs					
	1	2	3	4	5	6
100	1	1	2	2	2	3
200	1	2	3	3	4	5
300	2	3	4	5	6	7
400	2	3	5	6	8	9
500	2	4	6	8	9	11
600	3	5	7	9	11	13
700	3	5	8	10	13	15
800	3	6	9	12	15	18
900	4	7	10	13	17	20
1000	4	8	11	15	18	22
2000	8	15	22	29	36	43
3000	11	22	33	43	54	65
4000	15	29	43	58	72	86
5000	18	36	54	72	90	108

MASTER FIRE DIRECTORS

TL	Control	Volume	Power	Area	Cost
9	2	3.1	15.2	7.0	36.1
10	3	3.9	13.4	6.2	48.1
11	3	2.9	6.4	3.4	34.1
12	4	2.3	3.1	2.1	25.6
13	4	2.3	3.1	2.1	25.6
14	5	1.6	1.8	1.6	15.1
15	6	1.1	1.7	1.6	9.1

Explanation of Columns:

TL: The Tech Level of the Master Fire Director

Control: The control rating of the MFD; the number of missiles it can control in flight at once.

Volume: The volume of the MFD and its sensors and communicators, in tons.

Power: The power required in Mw.

Area: The surface area required for the MFD's antennas.

Cost: The cost of the MFD, in millions of credits (MCr).



Under the watchful eyes of Imperial agents, the free-trader crew is ushered past a strange portal. Within the portal's depths, the shifting pattern of jump space can be viewed. Could this be some sort of ancient teleporter?

STANDARD MILITARY LASER BATTERIES

TL	Wpns	Volume	Power	Area	Price	USP	TL	Wpns	Volume	Power	Area	Price	USP
11	1	5.9	28.4	13.4	36.1	2-0-0-0	12	4	26.3	269.8	82.1	37.6	5-5-3-2
11	2	8.9	50.4	23.4	38.2	3-0-0-0	12	5	32.3	336.4	102.1	40.6	6-5-3-2
11	4	14.9	94.4	43.4	42.4	4-0-0-0	12	6	38.3	403.1	122.1	43.6	7-6-4-3
11	6	20.9	138.4	63.4	46.5	5-0-0-0	12	7	44.3	469.8	142.1	46.6	8-7-4-3
11	8	26.9	182.4	83.4	50.7	6-0-0-0	12	8	50.3	536.4	162.1	49.6	9-7-5-3
11	10	32.9	226.4	103.4	54.9	7-0-0-0	12	9	56.3	603.1	182.1	52.6	9-8-5-3
11	1	12.9	74.4	23.4	45.5	2-2-0-0	12	10	62.3	669.8	202.1	55.6	9-9-5-3
11	2	22.9	142.5	43.4	57.0	3-3-2-0	13	1	5.3	32.1	12.1	27.0	2-2-0-0
11	3	32.9	210.6	63.4	68.4	4-3-2-2	13	2	8.3	61.1	22.1	28.5	3-3-2-0
11	4	42.9	278.6	83.4	79.9	5-4-3-2	13	4	14.3	119.1	42.1	31.4	4-4-3-0
11	5	52.9	346.7	103.4	91.4	6-5-3-2	13	6	20.3	177.1	62.1	34.3	5-5-3-0
11	6	62.9	414.7	123.4	102.8	7-5-3-3	13	8	26.3	235.1	82.1	37.2	7-6-4-0
11	7	72.9	482.8	143.4	114.3	8-6-4-3	13	10	32.3	293.1	102.1	40.1	8-7-4-2
11	8	82.9	550.9	163.4	125.7	9-7-4-3	14	1	4.6	43.8	11.6	15.8	2-0-0-0
11	9	92.9	618.9	183.4	137.2	9-7-4-3	15	1	4.1	43.7	11.6	9.9	2-2-2-2
11	10	102.9	687.0	203.4	148.7	9-5-3-12	15	10	31.1	421.7	101.6	17.7	9-9-9-9
12	1	5.3	29.8	12.1	27.0	2-0-0-0	Explanation of Columns:						
12	2	8.3	56.4	22.1	28.4	3-2-0-0	TL: The Tech Level of the laser battery.						
12	4	14.3	109.8	42.1	31.3	4-3-2-0	Wpns: The number of weapon mounts in the battery.						
12	6	20.3	163.1	62.1	34.2	5-3-3-0	Volume: The total volume in displacement tons.						
12	8	26.3	216.4	82.1	37.1	6-4-3-2	Power: The total power required for the battery, in Mw.						
12	10	32.3	269.8	102.1	40.0	7-5-3-2	Area: The total surface area for the battery, in meters ² .						
12	1	8.3	69.8	22.1	28.6	2-2-0-0	Cost: The cost of the battery, in MCr.						
12	2	14.3	136.4	42.1	31.6	3-3-2-0	USP: The USP damage ratings of the battery when it is used in combat.						
12	3	20.3	203.1	62.1	34.6	4-4-3-2							

MILITARY BAY WEAPONS

TL	Type	Vol	Area	Pwr	Cst	Crw	USP
9	PA-Gun	200	24.9	1125.0	156.3	2.9	5-4-3-0
11	PA-Gun	100	16.0	2281.9	126.2	2.7	7-6-5-0
10	Laser	50	91.6	125.0	104.0	1.0	2-0-0-0
12	Laser	50	91.6	1336.4	98.1	1.0	6-6-6-5
12	PA-Gun	100	14.7	2278.7	118.6	1.8	9-7-6-5
12	Meson Gun	125	10.2	27.8	147.0	5.0	3-2-0-0

Explanation of Columns:

- TL:** The Tech Level of the weapon battery.
- Type:** The weapon type.
- Vol:** The total volume in displacement tons
- Pwr:** The total power required for the battery, in Mw.
- Area:** The surface area required, in square meters.
- Cst:** The cost of the battery, in MCr.
- Crw:** The crew needed to operate the battery.
- USP:** The USP damage of battery when in combat

SANDCASTERS

TL	Volume	Power	Area	Cost	Volleys
9	3	1	10	0.7	18
10	3	1	10	0.7	20
11	3	1	10	0.8	24
12	3	1	10	0.8	30
13	3	1	10	0.9	35
14	3	1	10	0.9	40
15	3	1	10	1.0	50

Explanation of Columns:

- TL:** The Tech Level of the sandcaster.
- Volume:** The volume in tons of the sandcaster.
- Power:** The power required per sandcaster, in Mw.
- Area:** The hull surface area required per sandcaster.
- Cost:** The cost of the sandcaster, in MCr.
- Volleys:** The number of volleys (shots) in the sandcaster's ready storage.

STANDARD MESON SCREENS

Pwr	Vol	Area	Cost	Crew	PV*	PV**
1	1.4	10	2	0.0	2	1
3	4.3	30	6	0.1	3	2
6	8.6	60	12	0.3	4	3
12	17.1	120	24	0.5	5	4
21	30.0	210	42	1.0	6	5
32	45.7	320	64	1.5	7	6
50	71.4	500	100	2.3	8	7
72	102.9	720	144	3.3	9	8
128	182.9	1280	256	5.8	10	9
225	321.4	2250	450	10.3	11	10
450	642.9	4500	900	20.5	12	11
800	1142.9	8000	1600	36.5	13	12
900	1285.7	9000	1800	41.0	14	12
1225	1750.0	12250	2450	55.9	15	12

Explanation of Columns:

- Pwr:** The power required for the screen, in Mw.
- Vol:** The volume of the screen generator, in displacement tons.
- Area:** The area of the screen's emitters.
- Cost:** The cost of the screen, in MCr.
- Crew:** The number of crew members required to operate the screen
- PV*(100+):** The screen's USP protection value for 100-999 ton ships.
- PV**(1000+):** The screen's USP protection value for 1000-9999 ton ships.

SMALL CRAFT EXTERNAL GRAPPLES

Unstreamlined Hulls

Craft Hull	Volume	Area	Cost
10	1	441	0.0
20	2	576	0.0
30	3	762	0.1
40	4	974	0.1
50	5	1129	0.1
60	6	1212	0.1
70	7	1407	0.1
80	8	1569	0.1
90	9	1665	0.1

Streamlined Hulls

10	3	441	0.1
20	6	576	0.2
30	9	762	0.3
40	12	974	0.3
50	15	1129	0.4
60	18	1212	0.5
70	21	1407	0.6
80	24	1569	0.7
90	27	1665	0.8

Airframe Hulls

10	5	441	0.2
20	10	576	0.4
30	15	762	0.6
40	20	974	0.8
50	25	1129	1.1
60	30	1212	1.3
70	35	1407	1.5
80	40	1569	1.7
90	45	1665	1.9

Explanation of Columns:

Craft Hull: The hull size in displacement tons, of the small craft carried.

Volume: The volume, in displacement tons, of the grapple equipment.

Area: The surface area required for the grapple and craft.

Cost: The cost of the grapple, in MCr.

SHOPS AND LABS

Type	Volume	Cst	Power
Engineering shop	6	1	0.6
<i>Notes:</i> 1 shop per 20 engineering crew			
Vehicle shop	10	2	1
<i>Notes:</i> 1 shop per 20 vehicle or small-craft crew			
Laboratory	8	5	0.8
<i>Notes:</i> 1 laboratory per 2 scientists			
2-Patient sickbay	8	5	0.8
<i>Notes:</i> 1 sickbay per 2 potential patients			

Explanation of Columns:

Type: The type of facility.

Volume: The volume in displacement tons.

Cost: The cost of fully equipped shop or lab, in MCr.

Power: The power to run the shop or lab, in Mw.

STANDARD FUEL PURIFICATION PLANTS

TL	Capacity	Volume	Power	Price
9	10	36	7.6	0.2
9	20	72	15.1	0.3
9	50	180	37.8	0.8
10	10	33	6.7	0.2
10	20	66	13.4	0.3
10	50	165	33.6	0.8
11	10	27	5.9	0.1
11	20	54	11.8	0.3
11	50	135	29.4	0.7
12	10	24	5.0	0.1
12	20	48	10.1	0.3
12	50	120	25.2	0.7
13	10	21	4.2	0.1
13	20	42	8.4	0.3
13	50	105	21.0	0.6

Explanation of Columns:

TL: The Tech Level of the plant.

Capacity: The amount of fuel processed by the plant, in tons per hour.

Volume: The volume of the plant, in displacement tons.

Power: The power to operate the plant, in Mw.

Cost: The cost of the plant, in MCr.

STANDARD NUCLEAR DAMPERS

TL	Volume	Cost	Power	Area	Mount	USP
12	6	2.0	15	20	Barbette	Number of barbettes
13	6	2.7	9	20	Barbette	Number of barbettes
14	6	4.0	6	20	Barbette	Number of barbettes
15	3	4.5	3	10	Turret	Number of turrets

Explanation of Columns:

TL: The Tech Level of the damper installation.

Volume: The volume required per damper in displacement tons.

Cost: The cost per damper in MCr.

Power: The power required per damper in Mw.

Area: The hull surface area required per damper, in square meters.

Mount: The type of installation.

USP: The USP protection value for the nuclear damper.

WORKSTATIONS

TL	Volume	Cost
9	0.5	0.0010
10	0.5	0.0015
12	0.5	0.0020

Explanation of Columns:

TL: The Tech Level of introduction of workstation.

Volume: The volume of workstation, in tons

Cost: The cost of each workstation, in MCr.

Standard Power Plants

TL	Power	Volume	Cost	Area	Fuel	Crew
12	10	0.4	1.0	10	0.1	0.0
12	20	0.7	2.0	20	0.1	0.0
12	50	1.8	5.0	50	0.3	0.1
12	75	2.7	7.5	75	0.4	0.1
12	100	3.6	10.0	100	0.5	0.1
12	200	7.1	20.0	200	1.1	0.2
12	500	17.9	50.0	500	2.7	0.6
11	500	17.9	50.0	500	2.7	0.6
12	750	26.8	75.0	750	4.0	0.9
11	750	26.8	75.0	750	4.0	0.9
12	1000	35.7	100.0	1000	5.4	1.2
11	1000	35.7	100.0	1000	5.4	1.2
10	1000	35.7	100.0	1000	5.4	1.2
12	2000	71.4	200.0	2000	10.7	1.7
11	2000	71.4	200.0	2000	10.7	1.7
10	2000	71.4	200.0	2000	10.7	1.7
9	2000	71.4	200.0	2000	10.7	1.7
12	3000	107.1	300.0	3000	16.1	2.1
11	3000	107.1	300.0	3000	16.1	2.1
10	3000	107.1	300.0	3000	16.1	2.1
9	3000	107.1	300.0	3000	16.1	2.1

Explanation of Columns:

TL: The earliest TL at which the plant can be produced.

Power: The power (in Mw) output by the plant.

Volume: The volume, in displacement tons, of the plant.

Area: The surface area for plant's thermal radiators.

Cost: The price of the plant, in MCr.

Fuel: The fuel (liquid hydrogen) volume in tons required to run the plant for a year.

Crew: The engineering crew required to run the plant.

SMALL CRAFT HANGARS AND LAUNCH PORT

Craft Hull	Minimal Hangar			Spacious Hangar		
	Volume	Area	Price	Volume	Area	Price
10	20	49	0.1	40	49	0.2
20	40	64	0.2	80	64	0.3
30	60	85	0.3	120	85	0.4
40	80	109	0.3	160	109	0.6
50	100	126	0.4	200	126	0.7
60	120	135	0.5	240	135	0.8
70	140	157	0.6	280	157	0.9
80	160	175	0.6	320	175	1.1
90	180	185	0.7	360	185	1.2

Explanation of Columns:

Craft Hull: The hull size, in displacement tons, occupied by the hangar.

Minimal Hangar: A hangar that provides no room to perform maintenance and repairs.

Spacious Hangar: A large hangar, with enough room for service crews to work.

Volume: The volume, in displacement tons, occupied by the hangar.

Area: The surface area, in square meters, required for the launch port.

Cost: The cost of the hangar, in MCr.

QUARTERS

Type	Volume	Power	Cost
Bunk	1	0.0000	0.005
Small Stateroom	2	0.0005	0.040
Large Stateroom	4	0.0010	0.100
Low Berth	1	0.0010	0.050
Emergency L. Berth	2	0.0020	0.100

Explanation of Columns:

Type: The type of the quarters.

Volume: The amount of space, in displacement tons, required by quarters for one person.

Power: The power required, per person, in Mw.

Cost: The cost of quarters for one person, in MCr.

SIZE RATING TABLE

Hull	USP Size
< 1	5
1 +	6
10 +	7
100 +	8
1000 +	9
10000 +	10
100000 +	11
1000000 +	12

FIRE CONTROL RATING

TL	FCR
9	2
10	3
11	3
12	4
13	4
14	5
15	6

SHIP REVENUES

Per High Passage	Cr10,000
Per Middle Passage	Cr8,000
Per Low Passage	Cr1,000
Per Cargo Ton	Cr1,000
Mail (if fitted)	Cr25,000

PASSENGERS TABLE

World Population Digit	Available at Sourceworld		
	High	Middle	Low
0	—	—	—
1	—	1D-2	2D-6
2	1D-1D	1D	2D
3	2D-2D	2D-1D	2D
4	2D-1D	2D-1D	3D-1D
5	2D-1D	3D-2D	3D-1D
6	3D-2D	3D-2D	3D
7	3D-2D	3D-1D	3D
8	3D-1D	3D-1D	4D
9	3D-1D	3D	5D
A	3D	4D	6D

DMs for Marketworld:

If Population 4-, -3.

If Population 8+, +3.

If Red Zone, -12. No middle or low passengers.

If Amber Zone, -6.

Tech Level: Add (or subtract) difference between sourceworld and marketworld tech levels.

Skills: DM +Carousing for High. DM +Admin for Middle. DM +Streetwise for Low.

CARGO TABLE

World Population Digit	Major	Available at Sourceworld	
		Minor	Incidental
0	—	—	—
1	1D-4	1D-4	—
2	1D-2	1D-1	—
3	1D-1	1D	—
4	1D	1D+1	—
5	1D+1	1D+2	—
6	1D+2	1D+3	1D-3
7	1D+3	1D+4	1D-3
8	1D+4	1D+5	1D-2
9	1D+5	1D+6	1D-2
A	1D+6	1D+7	1D

DM for Market World:

If Population 4-, -3.

If Population 8+, +1.

If Red Zone, no freight.

If Amber Zone, no major freight.

Tech Level: Add (or subtract) difference between sourceworld and marketworld tech levels.

Availability: Roll once per week. Unused cargos do not accumulate.

TRAVEL FORMULAE

$$T = 2\sqrt{D/A}$$

$$D = AT^2/4$$

$$A = 4D/T^2$$

T = TIME, D = DISTANCE, A = ACCELERATION

All the Formulae use **MKS** (Meters, Kilograms, Seconds). unit system.

TYPICAL DISTANCES

World Surface to Orbit	10,000 km
Satellite	400,000 km
Close Neighbor World	45,000,000 km
Far Neighbor World	255,000,000 km
Close Gas Giant	600,000,000 km
Far Gas Giant	900,000,000 km

CREW SALARIES

Position	Minimum Skill Level	Monthly Salary
Pilot	Pilot-1 ..	Cr6,000
Navigator	Astrogation-1	Cr5,000
Engineer	Engineer-1	Cr4,000
Medic	Medic-1	Cr2,000
Gunner	Gunner-1	Cr1,000

Crew members who have skill levels greater than that shown are generally paid an additional 10% per skill level greater than 1.

Working Passage: Maximum three jumps at no salary but room and board. Must have requisite skill for position.

MALFUNCTIONS

Drive Failure: Roll 2- per week of operation, with the following DMs.

Using unrefined fuel	+1
Per missing required engineer	+1
Per month past annual maintenance date, if not performed	+1

Misjump: Roll 2- each time a ship jumps, with the following DMs.

Within 100 diameters of world	+5
Within 10 diameters of world	+10
Using unrefined fuel	+1
If naval ship	-1
If scout ship	--2



Starships are of great use in travelling from star system to star system, and grav vehicles are the most common form of transportation on Imperial core worlds. But for Imperial survey teams on primitive worlds, wheeled all-terrain vehicles are the prime choice for ground transportation.

The concept of space travel is vital to **Traveller**, if only because it allows adventurers to move from place to exotic place in search of new, interesting, rewarding, or important activities. Space travel can be of two types: interplanetary travel between worlds within a star system, and interstellar travel between star systems. Starships and spacecraft are the carriers of goods, cargos, and passengers. Individual passages may be purchased, the ships may be hired or chartered, and for the very rich, ships may be purchased.

Interplanetary Travel

Worlds orbiting the same star are accessible by interplanetary travel on ships operated by local entrepreneurs, or with a variety of small craft. Since most stellar systems have only one major world, interplanetary travel is infrequent. The travel formulae can be used to determine time required (if distance and acceleration are known), acceleration required (if distance and time are known), or distance travelled (if time and acceleration are known). All of the formulae use the MKS (meters, kilograms, seconds) unit system, and assume that the ship undertakes a journey from rest, accelerates continuously to the midpoint of the trip, and then decelerates to rest again.

Interstellar Travel

Worlds orbiting different stars are reached by interstellar travel using the jump drive. Once a starship moves to a safe distance from a world or star (usually 100 planetary diameters), it may activate its jump drive. Jump drives are rated from 1 to 6—the number of parsecs that can be travelled in one jump. Making any jump takes about one week, regardless of the distance travelled. Transit time to 100 diameters from a size 8 world takes 5 hours at 1G. Commercial starships usually make two jumps per month. They spend one week in jump, followed by one week in the star system, travelling from the jump point to the local world, refueling, selling cargo, finding passengers, leaving the starport, and proceeding to a jump point again. Non-commercial ships usually follow the same schedule of one week in jump and one week in a system. If haste is called for, a ship may refuel immediately and re-jump right away. This allows the ship to make one jump per week, but makes no provision for cargo, passengers, or local stops. Interstellar travel is priced on the basis of accommodations, and covers a trip from starport to starport, encompassing one jump, regardless of length.

There are four types of passage:

High Passage: The best method of travel is called high passage, which involves first-class accommodations and cuisine. High passengers have the services of the ship's steward, entertainment, and complete attention to their comfort. High passage costs Cr10,000.

Middle Passage: In order for starships to fill their staterooms with passengers, middle passage is offered on a standby basis, in the event that not enough high passages are sold. While middle passengers occupy staterooms normally similar to those occupied by high passengers, they do not receive the service or entertainment accorded the higher paying passengers. In addition, the quality of the cuisine is below that of high passage. A middle passenger may be "bumped" and the stateroom taken by a late-arriving high passenger. The middle passenger's ticket is returned, but no other compensation is made. Middle passage costs Cr8,000.

TRAVEL FORMULAE

$$T = 2\sqrt{D/A}$$

$$D = AT^2/4$$

$$A = 4D/T^2$$

T= TIME, D= DISTANCE, A= ACCELERATION

All the Formulae use **MKS** (Meters, Kilograms, Seconds). unit system.

Working Passage: A starship captain with a crew shortage may hire an individual to fill the vacant position, paying not money but passage in return. Working passage usually does not continue for more than three jumps, or the individual is considered to have been hired for standard salary. In order to be employed for working passage, the individual must have some expertise in the position for which he or she is hired (Jack-of-All-Trades skill may be substituted if necessary).

Low Passage: Transportation while in cold sleep (suspended animation) is possible at relatively low cost to the passenger. The passenger is placed in a low-passage berth before the ship takes off, and travels the entire journey in a state of suspended animation. He does not age, and requires very little life-support. Unfortunately, the low-passage system involves some intrinsic dangers to the passenger, and he runs some risk of not surviving the voyage. Roll 9– for each passenger when he is revived after the ship has landed, with +1 DM for attending medic of expertise 2 or better, and –1DM for low passenger with an Endurance of 6 or less. Failing the roll results in death for the passenger. A player character who travels low passage and survives should keep records on the discrepancy between his chronological age and physical age, as a character does not age physically while in low passage. Low passage costs Cr1,000.

Stowaways: Stowing away on a starship is a fifth form of passage, and the least advisable. Sneaking aboard a starship in order to gain passage to the next world is illegal, if only because it operates to the detriment of the starship owner's economic standing. It is also often a violation of various customs regulations. Roll 10– per day for a stowaway to be discovered. Various elaborate schemes may modify this roll, based on the referee's judgment. Upon discovery, the stowaway must roll for the starship captain's reaction. Reactions of 8+ will result in spacing—the stowaway is forced out the air lock without a vac suit. Otherwise, reactions are determined by the referee.

Lesser Known Aspects of Space Travel

As interstellar travel has developed, the field has developed its own dangers and customs. The following are just a few.

The Low Lottery: It is customary for the captain to contribute Cr10 for each low passage towards a lottery adminis

tered by the ship's steward. Each low passenger guesses the number of low passengers who will survive the trip. If the winner does not himself survive, the captain receives the money. Since low passengers are typically without funds (who would travel low if there were any other choice?), the low lottery provides some chance for the individual to have funds upon arrival at the destination.

The Travellers' Aid Society: Individuals who have decided that they wish to pursue a life of travel and adventure may elect to join the Travellers' Aid Society to take advantage of its facilities and passage dividends. Members of the Travellers' Aid Society receive, as a dividend of membership, one high passage every two months. The high passage may be used, retained for later use, or sold for 90% of its cash value. Membership in the Travellers' Aid Society may be acquired as a mustering-out benefit using the benefits tables in the navy and marine careers. Membership may also be purchased at a cost of Cr1,000,000. Upon application for membership, the individual is evaluated by a membership committee (roll 10- to be found suitable). Only one application per person is allowed. Membership is for the life of the character, and is not transferable.

Hijacking: Starships can be easy prey for hijackers. Starship crews maintain a constant guard against hijackers, and the ship's computer can run an anti-hijacking program that denies to potential hijackers access to controlled areas. Passengers are required to check all weapons (including blades and daggers) into the ship's locker, to be returned only at the end of the voyage. Nevertheless, there is a chance of an attempted hijacking, for ransom or to steal the multi-million-credit vessel. A hijacking attempt occurs on a roll of 18+ on 3D6 (this roll does not apply if all passengers are player characters). When a hijacking occurs, randomly determine the number of hijackers and their identities, characteristics, and weapons, and implement their attempt at some point during the voyage. They will gain complete control of the ship only after defeating all other individuals on the ship. If the anti-hijacking program is functioning, the hijackers will be able to enter the bridge (gaining access to the controls) only on a roll of 5-. The results of hijacking range from marooning passengers on uninhabited worlds to spacing and death.

Skipping: Most starships are purchased on credit, and the monthly payments required against the multi-million credit debt are staggering. The owner or captain may decide to steal the ship himself instead of remaining under that load. Passengers have no way themselves of determining if a specific ship is in such a status. A roll of 12+ means that a commercial ship is a "skipper." Skipped ships are subject to repossession attempts if detected by the authorities. Such attempts range from serving legal injunctions to sending armed boarding parties. On each world landing, roll 2- to avoid a repossession attempt, with a DM of +1 per 5 parsecs distance from the ship's home planet, to a maximum of +9. If the ship has called on the same world twice within the last two months, apply a DM of -2.

Piracy: A starship may be attacked by pirates while entering or leaving a system. Similar encounters may involve customs agents or military vessels, including blockades.

Gas Giants: Most star systems include in their family of planets one or more gas giants—large worlds with hydrogen or

methane atmospheres. These gas giants are a valuable source of fuel for starships. In order to refuel from a gas giant, a ship must move into orbit around it, and then dive deep into its atmosphere with open fuel scoops. The procedure (called skimming) takes approximately eight hours, and results in fuel tanks loaded with unrefined fuel.

Ocean Refueling: Ships can refuel from the water oceans of any world with a non-zero hydrographic percentage. The process calls for the ship to land in or near an ocean and then fill its tanks with unrefined fuel from the local water supply. It takes approximately four hours.

Starship Malfunctions

The two major starship malfunctions are drive failure and misjump, primarily caused by unrefined fuel and lack of maintenance.

Refined fuel is available at starports at about Cr500 per ton, and unrefined fuel at about Cr100 per ton (or can be skimmed from gas giants for free). In addition, water can be taken from oceans or lakes (if there are any on the world) and used as unrefined fuel. Military and quasi-military starships often use unrefined fuel because of convenience, and because their drives are specially built to use it. Commercial ships sometimes use unrefined fuel because it is cheaper.

Starships require constant maintenance, and an annual overhaul to keep them in top shape. Underfunded ships usually do not carry enough dedicated or full-time skilled engineers, so they avoid or delay their annual maintenance and run a higher risk of malfunction.

Drive Failure: Each week, roll 2- for drive failure, with the following DMs: +1 if using unrefined fuel when not equipped to do so, +1 per engineer absent on the crew list, +1 per week past annual overhaul date. If a malfunction occurs, then roll 7- for each drive in use (jump, maneuver, power plant) to determine which actually fail (if any). Failed drives cease operation completely: Maneuver drives will no longer thrust, jump drives will fail and indicate that they cannot support jump, and power plants stop delivering power. Batteries will provide life-support and basic lighting for 1D days. Roll 4- per day spent on repairs to fix them temporarily, with DM+ Engineering skill of attending engineers. More complete repairs must be made at a starport by qualified personnel.

Misjump: Each time the ship engages in a jump, roll 2- for a misjump. Apply the following DMs: +1 if using unrefined fuel when not equipped to do so, +5 if within 100 planetary diameters of a world or star. The ship is destroyed if jumped within 10 planetary diameters of a world or star. A misjump is an unpredictable random jump. Roll one die, then roll that number of dice to determine the distance of the misjump in hexes, followed by another one-die roll to determine the direction of the misjump (one of the six directions possible on the hex grid). Finally, roll one die to determine the number of weeks spent in jump space before the ship reemerges at its new location. Upon emerging from misjump, the challenge of reorientation and travelling to an inhabited world becomes top priority.

Space combat is expensive. The cost of preparation, ammunition, and the impending ship repair can easily run into megacredits. Space combat is also intense. The volley between two fleets and the many skirmishes between individual ships in the forces all require decisions, concentration, and skills—any of which can easily be the last thing a character will do...

The Basic Ship Combat System

This combat system uses the Universal Ship Profiles provided in the starship section of Chapter 8. Combat conducted with these rules may be one-sided (the referee manipulates the opposition) or two-sided (with opposing players controlling their own squadrons on each side).

Required Materials: In addition to these rules and six-sided dice, the following materials are required for each ship involved:

- A map. As with ground combat, this can use range bands, or a square or hexagonal grid.
- A Universal Ship Profile for each ship. This description provides the data for the ship to use in combat.
- A marker for each ship in the combat. This marker indicates the ship's position.

Scale: The **Traveller** space combat system uses the following scales:

- Distance is represented by four indeterminate ranges of Very Short, Short, Medium, and Long (they do not measure actual distances as in ground combat, but are used as designations). Unless the referee decides otherwise, all combats begin at Medium range.
- Time is represented by turns equal to ten minutes each.
- Units represented are individual ships, and fighters.

Step 1: Task Force Assembly

Assign ships to task forces. Once assigned, these task forces cannot be changed. If subcraft (ship's boats, fighters, etc.) are launched, then assembled them into their own task force at the time of launch. Both sides divide their ships in every task force into two lines each. The first is the line of battle, and the second is the reserve. Ships in the line of battle may fire and be fired upon. Ships in the reserve are screened — they may not fire and may not be fired upon unless their defending line of battle is broken (see Step 9: Breakthrough).

Step 2: Initiative

The side with the fewest ships (subtract both the highest Leadership skill and highest G rating per side from the number of ships) has the initiative. In a tie, the player will go first in one-sided battles. Otherwise, roll 1D6 with the highest roll acting.

Step 3: Range

The side with the initiative can change range by one band. Task forces cannot go beyond Long range unless they break off.

If an entire task force consists of ships under 50 tons, it can close to Very Short range and all ships in the task force may use point-defense weapons. This is known as fighter strafing.

Step 4: Break Off

There are two ways for a ship to break off from the battle: by jumping out of the system or by accelerating away from the enemy. Ships may attempt to break off one at a time or in groups.

Jumping: A ship that breaks off by jumping must have a destination and enough fuel to get there. It must expend energy points equal to two turns' output from a power plant whose number is equal to the jump being attempted (EP required = 0.01 MJn). If it can do this within two turns, it jumps at the end of two turns. If it can do this in one turn or less, it jumps at the end of one turn (in the pursuit step). A ship that cannot summon the required energy in two turns may not jump at all. (For instance, if a ship with power plant 8 attempts jump 5, it takes two turns; if it attempts jump 4 or less, it takes only one turn.) Energy used to power the jump may not be used for other purposes. Ships may jump from the line of battle or from the reserve, and they may jump at any range of engagement.

Acceleration: A ship that breaks off by acceleration must start the turn at Long range. It automatically escapes at the end of Step Ten if it is not pursued. A ship may break off from the line of battle or from the reserve.

Step 5: Sensor Action

The player attempting detection declares which ship is sensing and announces to the target player the type of sensor being used, either active or passive.

The target ship may try to jam the detecting ship. If so, then the target's sensor rating is used as a negative DM to the lock attempt. Only one jam may be attempted per ship per turn. If a ship has been locked by a sensor, it may attempt to jam in subsequent turns, forcing the sensing ship to roll the task again.

If the target ship is masking, then an additional DM of -3 is applied. Player characters' Sensor skill levels may be applied as well. The referee may generate Sensor skill for NPCs if desired.

If the lock is successful, the detecting ship is ready to fire on the target ship. Once a lock is successful, it need not be rolled again for the duration of the combat, unless the target attempts to jam again.

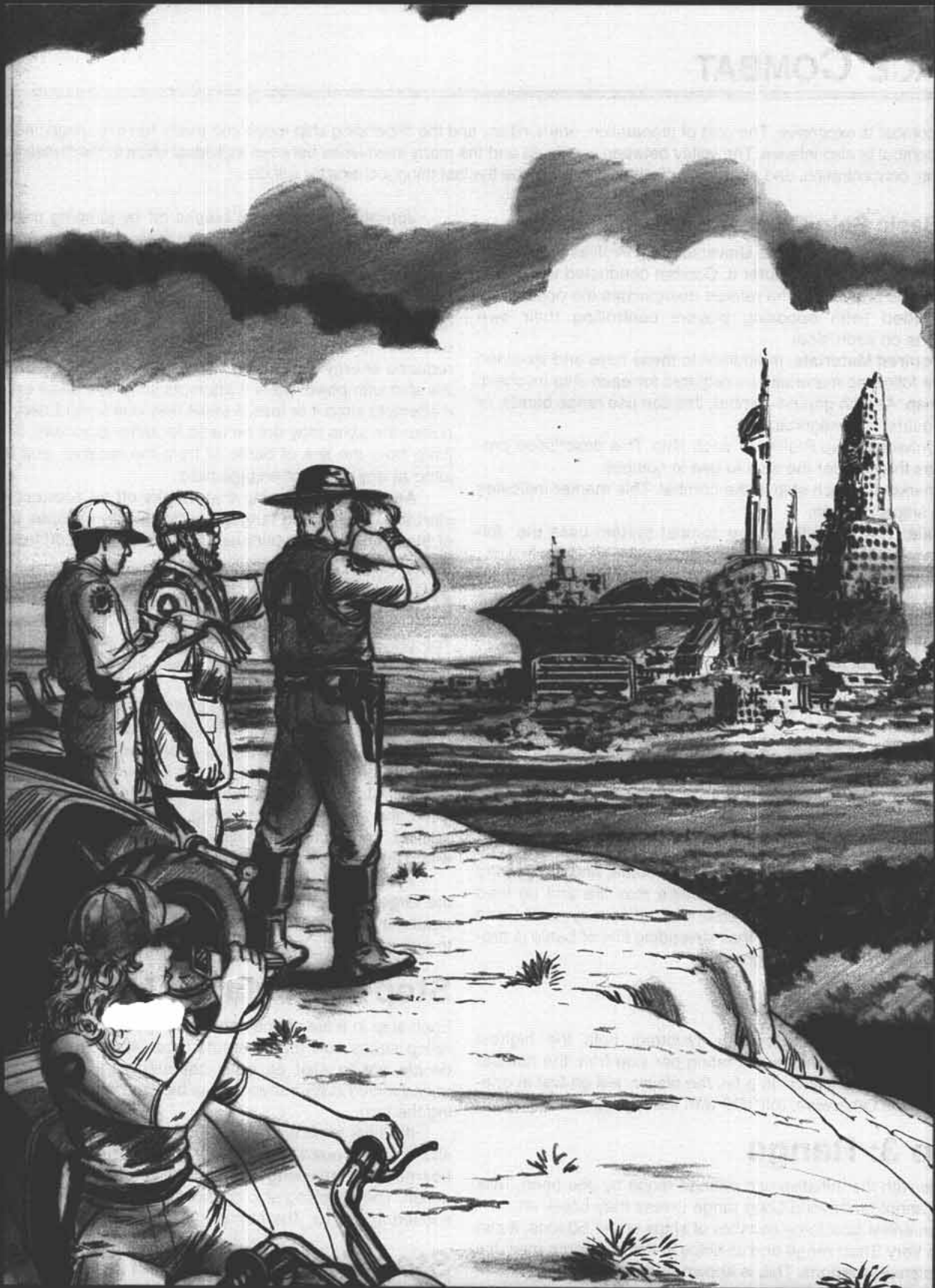
Step 6: Declare Fire

Each ship in a task force declares targets. The ship's fire control rating states how many targets it can lock on to. A player may decide not to allot all laser batteries to firing, however. Any uncommitted laser batteries may be used in missile defense during the turn.

If a task force is at Very Short range, and the enemy target ship has no operable weapons or maneuver drive, it can be boarded. The attacking ship declares that it is initiating boarding action. The attacking ship cannot fire this turn, but may do so on subsequent turns. The boarding is handled as ground combat.

Step 7: Weapon Fire

All declared fire for a ship is carried out per battery. Each battery rolls to see if it hits. If it does hit, then the defender may attempt to use screens to reduce the damage inflicted. All remaining damage is applied to the ship's armor or structure, and surface or interior explosions damage are calculated.



One of the major missions of the Imperial Scout Service is the exploration of previously inhabited worlds. It is often dangerous work. Civilizations do not just pick up and leave their homeworlds, and any situation that can destroy an entire population is a force to be reckoned with.

Difficulty modifiers include the target's G rating and attacker's fire control rating. Subtract the target's G rating from the target number, and add the attacker's fire control rating to the target number. Player characters' Gunnery skill levels may be applied as well. The referee may generate Gunnery skill for NPCs if desired.

If a ship has a weapon battery with only a Very Short range value (all other values are 0), it has a point-defense weapon. The weapon can be fired only at incoming missiles, attacking strafing fighters, or ships that are at point-blank distance.

Missiles

Missiles are fired by battery as salvos of missiles. The Universal Ship Profile lists missile batteries with two numbers. The first is the maximum size of a salvo. The second number is the maximum number of missiles carried by the ship for that battery. If fired at Very Short range, each salvo rolls to hit as any other weapon at that range would. If fired at Short, Medium, or Long range, then they must first travel to their targets. Missile salvos are tracked independently. Each turn, missiles move closer to their targets by one range band. When they move to Very Short range, they attack the ship, rolling to hit as any other weapon at Very Short range would. Screens and laser fire may be used against successful missile attacks at Very Short range.

Laser batteries that were not declared for offensive fire may intercept missiles that have rolled to hit successfully. Total all missiles scoring hits against the ship from all salvos. Lasers fire at missiles at Very Short range, with a target number of 4 (target size 10 minus 6G acceleration) plus firer's fire control rating. The amount of damage done equals the number of missiles destroyed before impact. Each conventional missile does 1 point of damage and each nuclear missile (whether explosive or laser generating) does 2 points of damage.

Screens

Sandcasters: Sandcasters can be used only against laser, particle accelerator and missile hits. A successful sandcaster hit on a laser or particle accelerator reduces its damage by 1 for each sandcaster fired. A successful sandcaster hit against a missile salvo reduces the number of effective missiles by 1 for each sandcaster fired. The defending ship decides how many sandcasters will be fired against each hit. Only one roll is made. If the sandcasters are successful, the total number of sandcasters firing at that hit are counted in reducing the damage.

Meson Screens: Meson screens may be used only against meson gun hits. A meson screen is not directed at a specific meson gun hit. Instead, the ship's meson screen rating is automatically subtracted from the damage of any meson gun hit.

Dampers: Dampers reduce the effect of nuclear missiles attacking a ship. All incoming nuclear missile salvos have their number of missiles reduced by the Damper rating for every missile salvo. Conventional warhead missiles ignore dampers.

Black Globes: Black globes may be used either on or flickering at a set rate. When on, the black globe absorbs the energy of all weapons which successfully hit the ship. This energy is shunted to the ship's capacitors. When the black globe is set to flicker, it may do so at a rate of 1 through 6. For each hit, roll one die. If the die roll is equal to or less than the flicker rate, the damage is shunted to the ship's capacitors. If the die roll is higher, then the ship suffers the normal effect of a hit.

Ships operating with black globe generators may not use any other screens while it is operating.

Capacitors installed aboard the ship will have a listed capacity in damage points. If this limit is ever exceeded, the capacitors spontaneously discharge. All of the points stored are

applied as damage to the ship's armor and structure. Divide the number of damage points by 10 (drop all fractions) to determine the number of internal explosions that occur. Capacitors are discharged whenever the black globe generator is off. Each turn the generator is off, it discharges 6 times the black globe rating of the generator. If the generator is flickering, it discharges the flicker rate times the black globe rating of the generator.

Damage

All weapon batteries have four values that indicate the amount of damage inflicted at a given range. Damages in starship combat are expressed as flat points, not number of dice.

If a hit is successful, and all screen effects have been subtracted, the damage is applied to the target ship's armor value. The armor value is reduced by the number of damage points inflicted. For each hit that does 1 or more points of damage, make one roll on the Surface Explosion Column of the Combat Damage Table. If a ship does not have any armor left, then the damage points are applied to the ship's structure points, and roll once on the Interior Explosion Column for each hit that does damage. Should a hit destroy all remaining armor, apply any leftover damage to the ship's structure, and roll once on both tables. Meson guns that do damage bypass armor, and the damage is applied directly to the structure of the ship instead. Also, roll on the Interior Explosion Column for each hit.

When a ship has no structure left, it is completely destroyed.

Step 8: Launch/Recover Vessels

Ships carrying vessels (small or big craft) may launch or recover them. A single launch facility may dispatch one vessel per turn. A launch tube may launch up to forty vessels in a turn. A ship with a dispersed-structure configuration may launch all its vessels in one turn. Recovery of craft is performed at the same rate.

Step 9: Breakthrough

A breakthrough occurs if all of one side's line of battle ships have been rendered incapable of normal offensive actions, thus allowing the other side to direct all of its battle ships at any of the ships in the enemy's reserve. These second-line ships cannot return fire, but may fire defensively (i.e., intercept incoming missiles). However, the defensive side may form a new line of battle next turn.

Step 10: Pursuit

Ships breaking off by acceleration must begin at Very Long range. They may break off from the line of battle or the reserve. Ships may break off alone or in groups, and a group breaks off at the G rating of its slowest ship. Ships breaking off from the reserve (assuming the line of battle has not been breached) do so as if their G rating were two greater than they are. Enemy ships (from the line of battle or the reserve) may pursue if their G rating is at least equal to that of the group breaking off. Each group of quarries and pursuers forms a skirmish of its own. No ships may return to the main battle. Ships may attempt to break off from their pursuers. A ship succeeds in breaking off if it is not pursued.

SEQUENCE OF PLAY

1. Task Force Assembly
2. Initiative
3. Determine Range
4. Break off
5. Sensor Actions and Detection
6. Declare Fire
7. Weapon Fire
8. Launch/Recover Ancillary Vessels
9. Breakthrough
10. Pursuit
11. Go to Step 1

SENSOR LOCKS AND DETECTION

The target number is determined by the range and target size as shown below:

Range	Target Number
Very Short	Ship Size
Short	Ship Size-1
Medium	Ship Size-2
Long	Ship Size-4

The sensor rating of the sensing ship is added as a DM:

Sensor Rating	DM
1-2	- 2
3-4	- 1
5-6	0
7-8	+1
9-10	+2
11-12	+3
13-14	+4
15-16	+5

WEAPON FIRE

The target number for a ship's weapon fire is the target ship's size. The difficulty rating (dice code) is based on range.

Range Name	Attack Rating
Very Short	Average (2D)
Short	Difficult (2.5D)
Medium	Formidable (3D)
Long	Staggering (3.5D)

SANDCASTERS

The target number is always 7. The difficulty rating is determined by range.

Range	DM for Sandcasters vs. Salvos
Short	0
Medium	- 1
Long	- 2
Extreme	- 4

COMBAT DAMAGE TABLES

Roll	Surface Explosion	Interior Explosion
2.	Interior Explosion	Bridge Hit
3.	Launch Capacity Hit	Fire Control Hit
4.	Maneuver Drive Hit	Power Plant Hit
5.	Battery Hit	Sensors Hit
6.	No Effect	Battery Hit
7.	No Effect	No Effect
8.	No Effect	Fuel Hit
9.	Battery Hit	Crew/Passengers/Cargo
10.	Defensive Screen Hit	Maneuver Drive Hit
11.	Spinal Mount Hit	Jump Drive Hit
12.	Interior Explosion	Ship Explodes

Explanation of Damage Results

No Effect: The hit did no damage to vital areas, and fire control teams or systems were able to negate the damage.

Interior Explosion: The hit penetrated the armor! Roll again on the Interior Explosion Column. If weapon rating is less than the current armor rating of the target ship, count as sensors hit.

Launch Capacity: The ship's system for launching ancillary ships (fighters, ship's boats, battle riders) has been destroyed.

Maneuver Drive: The ship loses 1G of maneuvering if a surface explosion, 2G if an interior explosion.

Battery: One of the ship's offensive batteries (not a spinal mount) is destroyed; attacker chooses which battery.

Defensive Screen: Reduce the rating for one of the ship's defensive screens by 3; attacker chooses which screen.

Spinal Mount: All of the ship's spinal mount weapons are rendered inoperable.

Bridge: The ship is no longer capable of maneuvering, entering jump, jamming enemy sensors, detecting new targets, or operating screens. Weapons may continue to engage targets, but attempt a sensor lock-on at a - 1DM. Ships with auxiliary bridges may transfer control functions there at the beginning of the next turn.

Fire Control Hit: The ship's master fire directors have been knocked off-line. No offensive weapons may fire. Screens operate normally.

Power Plant: The ship may not maneuver, evade, jam opposing sensors, fire energy weapons, or operate any active sensors or screens. The ship may fire missiles and sandcasters and operate passive sensors at a - 1DM.

Sensors: The ship may no longer jam hostile sensors nor make active or passive detection attempts. The ship may still attempt target fire-control locks, but at a - 2DM.

Fuel: The ship loses its fuel load. The ship may not jump, or maneuver (unless the maneuver drive is non-fuel based). Roll again on the Internal Explosions chart for collateral damage from the explosion.

Crew/Passengers/Cargo: 25% of the remaining crew, passengers and cargo are destroyed.

Jump Drive: The ship may not jump.

Ship Explodes: The vessel is completely destroyed.





The study of psionics is called psionics, and a practitioner of psionics is known as a psionist. Psionics, stated to be the highest level of quantum physics, is a new science that is often viewed as a quackery by educated faculty in the Third Imperium. Some psionists release their latent abilities only after years of dedicated study, while others possess uncanny, natural talent for psionics.

Psionists are accepted in certain ages, such as the beginning years of the Third Imperium. But the overall public opinion about psionics tends to remain extremely negative. Individuals often find it unhealthy to admit possession of, or sympathy for, psionic powers. Persons with psionic ability usually hide their powers unless they are assured of safety from persecution.

The powers of the mind are incredible, and perhaps some day the study of these powers will enable every individual to use them as an active part of his life. For now, however, psionics can be frightening to those without the power, and the active or public display of psionic abilities is not well received by the general populace, nor by most local governments. As a result, only a handful of individuals have discovered and tapped into the mental power hidden within their minds.

The Psionic Institute

In the face of overwhelming disapproval, the secrets of psionic science remain staunchly held by a dedicated group of talented, powerful minds who operate the Psionic Institute, an academy wholly dedicated to the study of the powers. Accurate knowledge and quality training in psionics are available only through branches of the Psionic Institute. Because of the pervading prejudices, the Institute maintains a low profile, making it quite difficult to locate any of its network facilities. Any world with a population rating of 9+ may have a branch secretly established on it. But even if there is a branch, it still must be found. Any character may attempt to search for the local branch of the Institute on a world (requiring a Staggering Int roll, with DM+1 per level of Streetwise, Admin, or Perception skill), taking one week to do so. If the attempt is unsuccessful, the character becomes convinced that no branch exists on this world and gives up the search.

The Institute perform two functions: it administers the examination for psionic potential, and it provides training for psionic talents. Both services require a fee.

Psionic Strength

The Institute's comprehensive examination gives a measure of personal psionic strength. The process takes two weeks' time, and costs Cr15,000, though the Institute does show charity for truly indigent applicants (at referee's discretion, make an Average Int roll with DM -1 per Social Standing to receive a free examination).

The Examination: Every character has Psionic Strength (or Psi), which represents psionic potential, determined by a two-die roll. The Referee will roll for every character when a new character is generated and keep all scores secret. Upon taking an examination, a character will show his psionic potential (i.e. the player is told of the character's Psi score). However, age constantly lessens the chance of a character learning to harness his psionic powers. Therefore, a character may have a phenomenally high Psi score but never develop his powers because he was too old when he unlocked his potential (the character must make a successful Average Int roll, with DM - 1 for every 4 years above 18, to begin psionic training). These blocks correspond to the aging cycles. For example, a character taking the examination at age 23 is in his second 4-year block, giving him a DM - 2. Roll 2 dice and apply the DM. The result is the character's psionic strength rating. The examination may be taken only once per character.

Psionic Strength Ratings: Psionic Strength rating ranges from 0 to 12. Ratings of 13 or more cannot be attained naturally once a character has passed beyond age 18. Such ratings may be reached temporarily only through the use of psi-drug. The maximum possible rating is 15.

Psi is the number of strength points available to the character for performing psionic tasks.

Psionic Skill Levels: Skill levels in each Psionic Discipline (see the following psionic discipline section) is rated from 0 to 6 to indicate not only a character's proficiency with the different aspects of psionics, but also his limitations. Every psionic activity costs Psionic Strength points, and this expenditure varies with the intended effect of the activity (i.e. a character spends more Psi to telekinetically move a car than he would to move a spoon). **However, the character is normally limited, at any one time, to spending Psionic Strength equal to or less than his skill level in the particular discipline that derives the activity.**

A character may exceed his skill level at the risk of losing Psi score (See pushing your psionic level, below). For example, a psionist with Telepathy-3 may spend up to 3 Psi points when using any one power listed in the Telepathy discipline (such as Probe or Send Thoughts) under normal conditions.

Skill levels may increase by studying at the Psionic Institute. A character may opt to do so as a four-year career (see "Psionist").

Pushing Your Psionic Level: In extreme situations a character may push his psionic skill level to accomplish a task that would otherwise be impossible for him to do. A character can push 3 points above his skill level, then immediately after the activity, attempt an Average Int roll with a negative DM equal to the skill level of the performed activity. For instance, if an Awareness-4 psionist exerts himself two levels beyond his current level, he will attempt the Int roll with a DM - 6. Failing the roll reduces the character's Psi permanently by one point. In the case of a spectacular failure, a devastating backlash obliterates the psyche and causes the character's Psi score to drop to zero permanently.

Recovering Psi Points: Spent Psi points are naturally recovered through rest and recuperation. Beginning three hours after the last psionic activity, a character regains one Psionic Strength point per hour until the rating is restored to full. Such recovery is independent of physical activity. Psionic activity is defined as any psionic-related act, including taking psi-drug for any purpose. (Psi-drug may boost the points available to the character.)

Training

The Institute will train individuals in manipulating their latent talents. Training requires four years and costs Cr100,000. Extremely talented individuals (Psionic Strength of 9 or greater) may apply for a scholarship if they cannot afford training. In such cases, the Institute will take 95% of the character's assets and waive the remainder of the cost. (The Institute can read minds, and will not favorably regard fraudulent or deceiving applications.)

The Disciplines: Although there are a total of five possible fields, or disciplines, of psionic activity, no one person can master them all. In training, a character will find his specialty discipline, as well as disciplines that he has absolutely no potential for.

For a character receiving psionic training, make an Average Int roll for each of the six disciplines listed following. A successful roll indicates the character possess potential for that discipline. However, since psionic potentials can spread thin really fast, there is a DM - 2 on the first roll, - 4 on the second roll, -6 on the third roll, and so on. Therefore, a character preferring certain powers should roll for those disciplines first.

Effects of Training: The training sessions acquaint the character with his psionic talents and a rudimentary control over them. As a result, the character can perform any task in a learned discipline at skill level-1. Experience will allow greater levels of power.

During training, characters also learn the methods of concealing their powers, as well as the dangers of revealing their powers to the public. When training is completed, the Institute will not be able to further assist characters in their psionic development. From that point, all depends on experience and fortune.

It is possible for a character to have a very high Psi and nonetheless turn out very badly in training, discovering that he has few or no specific abilities. It is also possible for a character to have raw talent in a discipline, but possess skill levels too insufficient to perform any significant activity.

Psionic training is not available in the services, nor is it available from any source except the Institute.

The Basic Psionic Disciplines

In **Traveller**, psionics is divided into five basic disciplines. Some disciplines have several abilities (also called powers or talents), while some have only one. Psionic powers have no fixed range, duration, etc. Instead, they are characteristics freely determined—limited only by the character's skill level and Psi—at the time they are activated. So characters are spending the points only on "components" to make the ability work however they intend.

Range: Most abilities have a base range and a modifier. This shows a power's range of effectiveness and the cost in Psi for increasing that range. For example, "Contact, +1 range per 1 pt." means this ability is effective only at Contact range, but you can increase it by one additional band at the cost of 1 Psi, or 2 additional ranges at 2 Psi, and so on.

Duration: Almost all abilities have a base duration and a modifier. This represents the length of effective time for a power, and the cost for increasing that time period. For example: "1 min., x10 per 1 pt." means that you can use this ability for 1 minute at no Psi cost, but the time multiplies by 10 for every Psi you put into duration. So spending 1 Psi in this characteristic will give you 10 minutes, 2 Psi for 100 minutes, etc.

Weight: An ability will likely include a base weight and a modifier. This means that there is a basic weight you can manipulate with the power along with activation requirement in Psi, and the increment of weight per additional Psi expend. Example: "1 kg for one pt., x10 per 1 pt." means you can manipulate 1kg for 1 Psi, and each additional Psi will multiply the weight by 10, so spending 1 point extra will give you 10 kg, 2 points 100 kg, etc.

Speed: In most cases an ability will also have a base speed at which one can manipulate an object, and a modifier. This means that a certain basic speed is automatic for the power, and increasing the speed will cost 1 Psi. Example: "1 kph for 1 pt., x 10 per 1 pt." means you can manipulate an object at a speed of 1kph for 1 Psi, but each additional Psi will multiply that by 10, so 1 point extra will give you 10 kph, 2 points for 100 kph, etc.

Telepathy

Telepathy is the discipline to contact other minds directly. In rudimentary forms, it allows the communication of feelings and emotions. In advanced forms, it allows the transfer of thoughts.

When a psionic character is trying to affect an unwilling mind., he must roll to succeed, using Average difficulty with the target number being the attacker's normal Psi plus discipline skill levels minus opponent's normal Psi. If successful, the target mind is under full effect of the psionic power. An unwilling mind may actively resist a power a number of turns equal to his current Psi at a cost of 1 point per resist attempt, forcing the attacker to roll each time to maintain the mental hold.

Life Detection: This is the ability to detect the presence of other minds. Life detection enables a character to sense the presence of other minds, the number of minds present, the general type of minds (animal, human, etc.), and their approximate location. Life detection is reasonably sophisticated and can "ignore" bacteria or unimportant animals in the area. It functions best in detecting intelligent minds. Shielded minds are undetectable (see shield). Any individual known to the telepath is instantly recognized if life-detected. *Range:* 1 pt. for up to 1500M, *Duration:* 1 min., x 10 per pt.

Telempathy: The mental communication of intimate emotions and basic feelings is accomplished through Telempathy. This ability serves well in the handling of animals and beasts of burden, but may also be applied as a psychological weapon against humans. Mentally sending emotions such as love, hate, fear, etc., may influence other beings (though not necessarily in the manner desired). Telempathy also allows the reading of the emotions and feelings of others. *Range:* 1 range per 1 pt., *Duration:* 1 min., x 10 per pt.

Read Surface Thoughts: The most commonly known feature of telepathy is the ability to read the thoughts of other individuals. Only current dominant thoughts are read by this ability. The subject, if not a telepath, will be completely unaware of the activity. Individuals with telepathic ability cannot be read due to the presence of their natural mental shields. A telepath may only read one mind at a time. *Range:* 1 range per 1 pt., *Duration:* 1 min., x 10 per pt., *Effect:* The Send Thoughts ability may be added by spending one additional point.

Send Thoughts: Complementary to the ability to read surface thoughts is the ability to send thoughts to others. Such individuals need not themselves be telepathic to receive such thoughts. Telepathic individuals are normally open to such transmissions, but may resist automatically if they deem the messages bothersome or threatening. *Range:* Contact, + 1 range per 1 pt., *Duration:* 1 min., x 10 per pt., *Effect:* The Read Surface Thoughts ability may be added by spending one additional point to activate the power.

Probe: The application of great psionic strength will enable a telepath to delve deep into a mind and read the subject's innermost thoughts. Extremely useful during interrogations, this power can easily determine deliberate untruths told or thought by a subject, and force him to divulge private information. Probe cannot be used against a shielded mind. *Range:* 3 pt. at Contact range, *Duration:* 1 min., + 1 min. per point

Assault: With this power, a telepath may inflict pain upon a wary victim. Unlike physical damage, wounds caused by Assault is taken off of Int, Edu, and Soc. Just as regular damage, the victim must roll randomly to see where the initial damage will land, then he may place additional damage where he wishes. When a characteristic is brought to zero a character is unconscious. When all three are brought to zero the opponent's brain experiences an irreversible overload and is turned to mush. *Range:* Contact, +1 range per 1 pt., *Duration:* Instant, *Damage:* 1D per 1 pt.

Shield: All telepaths learn to create a mental shield to protect the mind from unwanted telepathic intrusion. This shield is automatically active at all times and requires no strength point expenditure to maintain. Artificial psionic shields are clumsy helmet-like devices that function in much the same manner while worn. They weigh 1000 grams, offer little physical protection, and have a base price of Cr4000.

Clairvoyance

This discipline allows a person to sense events taking place at a distant locations. Clairvoyance abilities facilitate eavesdropping as well as spying and detection-free inspection. Clairvoyant activity cannot be sensed by others, including other psionists.

Sense: The psionic ability to sense important events at a distance. A character will become aware of the most rudimentary characteristics of a location with this ability. For example, the referee will give a basic description without heavy detail, such as "a room containing 4 dogs" or "an open plain with no animals or men present". Whereas Life Detection determines the presence of living minds in a closed room, Sense determines if a room is occupied or empty. The clairvoyant character must state the range when using this talent, and will generally sense the most interesting or important feature at that range.

Sometimes an event will be so important that it will automatically activate the Sense power at range as long as the clairvoyant has Psi points to spend. *Range:* 1 pt. for up to 1500M, *Duration:* 1 min., +1 min per pt.

Clairvoyance: This specific ability allows actual viewing of important events at some displaced point. The sensed event may play out in its entirety, or be splintered pieces of situations. The clairvoyant character must state the range when using this talent. Like Sense, extremely significant events will activate all Clairvoyance power within range as long as the clairvoyant has sufficient Psi points. *Range:* Contact, +1 range per 1 pt., *Duration:* 1 min., +1 min. per pt., *Effect:* Clairaudience power may be added by spending one additional point to activate the power.

Clairaudience: This ability is identical to clairvoyance, with the exception that it offers hearing instead of vision. *Range:* Contact, +1 range per 1 pt., *Duration:* 1 min. +1 min per pt., *Effect:* Clairvoyance power may be added by spending one Psi point.

Direction: This power is used to detect an object or a person specified by the user. The character will know the target's exact location if it is within range or, if out of range, the general direction to the target. *Range:* Contact, +1 range per 1 pt., *Duration:* 1 hr.

Telekinesis

The Telekinesis Discipline deals with the manipulation of objects without physical contact. Telekinetic power is classified by the amount of weight (in grams) which the person can manipulate. The action is treated as if the person were physically handling the item, but without physical danger, pain, or other stimulus. Telekinesis has a limited amount of sensory awareness.

The table on page 128 shows the damage caused by telekinetically thrown objects. Simply cross-reference the amount of Psi spent on the mass and speed for the number of dice damage.

A character may attempt to dodge incoming telekinetic object with a Dex roll using the number of dice indicated on the table above. *Range:* Contact, +1 range per 1 pt., *Duration:* Concentration, *Weight:* 1kg for 1 pt., x10 per extra 1 pt. *Objective Speed of Movement:* 1kph, x 10 per 1 pt.

Awareness

This is the discipline that lends extraordinary control over one's own body. Awareness abilities cannot affect others in any way.

Suspended Animation: The character can minimize physical functions for varying periods of time. He may enter a suspended animation state (similar to cold sleep, but without the intrinsic danger of death) by willing himself into it. Such a state continues for seven days, without need for food or water, and with minimal air needs. Suspended animation may be stopped at any time, provided external stimulus is given to awaken the sleeper (such as an alarm clock). *Range:* Self, *Duration:* 1 week per 1 pt.

Psionically-Enhanced Strength: Psionic Strength points may be converted to physical Strength points on a temporary basis. The character makes the commitment, reduces his available Psi by a number of points, and increases his physical Strength by that same amount. In no case may the number of Strength points gained exceed the character's current level of Awareness, and physical Strength may not be increased beyond 15. *Range:* Self, *Duration:* 1 min., x 5 per 1 pt., *Effect:* +1 Str per 1 point.

Psionically-Enhanced Endurance: This ability is identical to Psionically-Enhanced Strength, except Psi converts into Endurance. *Range:* Self, *Duration:* 1 min., x 5 per 1pt., *Effect:* +1 End per 1 pt.

Regeneration: Wound points can be healed through this power by exchanging one Psionic Strength point to regenerate one wound point. Healing occurs immediately. Should one session of healing be insufficient, further attempts may be applied after recovering the spent Psi. Regeneration may also be used to reattach limbs or organs, or to heal old injuries suffered prior to psionic training. Regeneration may not be used to counteract aging. *Range:* Self, *Duration:* Permanent, *Effect:* 1 wound recovered per 1 pt.

Teleportation

Teleportation is a discipline that allows, in effect, instantaneous movement from one point to another point, without regard to intervening matter.

Teleportation always involves the movement of one's body to another location. Teleporting with other characters or stuff is only possible by expending enough Psi. If a character misjudges the weight, the points are spent and nothing happens.

A character must always have a mental image of his or her destination before teleporting. This mental image is constructed by viewing or visiting the location firsthand, having the mental image implanted in one's mind through telepathy by another person who has visited the destination, or by viewing the location through clairvoyance.

Teleportation involves serious restrictions on movement in order to assure the conservation of energy and momentum. Teleporting causes disorientation for a period of 20 to 120 seconds. Teleportations of Long or greater range can make the character stumble or fall upon completion (make a Average Psi roll to avoid). Any precaution the character may take before attempting jumps of great distance should be elaborated to the referee. Changes in altitude (actually all movement to locations of differing gravitational potential) often result in energy shifts, manifesting themselves as changes in body temperature. A teleport of 1km straight down will result in a temperature increase of 2.5 degrees Celsius—sufficient to cause extreme fever, brain damage, and even death. A teleport up will cool the body by the same amount, with equally serious results. To be safe, a teleport should not involve an elevation change of more than 400 meters, and multiple jumps should not involve a cumulative elevation change of more than 600 meters in one hour. These problems may be circumvented with technological devices such as energy compensatory and heat suit. *Range:* Contact, +1 range per 1 pt., *Duration:* Instant, *Weight:* 100kg per 1 pt. (must include self).

Psi Drugs

Artificial means which are available to enhance Psi on a temporary basis include:

Booster: This basic psi drug is available in small one-dose pills. It increases an individual's available Psionic Strength points by +3 if taken when Psionic Strength is at full power, or by +2 if Psi is at a reduced level. Additional doses of booster have no effect if taken within an hour, and the drug will never boost Psionic Strength points to a level greater than normal rating +3. The drug-induced

Psionic Strength will wane and disappear at the end of one hour. A character must make an Average Psi roll afterwards or his Psi score will be permanently decreased by one point.

Double: This more potent form of booster is also available in small, one-dose pills. Otherwise identical to booster, double increases psionic power by +6 if taken when Psionic Strength is at full power, or +4 when taken at a reduced level. Using Double may permanently lead to loss of Psi Strength. A character must make an Average PSI with a DM -3 to avoid having his Psi permanently decreased by one point.

Special: The rarest psi drugs, "special" is available only in liquid form and must be injected. It increases Psionic Strength points to 15 at the rate of one point per hour. Psi remains at this level (if unused) for four hours and then wanes at the rate of one point per hour until Psionic Strength reaches zero. Normal recovery then occurs. This drug imposes a great danger in that a character risks permanently losing his Psi. A character must make an Average Psi roll with a DM -6, or his Psi score will be permanently decreased by one point. In the case of a spectacular failure, the character suffers overdose and his Psi is permanently reduced to zero.

Availability of Psi Drugs: Because the negative general public's attitude toward psionics, psi drugs are expensive and difficult to obtain. Psi drugs must almost always be located and bargained for. They are simply not found in normal trade channels.

Finding a psi drug dealer on a world, assuming one can be found, requires a Formidable Streetwise or Admin roll for every two full days' search. Most dealers will have just booster. Roll 1D for the number of doses available at a base price of Cr1,000 each. Double may be available, roll 1D-2 for the number of doses with a base price of Cr4,000. Special is available only on a roll of six on 1D, and a dose of special runs as much as Cr10,000 base price. Prices may be higher but will generally not be lower.

Pitfalls of Taking Psi Drugs: The abuse of psi drugs can lead to the loss of psionic powers and to physical debilitation. If a character takes three doses in three days, there is a chance that drug overdose will take place within six hours of the last dose (make an Average End roll with DM of -1 per dose taken).

If overdose occurs, the character becomes seriously ill, lapsing into a coma and taking 3D wound. Upon recovery from the illness, Psionic Strength rating is reduced permanently by one.



Within the ruins of an ancient city, this survey team encounters an electromagnetic field that prevents its sensor equipment from working. Fortunately, the team members carry more primitive equipment for such occasions.

PSIONIC RANGE TABLE

Range	Distance
Contact	0-3m
Very Short	4-15m
Short	15-45m
Medium	46-150m
Long	51-450m
Very Long	451-1500m

TELEKINETIC DAMAGE

Speed		1	2	3	4	5	6
M	1	—	—	1D6	2D6	3D6	4D6
a	2	—	1D6	2D6	3D6	9D6	12D6
s	3	—	2D6	3D6	7D6	12D6	16D6
s	4	—	3D6	5D6	10D6	21D6	28D6
	5	—	4D6	8D6	17D6	33D6	na
	6	—	5D6	13D6	27D6	na	na
Dodging							
		1D6	2 D6	2.5D6	3D6	3.5D6	4D6

PSIONICIST

Trained in the art of using Psionics, the Psionicist is one of the rarest career choices available to players. Most Psionicists usually stumble into a Psionic Institute where they learn to harness their abilities.

Most Psionicists leave school when they reach the peak of their ability, however a few become Instructors. A psionicist will spend many hours searching for other Psionicists and practicing their skills in hopes of some spiritual enlightenment.

Routine Tasks: Recruit, research, experiment, analyze Psionic phenomenon.

Enlistment: See "The Examination" on page 123

Injury: 9-; DM +2 if Psi 9+

Commission: None

Promotion: 8-

Continuance: 11-

1. Physical

- 1 Str
- 1 Dex
- +1 Dex
- +1 End
- Gun Combat
- Short Blade

2. Mental

- Language
- Research
- Writing
- Perception
- Psi Level
- +1 Psi

3. Educational

- Performance
- Academic
- Technical
- Psionicology
- Psi Level
- +1 Edu

4. Social

- Carousing
- Instruction
- Philosophy
- Diplomacy
- Bureaucracy
- +1 Soc

5. Career

- Language
- Psi Level
- Psi Level
- Academic
- Science
- +1 Psi

6. Background

- Psi Level
- Vac Suit
- Grav Craft
- Ground Craft
- Exploration
- Jack-of-all-Trades

Table of Ranks

Rank E1	1st degree Psionicist
Rank E2	2nd degree Psionicist
Rank E3	3rd degree Psionicist
Rank E4	4th degree Psionicist
Rank E5	5th degree Psionicist
Rank E6	6th degree Psionicist
Rank E7	7th degree Psionicist
Rank E8	8th degree Psionicist
Rank E9	9th degree Psionicist
Rank 10	Master Psionicist

Rank and Service Skills

All	Psionicology -1
	Psionic Level-1

Skill Eligibility

	1 skill per year
	1 skill per term for Promotion

Mustering Out Tables

Die Roll Cash Table (credits)

1.	1000
2.	2000
3.	3000
4.	4000
5.	5000
6.	6000
7.	7000

Max 3 rolls

Die Roll Benefits Table

1.	Low Passage
2.	Low Passage
3.	Low Passage
4.	Low Passage
5.	Low Passage
6.	Mid Passage
7.	High Passage

The referee has the responsibility for mapping the universe before actual game play begins. The entire universe needs not be charted immediately, however, as only a small portion can be used at any one time. In unsupervised play, one of the players can generate worlds and perform mapping on a turn-by-turn or adventure-by-adventure basis.

The universe is mapped in convenient segments called "subsectors." Each subsector is an area of hexagonal cells measuring eight hexes by ten hexes. Since the recommended scale is one parsec (3.27 light years) per hex, the subsector covers an area ten parsecs by eight parsecs.

Sixteen subsectors (arranged in four rows of four subsectors each) form a sector, probably the largest size practical for a continuing **Traveller** campaign.

Mapping subsectors consists of two sequences: star mapping and world mapping. Star mapping examines each hexagon in the subsector grid for the presence of a star system. It also determines the availability of starports bases and fuel for starships. All of this information is coded onto the subsector hexes, and serves as a guide to the referee and the players during interstellar travel. World mapping outlines the single most important world in each system and determines its basic characteristics. This information is retained for use in adventures on the world surface.

There are two approaches to star and world mapping. The first is simply to decide what kind of star systems and worlds you need or want, then select the appropriate ratings from the content tables to match your idea. Sometimes the worlds created through referee's own will are devised specifically to reward or torment players. The second method is to generate them randomly as explained in this chapter, which can produce surprisingly refreshing possibilities for worlds a referee may have never thought of before.

Star Mapping

To create a subsector, the referee will need a blank subsector grid and dice (if the random-roll approach is chosen). The System Hex Format Table shows the coding and placement of information about worlds within a subsector. This format enables players and referees to note the information that would normally be available to them. The referee may decide to omit certain information, and permit its insertion only after the players have discovered it.

World Occurrence: Normally, there is a fifty-percent chance that a world and its attendant stellar system will be in a hex. Systematically check each hex, throwing one die and marking the hex with a circle if the result is a 4, 5, or 6. This indicates that a world is present. Leave the hex blank otherwise.

The referee may alter this percentage, thus affecting the frequency of worlds to correspond to specific regions of the galaxy. This is easily accomplished by imposing a modifier of +1 or -1 on the whole subsector, or on broad areas within a subsector.

Starport Type: Many worlds have starports, their presence being essential to interstellar trade and commerce. Each world must be checked for its starport type. Roll two dice for every world in the subsector, then mark each with a letter indicated on the System Contents Table.

The System Contents Table provides a specific allocation of starports, but just as the distribution of stars can be altered (as indicated in world occurrence), the referee is also free to manipulate the table.

Starports are further described in the Starport Types table. In many cases, starports will be accompanied by naval or scout bases, along with a wide range of facilities. In nearly all cases, a planet will consider a starport to be extraterritorial, therefore not subject to local law, though strict entrance and exit controls may still be enforced.

Bases: Stellar systems may have installations for the Navy, the Scouts, or other military forces of interstellar government. The System Contents Table shows the die rolls for specific types of bases present at a world, depending on its starport type. Any such facility should be marked in the hex in accordance with the world format.

Gas Giants: A star system may have one or more gas giant planets (similar to Jupiter or Saturn). A gas giant allows streamlined starships to refuel by skimming its surface. This

eliminates fuel cost for the vessel (thereby increasing profit margin), and allows refueling at systems that do not have starports. Refueling in this fashion generally requires a week. Fuel acquired by skimming is unrefined.

Gas giants are relatively common. As shown on the System Contents Table, gas giants are absent in a star system only on a roll of 10+. If one is present, mark the system's hex in accordance with the world format.

System Name: Each system is usually named for the primary world within. The referee should decide and place the name in the hex for identification.

Travel Zones: Most worlds are civilized, or at least assumed amenable to travellers. Some, however, are caught in the throes of war, plagued by disease, or simply not ready for interstellar visitors. Such worlds are classified by travel zones to denote such status. In most cases, the referee should flag travel zones based on the information available. The two zone types that currently exist are amber and red.

Amber travel zones signify that travellers should exercise caution when visiting these worlds. The amber code may mean that the citizens of the world are xenophobic, that the political situation is highly unstable, or that some other danger exists within the system.

Red travel zones usually indicate that a major hazard exists within the system. This may be an epidemic and the world is quarantined. Or the entire subsector may be embroiled in war, and surface or space battles are probable. Red travel zones are also used to represent a government edict prohibiting entry to a system or world. This may be to protect a developing civilization that is not ready for interstellar contact, or to preserve valuable resources until the proper agencies can extract them.

Communications Routes: Within the subsector, local governments will have established communications or trade routes connecting some (but not all) worlds. These pathways serve as conduits for messages between businesses, governments, and people. They also serve as the normal routes that liners and large freighters travel. The referee should connect key worlds in a subsector with communications routes. If the subsector is isolated, the routes should not extend beyond its boundary. If it is part of a larger confederation or empire, the routes will probably be interconnected with those in neighboring subsectors.

Communications routes are drawn as single lines connecting hexes on the subsector grid. They should be carefully plotted to avoid making all parts of the subsector accessible—a subsector should contain uncharted, “backwater” regions for exploration and adventure.

World Creation

The term *world* refers to the various celestial bodies within a stellar system: planets, satellites, asteroid belts, and so on. The worlds in a star system on the subsector map may be further classified by their gross physical characteristics, as well as their effects on inhabitants and visitors. These classifications—starport, six basic stats, plus a technological index—tell specific facts about a world with numbers (0 through 9) and letters (A through Z, omitting O and I as they may be confused with numbers). The following text will generally concentrate on numbers, reserving letters for the referee to describe extraordinary situations.

This world creation process usually applies only to the single most important body (which may not necessarily be a planet, but a satellite of a gas giant or a planetoid within an asteroid belt) in a star system. Additional planets should be generated by the referee as necessary.

The six basic planetary characteristics of the Universal World Profile (UWP) are determined using two dice, with modifiers applied based on other characteristics. After finalizing the scores, a technological index is derived from them and from the world's starport type.

While generating a world, a subsector index containing world name, location, universal planetary profile, and other basic data should also be compiled. This listing should be available to players who travel through the subsector.

It is a good idea for the referee to log each world in a central notebook. Aside from being a quick reference, the referee can record other pertinent planetary or star system details, such as radiation level, types of terrain, unique encounters, biological and botanical data, industrial or agricultural capacity, society, political structure, actual maps of the planetary surface, and even information yet unknown to the players.

The UWP is produced by six two die rolls, modified by circumstances and previous characteristics. The specific rolls are given in a world generation checklist, and in formula form below:

Starports (from Starport Table): The starport type will have already been determined when the subsector was mapped and should be noted.

Planetary Size (2D-2): Planetary Size digit indicates the diameter of the planetary sphere stated in thousands of kilometers. This determines the varying gravitational strengths and planetary templates for space combat.

Planetary Atmosphere (2D-7+size. If size 0, then atmosphere 0): The atmosphere score represents the “breathability” of the world. Some atmospheres require protective measures.

Hydrographic Percentage (2D-7+atmosphere. If size 0, then hydrographics 0. If atmosphere 0, 1, or A+, then -4 from the roll): Hydrographics represents the percentage of planetary surface (in increments of 10%) covered by seas or oceans. For normal worlds, this will be water. On other worlds (with Exotic, Corrosive, or Insidious atmospheres), it may be other liquids or fluids such as ammonia.

Population (2D-2): The Population digit actually functions as an exponent, viewed as the number of zeros following a one. Thus, a Population of 6 indicates a head-count of approximately 1,000,000 (6 zeroes behind 1).

Planetary Government (2D-7+Population): Planetary Government score indicates a range of possible ruling systems,

from anarchy to totalitarianism. The Planetary Government Table gives a brief summary of the traits for each government type. Balkanization is a special result meaning that there is no world government. Instead, several rival territorial factions exist. In such cases, the referee should determine their political views independently.

Law Level (2D-7+ government): The law level digit indicates the relative force of law extant on the world. Law level dictates local restrictions concerning the possession and use of weapons by individuals.

Technological Level: The degree of technological advancement, and thus the capability of local industry, depends greatly on the basic characteristics of a world. Consult the Tech Level Table and add up all applicable numbers as one modifier. Roll one die, apply the modifier to the result for the tech level of the world, and then note it in appropriate records.

World technological levels may vary from 0 to 20, more commonly ranging from 4 to 10. Higher numbers reflect greater capability. The technological level is used in along with the Technological Level Table to determine the competence and capability of local industry. The tables indicate the types or categories of goods in general use on the world. In most cases, such goods are the best available locally, although better products may be imported by local organizations or businesses when a specific need surfaces. Natives usually will not be armed with a type of weapons that cannot be manufactured in the region, although police or the military may be. Tech level also denotes the location's overall ability to technological items that have failed or malfunctioned.

The Technological Level Tables have several intentional holes, and these gaps are left for the referee or players to fill with discoveries made during a campaign.

Referee Notes

The purpose of the world generation sequence is to prod the imagination. Even the most imaginative individual soon loses steam in the face of creating hundreds of worlds. The procedure substitutes die rolls for random thoughts, and then allows the referee to use that information to determine specific world data. Characteristics for worlds should be construed as guidelines rather than strict limits. For example, a world with a hydrographic percentage of A is 100% ocean, but nevertheless the world could have small island for a starport. The referee (or players) may also occasionally find contradictory or unreasonable combinations of features. Common sense should prevail in such cases. Players or the referee should work together for a rationale that explains the situation. (Imagination is required to explain a tech level 4 civilization in an asteroid belt, or a densely populated world under one democratic government.)

Starport: The various starport types are intended to provide a variety of facilities, and fuel for trade-ship or survey missions.

Bases: These serve as interest points for scout and naval veterans to renew acquaintances, find potential patrons, and to scrounge or buy surplus equipment. The referee may set up other types of bases, perhaps army headquarters, merchant trade post, and defense installation.

Travel Zones: Travel zones are designations for areas to avoid and areas to explore. The referee should provide justifications for travel zones.

World Size: The generation tables assume that the world in question will be a sphere of solid matter. Some rare alternatives, however, are possible, such as:

Rosettes: Three or more equal masses set at the points of an equilateral polygon, and with the correct angular velocities about their center of gravity, will have a stable orbital configuration. No central star is required. Rosettes almost never occur naturally.



The survey team discovers a portion of a wall on which a message has been chiselled. While the rest of the team become absorbed in inspecting this writing, one member prepares to investigate a stealthy sound.

Ringworlds: An incredibly strong band set to rotate about a central star, using centrifugal force to provide a simulation of gravity. A ringworld at the distance of Earth's orbit and with a width of 1.6 million kilometers has a functional surface area of about three million Earths.

Sphereworlds: Using materials similar to those in a ringworld, and adding gravity generators where necessary for strength and comfort, a spherical shell could completely enclose a star. Such a shell would then trap all stellar radiation for use by the civilization. With a radius of about 93 million miles, the internal surface area would equal about one billion Earths.

Atmosphere: The various atmosphere types require specific personal equipment for survival and protection, as follows:

Vacuum or trace atmospheres require use of a vac suit.

Tainted atmospheres require the use of filter masks.

Very thin atmospheres require the use of compressors to ensure sufficient oxygen. Tainted very thin atmospheres require a combination respirator/filter mask for survival.

Thin, standard, and dense atmospheres are breathable without assistance.

Exotic atmospheres require the use of oxygen tanks, but protective suits are not needed.

Corrosive atmospheres require protective suits or vac suits.

Insidious atmospheres are similar to corrosive atmospheres, but will defeat any personal protective measures in 2 to 12 hours.

Hydrographics: It is possible that some worlds with vacuum atmospheres may have hydrographic percentages greater than zero. In such cases, the world has ice-caps present, and the water will not be free-standing liquid.

Population: For comparison, twentieth-century Earth on the whole has a population of about three billion (Population level 9). This is approximately 5 persons per square kilometer, or 16 persons per square km of land area. Europe is populated at about 151 persons per square km, the equivalent of Population level 10. The Netherlands contain 1500 persons per square mile, or about Population level 11. Hong Kong tops the scale at 10,000 persons per square km, the equivalent of population level 12.

Government: This conveys the style of authority on the world. Each listed type should help the referee in running encounters on the world.

Law Level: Law level is a measure of the relative oppressiveness of the world. The digit is classified on the Law Level table to show prohibitions against weapons. It is also the roll (law level +) to avoid being harassed (possibly arrested) by local authorities.

Tech Level: Technological level determines the quality and sophistication of the products of a world. It defines what precise types of equipment are commonly available on the world.

Trade Classifications

The term *trade classification* is a general catch-all phrase that covers aspects of a world that influence trade and commerce, as well as other information that is of interest to travellers. Certain trade classifications do influence the Trade Classification Table.

Agricultural worlds have large portions of their economies devoted to agriculture. They must have an atmosphere of 4 through 9, hydrographic percentage of 4 through 8, and a population of 5 through 7.

Non-agricultural worlds import much of their food from off-planet. While such a world may produce synthetic foodstuffs for local consumption, it probably imports quality foods as luxury items. A non-agricultural world must have an atmosphere of 3 or less, a hydrographic percentage of 3 or less, and a population of 6 or more.

Industrial worlds have large production complexes and engage in the manufacture of goods. Such a world must have an atmosphere of 0, 1, 2, 4, 7, or 9 (vacuum, trace, or tainted), and a population of 9 or greater.

Non-industrial worlds are forced to import much of their goods. Non-industrial worlds must have a population of 6 or less.

Rich worlds have good climates and environments, both sought after by most individuals as living places. A rich world must have government type 4 through 9, an atmosphere of 6 or 8, and a population of 6 through 8.

Poor worlds have vastly undeveloped and backward regions. A poor world must have an Atmosphere of 2 through 5 and a hydrographic percentage of 3 or less.

Water worlds are totally covered by seas and oceans (requiring a hydrographic percentage of A).

Desert worlds have no standing water (a hydrographic percentage of 0) and Atmosphere of 2+.

Vacuum worlds have no atmosphere (an atmosphere of 0).

Ice-capped worlds have water present only in the form of ice caps. These are vacuum worlds which would otherwise have no water. An Ice-capped world has an atmosphere of 0 or 1 and a hydrographic percentage of 1 or greater.

High population worlds have a population of A or greater.

Barren worlds have a population of 0.

Asteroid belts consist of small planetoids around the central star of the system. An asteroid belt has a size of 0.

Subsector capital is the term given to the single most important world in the subsector, especially if the entire sector is under one interstellar regime. Capital is the term given to a world that is the seat of an interstellar government. If there are several interstellar governments within a subsector, each will probably have a capital. Capital designations are assigned by the referee.

SYSTEMS CONTENT TABLE

Die Roll	Starport	Naval Base	Scout Base	Gas Giant
2.	A	no	no	yes
3.	A	no	no	yes
4.	A	no	no	yes
5.	B	no	no	yes
6.	B	no	no	yes
7.	C	no	yes	yes
8.	C	yes	yes	yes
9.	D	yes	yes	yes
10.	E	yes	yes	no
11.	E	yes	yes	no
12.	X	yes	yes	no

Roll once for each column.

Scout Base: Apply - 1 to roll if starport C, - 2 if Starport B, and - 3 if starport A. Do not roll if starport E or X.

Naval Base: Do not roll if starport C,

STARPORT TYPES

Type	Description
A	Excellent quality installation. Refined fuel available. Annual maintenance overhaul available. Shipyard capable of constructing starships and non-starships present. Naval base and/or scout base may be present.
B	Good quality installation. Refined fuel available. Annual maintenance overhaul available. Shipyard capable of constructing starships and non-starships present. Naval base and/or scout base may be present.
C	Routine quality installation. Only unrefined fuel available. Reasonable repair facilities present. Scout base may be present.
D	Poor quality installation. Only unrefined fuel available. No repair or shipyard facilities present. Scout base may be present.
E	Frontier installation. Essentially a marked spot of bedrock with no fuel, facilities, or bases present.
X	No starport. No provision is made for any ship landings.

ATMOSPHERE

Digit	Description
0	No Atmosphere.
1	Trace.
2	Very Thin, Tainted.
3	Very Thin.
4	Thin, Tainted.
5	Thin.
6	Standard.
7	Standard.
8	Dense.
9	Dense, Tainted.
A	Exotic.
B	Corrosive.
C	Insidious.

Note: Atmosphere types may require protective clothing. The precise requirements are given in the text.

TRAVEL ZONES

Worlds may be classified as travel zones green, amber, or red. Green is usually not noted or stated.

Green: No particular danger or problem for travellers.

Amber: Caution advised for travellers; local conditions may pose danger or delay.

Red: Prohibited to travellers; local conditions can involve death or injury.

SIZE

Digit	Description
0	Asteroid/Planetoid Belt.
1	1000 miles (1600 km).
2	2000 miles (3200 km).
3	3000 miles (4800 km).
4	4000 miles (6400 km).
5	5000 miles (8000 km).
6	6000 miles (9600 km).
7	7000 miles (11200 km).
8	8000 miles (12800 km).
9	9000 miles (14400 km).
A	10000 miles (16000 km).

Note: World sizes greater than A (16,000 km) may be created by the referee and assigned special letter codes. Such worlds may be simply larger, or they may be of special types.

HYDROGRAPHICS

Digit	Description
0	No free standing water.
1	10% water.
2	20% water.
3	30% water.
4	40% water.
5	50% water.
6	60% water.
7	70% water.
8	80% water.
9	90% water.
A	No land masses.

Note: Worlds with no water are considered desert worlds. if they have atmosphere 2+. Worlds with hydrographic percentage A are water worlds. Worlds with atmosphere 0 or 1 and hydrographic percentage greater than 0 are ice-capped.

POPULATION

Digit	Description
0	No inhabitants.
1	Tens of inhabitants.
2	Hundreds of inhabitants.
3	Thousands of inhabitants.
4	Tens of thousands.
5	Hundreds of thousands.
6	Millions of inhabitants.
7	Tens of millions.
8	Hundreds of millions.
9	Billions of inhabitants.
A	Tens of billions.

The Population digit is an exponent of 10. The actual population of a world may range from the exact equivalent of the population digit to just below the next higher population digit.

TECHNOLOGICAL LEVELS

Digit	Description
0	Stone Age. Primitive
1	Bronze Age to Middle Ages
2	circa 1400 to 1700
3	circa 1700 to 1860
4	circa 1860 to 1900
5	circa 1900 to 1940
6	circa 1940 to 1970
7	circa 1970 to 1980
8	circa 1980 to 1990
9	circa 1990 to 2000
A	Interstellar community
B	Average Imperial
C	Average Imperial
D	Above-average Imperial
E	Above-average Imperial
F	Technical maximum Imperial
G	Occasional non-Imperial

Tech level labels in terms of historical dating are intended as a reference only. Similarly, the Tech level rating indicates what is probably a capability for a world at the stated Tech level.

LAW LEVEL

Digit	Description
0	No prohibitions.
1	Body pistols undetectable by standard detectors, explosives (bombs, grenades), and poison gas prohibited.
2	Portable energy weapons (laser carbine, laser rifle) prohibited. Ship's gunnery not affected.
3	Weapons of a strict military nature (machine gun, automatic rifles) prohibited.
4	Light assault weapons (submachineguns) prohibited.
5	Personal concealable firearms (such as pistols and revolvers) prohibited.
6	Most firearms (all except shotguns) prohibited. Open possession of any type of weapon is discouraged.
7	Shotguns are prohibited.
8	Long bladed weapons (all but daggers) are controlled, and open possession is prohibited.
9	Possession of any weapon outside one's residence is prohibited.
A	Possession of any weapon is prohibited.

Law Levels include the restrictions of lower-numbered Law Levels. Law Levels greater than A indicate a higher probability of police harassment.

Law Level is also the general roll to avoid harassment by police or law enforcement agencies. For example, on a world with Law Level 4, the roll to avoid arrest when encountering an enforcement agent (such as a customs official or policeman) is 4+.

TECH LEVEL TABLE

Digit	Starport	Size	Atm	Hyd	Pop	Govt
0		+2	+1	—	—	+1
1		+2	+1	—	+1	—
2		+1	+1	—	+1	—
3		+1	+1	—	+1	—
4		+1	—	—	+1	—
5		—	—	—	+1	+1
6		—	—	—	—	—
7		—	—	—	—	—
8		—	—	—	—	—
9		—	—	+1	+2	—
A	+6	—	+1	+2	+4	—
B	+4		+1			—
C	+2		+1			—
D	—		+1			-2
E	—		+1			—
F						—
X	-4					

Determine modifiers from this table and apply them to 1D to find tech level.

Tech level is more fully presented with tables on the next two pages showing achievements at specific levels.

Note: Dashes indicate that there is no modifiers for the given digit. Blanks indicate that there is no digit possible in that situation under this generation system.

GOVERNMENT

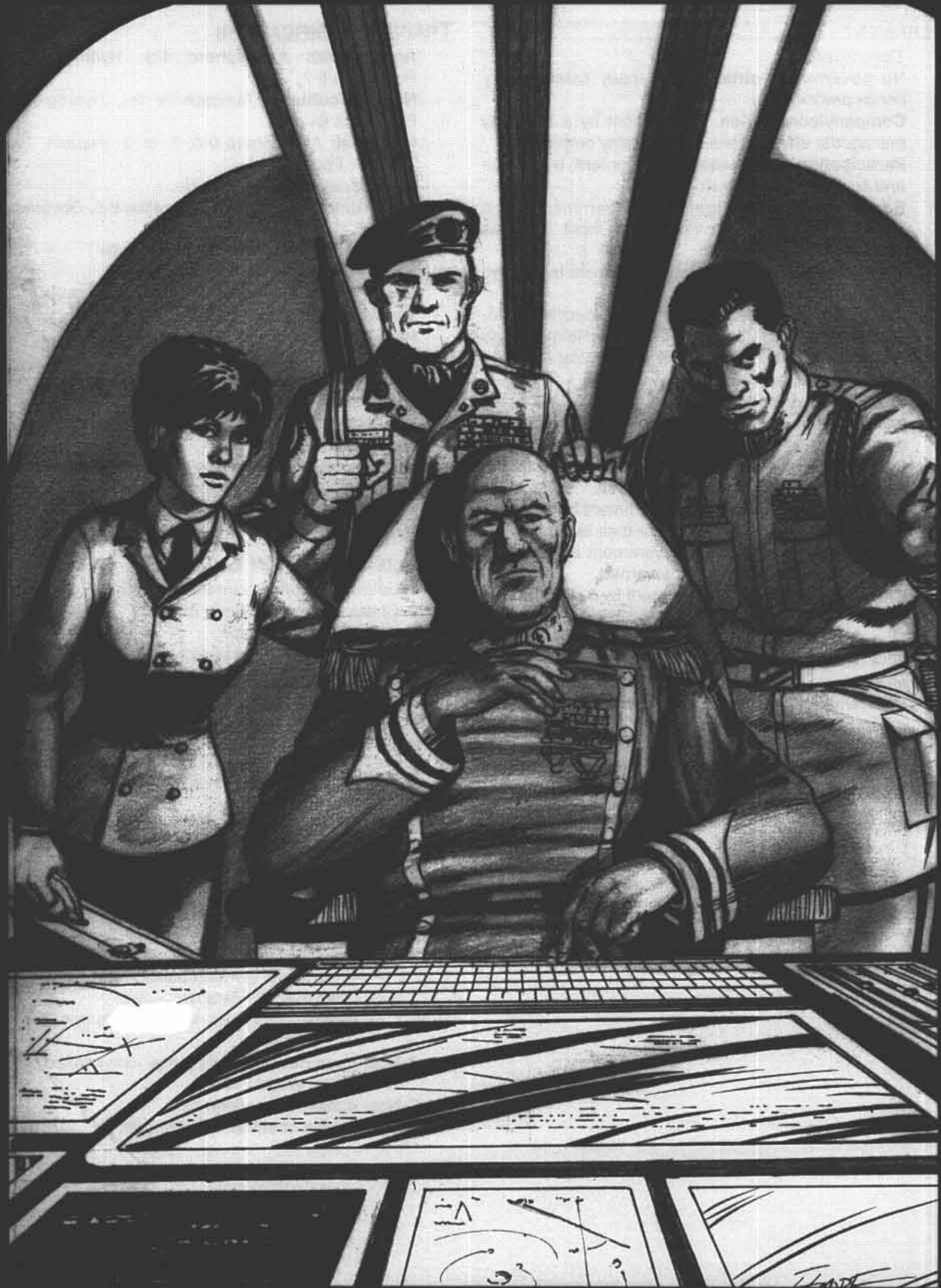
<i>Digit</i>	<i>Description</i>
0	No government structure. In many cases, family bonds predominate.
1	Company/corporation. Government by a company managerial elite; citizens are company employees.
2	Participating democracy. Government by advice and consent of the citizen.
3	Self-Perpetuating oligarchy. Government by a restricted minority, with little or no input from the masses.
4	Representative democracy. Government by elected representatives.
5	Feudal technocracy. Government by specific individuals for those who agree to be ruled. Relationships are based on the performance of technical activities which are mutually beneficial.
6	Captive government. Government by a leadership answerable to an outside group. A colony or conquered area.
7	Balkanization. No central ruling authority exists. Rival governments compete for control.
8	Civil service. Bureaucracy. Government by agencies employing individuals selected for their expertise.
9	Impersonal bureaucracy. Government by agencies which are insulated from the governed.
A	Charismatic dictator. Government by a single leader enjoying the confidence of the citizens.
B	Non-charismatic leader. A previous charismatic dictator has been replaced by a leader through normal channels.
C	Charismatic oligarchy. Government by a select group, organization, or class enjoying the overwhelming confidence of the citizenry.
D	Religious dictatorship. Government by a religious organization without regard to the needs of the citizenry.

TRADE CLASSIFICATIONS

Agricultural: Atmosphere 4-9, Hydrographic 4-8, Population 5-7.
Non-Agricultural: Atmosphere 3-, Hydrographic 3-, Population 6+.
Industrial: Atmosphere 0-4, 7, or 9 (Vacuum, Trace, or Tainted), Population 9+.
Non-Industrial: Population 6-.
Rich: Atmosphere 6 or 8, Population 6-8, Government 4-9.
Poor: Atmosphere 2-5, Hydrographic 3-
Water World: Hydrographic A.
Desert World: Hydrographic 0, Atmosphere 2+.
Vacuum World: Atmosphere 0.
High Population: Pop 9+.
Barren: Pop 0.
Asteroid Belt: Size 0.
Ice-capped: Atmosphere 0 or 1, Hydrographic 1+.
Subsector Capital: Single most important world in the subsector.
Other Notations: There are other possible notations. The referee may opt to note the presence of prison worlds, preserves or reserves for various purposes, and so on.

WORLD GENERATION CHECKLIST

- Determine world occurrence (1D for 4, 5, 6 is standard).
- Check System Contents Table.
 - Find starport type.
 - Check for Naval base.
 - Check for Scout base.
 - Check for gas giant.
- Name world.
- Decide if travel zone coded.
- Establish communications routes.
- Generate universal planetary profile for world.
 - Note starport type.
 - Size: 2D-2.
 - Atmosphere: 2D-7+Size. If Size is 0, Atmosphere must be 0.
 - Hydrographics: 2D-7+Size. If Size is 0 or 1, then Hydrographics must be 0. If Atmosphere is 0, 1, or A+, then apply -4 to roll.
 - Population: 2D-2.
 - Government: 2D-7+Population.
 - Law Level: 2D-7+Government.
 - Technological level: 1D+modifiers from Tech Level Table.
- Note trade classifications (page <xx>) based on Universal World Profile.
- Note statistics for reference.
- Map system of subsector map grid.



Within the Imperium, planetary governors do not retain their positions by virtue of noble rank alone. Governance requires a shrewd mind and a firm resolve, as well as the aid of capable assistants. Imperial governors are always on the watch for talented individuals to work as their agents. The rewards of that are as great as its dangers.

Encounters are the prime focus in **Traveller**. Through them, PCs with NPCs, events, animals, and other interesting phenomena. The direction and tone of adventures is inevitably influenced by the types of individuals encountered. Encounters are of seven basic types: routine, random, rumor, legal, patron, adventure, and animal. The referee determines what type of encounter is probable, and determines or decides if it occurs. If there is an encounter, the appropriate details are generated, and it is presented to the players. During the course of an encounter, the referee builds the situation, presents any appropriate reactions, and administers any necessary activity. In any encounter, the events may lead to friendship, a business relationship, antipathy and violence, or indifference.

Encounters with NPCs serve as the referee's vehicle for direction and input during adventures. The proper presentation of NPCs can provide PCs with transportation, information, or other assistance if reactions are appropriate. NPCs can also use violence (or the threat of violence) to redirect activity toward more reasonable goals.

Encounter Tables: A wide variety of encounter tables are useful to the referee as a prod to the imagination and an aid to the efficient management of an adventure. Encounter tables are presented in the set of encounter charts and tables. Other tables oriented toward a specific **Traveller** adventure or campaign may be generated by the referee.

Routine Encounters

Adventurers meet ordinary people in the course of ordinary activity. In many cases, adventurers actually ignore the persons (and are themselves little noticed), concentrating on their current activity instead. Personal reactions are rarely important, and the encountered individual merely performs his or her duties. For example, an encounter with a store clerk in the course of buying equipment is hardly troublesome, and the process usually continues without problem. It is not necessary for the adventurer to know the UPP of the clerk, or even deal with the clerk at any great length.

At times, the otherwise routine encounter may be used by the referee to further the events of the adventure. In such cases, the encounter is no longer routine. It is instead a random encounter, or an adventure encounter.

Employees and Hirelings: One form of routine encounter is the employment interview where the adventurers are the potential employers. When travellers themselves need employees (for any purpose, from bodyguards to crew members), they find them in various manners: Advertising, visiting union hiring halls, or actively spreading the word at local establishments are all possibilities. The referee, in response, must then generate several NPCs and present them as applicants for employment. The interview consists of the presentation of the character's UPP and skill levels. The PCs then decide whether to hire based on the information presented. Of course, applicants will be limited (perhaps one to six, or 1D, applicants per week), and the adventurers cannot be too choosy.

Random Encounters

As adventurers travel on planets, they should have random encounters with an unpredictable variety of individuals or groups. Such individuals are themselves performing various tasks, which may complement, supplement, oppose, or be irrelevant to the goals of the adventurers. Some random encounters are mandated by the referee in order to add adventure or spice to a situation.

Random encounters are primarily dictated by the Random Encounter Matrix. Random encounters may occur as frequently as daily. Each day the referee should roll to determine if a random encounter has occurred (roll 5+ on 1D for a random encounter). Random encounters may occur only if there is a local population to provide the individuals for the encounter.

If a random encounter occurs, roll two dice and consult the Random Encounter Matrix. The list provided is only an example, and other lists may be generated for specific adventures or situations. For example, if the adventuring group is on a world embroiled in a civil war, the Random Encounter List might be full

of troops, refugees, guerrillas, war profiteers, petty warlords, and members of various factions. The remarks column of the Random Encounter List indicates details of the group that is encountered. Unless indicated by the remarks, the group is assumed to be armed only with blade weapons, on foot, and at the tech level of the current world. If the remarks direct, the referee should equip the group with weapons, armor, and vehicles appropriate to the local tech level.

Some groups may have leaders. A leader is assumed to be armed with a gun and to be armored consistently with local tech level. In all cases, only military troops and leaders will wear combat armor or battle dress.

Reactions are an important part of random encounters. Once an encounter occurs, the referee should consult the reaction table to determine the specific response by the other side.

Rumors

Information is a valuable commodity to travellers, and rumors are the source of much useful information. The term "rumor" is a catchword covering a wide variety of presentations of information. Rumors may be newspaper or broadcast information. They can be conversations overheard on public transport or in local eating establishments. Perhaps they are bits and pieces brought together by the listener. In any case, the idea of the rumor allows the PCs to learn of new, exciting, and potentially rewarding (or potentially deadly) situations. In many instances, a rumor is simply information leading to a patron, a job, or a potential treasure. In **Traveller** adventures or campaigns, rumors serve to educate and direct the PCs toward the basis of the adventure.

Rumors are faceless. The PC's own decision to act on a rumor makes him or her responsible for the results. There is no one to pin the blame on if the rumor proves false. Rumors are untraceable. No one can definitely point to the source of a rumor and state that it originally began there. Rumors are, in effect, absent patrons, providing information that allows PCs to act, and having once acted, to win or lose on their own merits.

The referee should roll once per week to determine if a rumor surfaces (roll 7+ on 2D for a rumor to be encountered). If a rumor is found, roll two dice and consult the Rumors Matrix for the specific rumor involved. The Rumors List presents a variety of rumor types. The referee may invent rumors once a rumor is dictated by the list. In the case of specific adventures or campaigns, the referee may determine beforehand that some information is useful to the PCs, and write out a rumors list for the specific situation.

Rumors are valuable, and once PCs understand the values, they will seek them out. Ultimately, all rumors should be available to the PCs, but they should be doled out slowly in order to insure each rumor is dealt with and understood (if possible).

Legal Encounters

The law level of each world determines the degree of permissiveness or oppression that prevails. In addition to stating what weaponry is or is not allowed, law level addresses the problem of harassment by local enforcers or police. Permissive worlds allow individuals to settle their own differences and to protect themselves. The likelihood of local police bothering anyone is remote. On oppressive worlds, local enforcers are charged with great responsibility and spend much of their time protecting law and order. As a result, they are much more likely to stop and question strangers, often reducing this procedure to simple harassment.

The referee should roll once per day for legal encounters (roll local law level or more on 2D to avoid an encounter). If an encounter is called for, a local enforcer will stop the adventurers and require I.D. The referee should roll for the reactions, using adverse reactions as an indication of greater harassment, and positive reactions as a source of rumors, assistance, or patrons.

Patron

The key to adventure in **Traveller** is the patron. When a band of adventurers meets an appropriate patron, they have a person who can give them direction in their activities, and who can reward them for success. The patron is the single most important NPC possible.

If he decides to hire a band of adventurers, a patron will specify a task or deed to be carried out, and then finance reasonable expenses for the task. Most jobs are relatively ordinary, such as employment as armed guards or escorts, while other jobs may include locating and procuring precious items. Generally, a mutual agreement will specify that the patron receive the item the adventurers are hired to seek, and all other goods or items acquired will belong to the adventurers. Other possible agreements may call for the adventurers to receive shares in the total profit of the venture, from which their current salaries will be deducted.

Whenever the PCs do not have a patron and they are seeking one, the referee should roll once per week (roll 5+ on 1D for a patron encounter to occur). If one does happen, consult a Patron Encounters Matrix. Before rolling, the referee should determine which patron list will be used. Two lists are provided in the encounter tables. In the case of a specific adventure or campaign, the referee may create a special patron list that will more closely reflect the situation in the game. For example, if the current adventure centers on exploration and survey of a poorly charted subsector, then the range of patrons might include merchants anxious for trade franchises or news of new markets, mercenaries looking for new wars to fight, smugglers in search of goods, and government officials attempting to restrain access to the new area.

Adventure

Often, the PCs set a goal and then proceed to accomplish it. In the course of doing this, they are necessarily thrown into contact with a wide variety of individuals who are somehow related to the mission. Such individuals do not appear randomly, as they depend on the actions of the PCs and on the details of the situation. Such encounters are called adventure encounters, and are generated by the referee as required.

For example, if the travellers meet a patron (a financier whose daughter has been kidnapped), and they accept the patron's mission (rescue the daughter), then many encounters to come will be dictated by the situation. These are adventure encounters. They may include interviews with witnesses, discussions with police or private investigators, observations of likely suspects, conversations with data librarians, observations of guards at the kidnappers' hideout, and rescue of the daughter herself. No table of random events or personalities can provide these individuals. The referee must generate them in anticipation of the PCs' actions.

Reactions

When NPCs are encountered, their reactions will result in business deals, violence, assistance, charity, cooperation and a number of other actions. When an encounter occurs, roll two dice and consult the Reaction Table. Die rolls of 2 and 12 (exactly) are not modified, but any other result is subject to DMs. Modified results of less than 3 become 3, and greater than 12 become 12.

The following general DMs apply, with others called for according to situation. If a character has served 5 or more terms in the Army, Navy, Marines, or Scouts, DM +1. If planetary population rating is 9-, DM -1.

Reaction rolls are made upon initial encounter, and one roll determines the reaction of an entire group.

Reactions are used by the referee and by players as a guide to the probable actions of individuals. They determine responses to business offers or deals (Administration or Bribery skill serves as a DM). Reactions govern the reliability and quality of hirelings and employees. Generally, they would reroll reactions in the face of bad treatment or dangerous tasks.

Note that the reactions are expressed in general terms and that they require interpretation by the referee. For example, attacks by reacting characters may not be physical and instead be verbal or psychological, depending on local law level, the circumstance, and the mentality of the character.

Referee's Responsibility

In an encounter, the referee must be responsible for the details of the situation and the NPCs. The encounter tables include synopses of available weapons and armor by tech level, and available weapons by law level. As the players become familiar with the rules for **Traveller**, they will come to expect certain levels of weaponry and equipment at various law levels and tech levels. Such familiarity is to be expected and lets them cope with the role-playing aspects of the game. The referee must ensure that NPCs encountered are properly equipped and consistent with the rules that the players know. That is not to say that encounters cannot be equipped above a local tech level or law level, but there should be a definite reason (special permission from local authorities; imported or smuggled equipment; military issue) for any inconsistency.

Additional Tables: The various encounter tables have been presented in such a way that the referee can easily produce additional lists or tables in order to vary the types of encounters to be expected. Such variation is a positive addition in that it makes the universe the PCs adventure in more diverse.

Checklist: The encounter checklist provides a quick guide to the expected frequency of encounters during a scenario, adventure, or campaign.

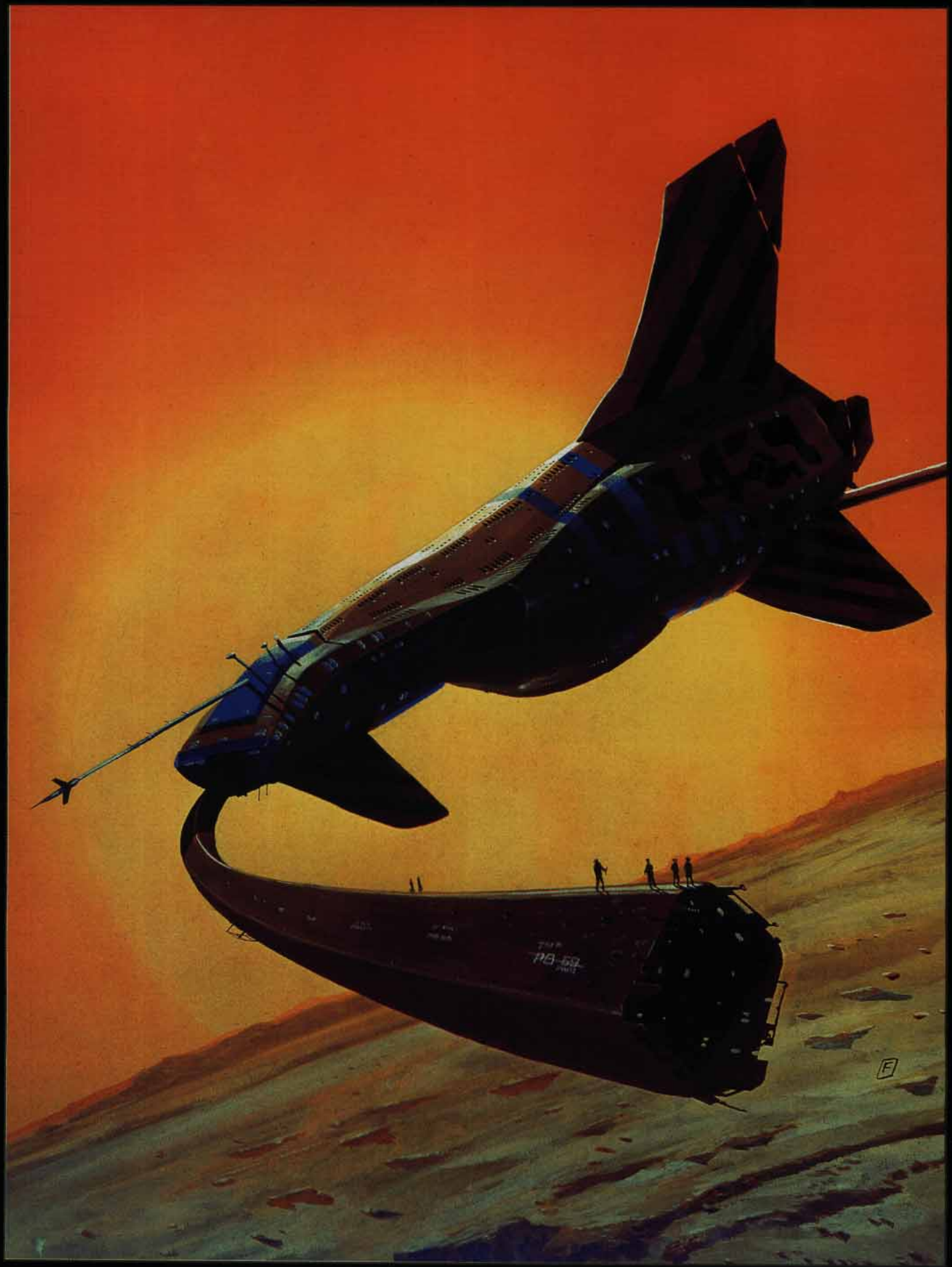
Animals

Animals in any ecological system interact with one another, forming food chains, obeying instincts, defending territory, and generally living out their lives. When people enter an ecological system, they encounter the animals of the system, prompting natural reactions, such as attack or flight.

Although the precise nature of animals may change, and they may prove quite alien to ordinary experience, most will conform to the broad classifications given below. A referee may choose to set up his own ecological system on a specific world, ignoring the encounter system outlined here. This system, however, is intended to allow broad latitude in both animal types and attack/defense mechanisms, while remaining essentially logical and reasonable.

Animal Types: Nearly all animals may be classified into four basic categories: herbivore, omnivore, carnivore, and scavenger. Specific definitions for these terms are provided in a later section of these rules, and differ from the precise scientific definitions in





current use. Within each category, a variety of animal types exists, based on specific feeding/hunting habits. Examples of this concept are grazers, chasers, and pouncers. Animal encounters may be further classified into various categories and types, and specific attack and defense mechanisms determined. The resulting description indicates the actions an animal will take without resorting to such confining labels as bear or tiger. While a referee may well elect to use such names, this system also allows the players freedom to encounter truly alien beasts as well.

Animal Encounter Tables: The referee creates a series of unique encounter tables, one set for each world in the universe (only a few of these are necessary before play begins). Each set consists of one encounter column for each relevant terrain type of the world. Generally, a referee will conceal the exact details of these encounter columns, so that persons will have only clues as to the relative abundance or scarcity of specific animals in any specific area. Once these tables are created, they are used each day to determine if animals are encountered, the specific nature of such animals, and how they react to the adventurers. Hunting for sport or food is possible, and danger posed by animals may be great.

Creating Encounter Tables

Initially, the referee must prepare a blank encounter column for each terrain type on a world. The Terrain Types indicates the general types of terrain that might be expected on the worlds to be visited. The referee should determine if the encounter table will use one die or two. Two-die tables are more complex, and should be selected for terrain or worlds that will be frequented, while one-die tables are for worlds or terrain types that the referee does not feel merit detailed representation. The examples of blank encounter tables shown indicate the predetermined sequences of animal categories that should be used in most cases. The referee may vary these sequences to fit special situations or world conditions.

Once the encounter table format has been decided upon, the referee notes the terrain type for the table, and consults the Terrain Types Table. Any applicable DMs are recorded. The referee refers to the Animal Types Table and rolls 2D for the animal category involved. The result is the animal type for the entry. The Animal Attributes Table is consulted to determine if the animal has any special characteristics, such as flying or swimming. The Animal Sizes and Weaponry Table is consulted to determine the animal's size, wound potential, weaponry, and armor. Finally, the Characteristics Table is consulted to note the animal's predisposition to attack or flee, and its speed.

When the encounter table calls for events, the referee should insert an event from those described in these rules, or generate additional events appropriate to the situation.

Animal Types: The Animal Types Table indicates the types of animals that occur within the categories on the encounter column.

Special Attributes: Animals that adventurers will encounter will tend to be walkers, but may be flyers, swimmers, amphibians, or even triphibians. Roll two dice and consult the Special Attributes Table. Impose DMs for various world sizes and atmospheres. Ensure that the correct terrain column is used on the table. Four special attribute types are possible on the table:

Flyers: Animals capable of flying through the use of wings, levitating gas sacs, or other mechanisms.

Swimmers: Animals living in liquid and swimming through the use of fins, flippers, jets, or other mechanisms.

Amphibians: Animals living in liquid, but capable of emerging onto land.

Triphibians: Animals living in liquid, but capable of walking on land and flying in the air.

Certain entries on the table are followed by a DM that must be applied to the animal size roll—its general effect is to make flyers smaller and swimmers larger. Note the special attribute (if any) on the blank encounter column being filled in. Record any size DM temporarily for use in the Size roll to come.

Animal Size and Weaponry: Animals range in size from small (massing about 1 kg) to giant (massing 6 tons or greater), and exhibit a variety of characteristics related to size. Roll 2D and consult the weight, hits, and wounds columns of the Animal Size and Weaponry Table (rolling only once for all three). Apply DMs on this roll based on planetary size, the Terrain Types Table (by specific terrain type) and as required by special attributes, if present.

Animal size is expressed on the table in kilograms, and may be taken as a general indication of size in relation to human beings (humans are assumed to be approximately 100 kilograms). All sizes may be construed to cover a range of plus or minus 20%.

Hits: The hits column indicates the number of hits an animal can take, expressed as a die roll. When an animal has received wounds equaling or exceeding the first die roll, the animal is considered to be unconscious. When it has received wounds equaling or exceeding its total hits, it is dead. If an animal receives wounds equal to twice its hits, it is destroyed and has lost any value as food or pelt. For example, an animal listed on the Animal Size and Weaponry Table as taking 2D hits would have two dice rolled twice: the first roll would be the number of hits required to render the animal unconscious. The second two-die roll would indicate the additional hits required to kill the animal. If more than twice this combined value is achieved, the animal is completely destroyed.

Because animals can be either much smaller or much larger than characters, weapons have a different damage maximum when used against them. For each 50 kilograms (or portion thereof) that an animal masses, a weapon can do a maximum of 1D of damage to it. An animal massing 40 kg, for instance, would take a maximum of 1D damage from a weapon, while an animal massing 1500 kg would take a maximum of 30D.

Wounds: The wounds column indicates the general effect of size on an animal's ability to cause damage when it hits. The formula is noted and applied to the effects of the animal's weapons when they are determined. For example, teeth have a damage rating of 2D. A wound alteration of $-1D$ indicates that the referee should roll 2D and subtract one die to determine the actual wounds inflicted. If the wound alteration is $+4D$, then the teeth will inflict $1D + 4D$ wounds. If the wound alteration is $\times 4$, then the teeth will inflict $1D \times 4$ wounds. The result is that, of two animals armed with the same weapon, the larger will inflict a heavier wound. For simplicity, the damage dice should be rolled once when the animal is generated, and the animal would inflict that number of hits every time it hits. A roll of 0 or less equals 1, as an animal always has the ability to do some damage. If the referee wishes to take the trouble, he can roll the proper number of dice every time the animal hits; in this case, a roll of 0 or less would equal 0.

Weaponry: Animals are naturally equipped with weapons that enable them to attack and defend. Familiar terms such as teeth and claws indicate the effects in the combat system, but should also be considered to approximate other equivalent systems if necessary. Entries such as teeth+1 indicate a DM to the combat roll, making the attack more effective. In some cases, unusual weaponry is indicated by the statement "as *weapon-type*", for example, "as club," which will have a damage rating equal to that described weapon. Weapon types should always be considered to be descriptive of result rather than of strict process.

Roll two dice and consult the weapons column. Implement DMs as indicated on the table.

Armor: Some animals possess protection to guard them from attacks by other animals. This protection is termed armor with intention to indicate the general toughness against hits, and not

referring to specific construction. All animal armors have armor rating and, unless noted, are considered *flexible*.

Roll two dice and consult the armor column. Implement the DMs as indicated on the table.

Animal Characteristics: Because animals have predisposition to attack or flee, these details must be noted on the animal encounter table for each specific type presented. These characteristics are noted in the form of three codes in the table: A, F, and S. Each is followed by a number that indicates the roll involved.

A indicates attack predisposition. A7 would indicate that the animal will attack on a roll of 7-. The number 0 indicates a special case; the animal will attack if it meets certain criteria for its type.

F indicates predisposition to flee. F7 would indicate that the animal will flee on a roll of 7-. The number 0 is a special case, and the animal will flee if certain criteria for the animal type are met.

S indicates speed. S0 indicates that the animal is immobile. S1 indicates normal or ordinary speed. S2 indicates double speed, S3 is triple speed, and S4, quadruple speed.

The Animal Characteristics Table indicates die rolls to derive these three characteristics.

Referee's Additions: The referee may invent new animal characteristics within this system. Larger or smaller animals may be invented, extrapolating from the system presented. Other animal weaponry and armor types may be invented.

Animals may also possess more complex motivations than the simple instincts for attack and flight. The animal type descriptions later in this chapter will prove helpful in this regard. Carnivores will base their decisions on the sizes of the party and of individuals. Large herbivores will be less likely to flee than small ones, tending to ignore a party unless it approaches too close. Humans may resemble a carnivore's natural prey or a herbivore's natural predator. Any animal may attack if the party threatens its young, nest, territory, or meal. Any animal may flee if startled or if the party appears sufficiently threatening—even the most vicious carnivore is reluctant to risk its life for a meal.

Other responses are possible beyond attack or flight. A carnivore may stalk a party, hoping to attack an isolated member. An armored animal may curl up into a ball or retract its extremities into its shell. Animals may find certain parts of the group's equipment attractive, and fasten themselves to the outside of an ATV or try to eat clothing. There may be responses analogous to that of the skunk or the opossum. An animal may be friendly or want to play; it might even mistake a party for members of the opposite sex.

Common Sense: Airless worlds will almost never have any life of consequence on them; if they do, animal life will still tend to follow the same broad guidelines given above. Still, flyers and liquid breathers will be almost nonexistent.

The referee should always be prepared to alter or restrain prescribed procedures if it is felt that they contravene logic or reason.

Using Encounter Tables

Each day, an adventuring band may possibly have one or more encounters with some animal life-forms. As a general rule, the referee will check for an encounter once while the band is travelling and once while the band is halted (for rest, exercise, encampment, or whatever). There is a one-third chance (roll 1 or 2 on one die) that an animal encounter will occur in any of the specified terrain types. Referee-initiated modifications to this frequency may be instituted to cover greater or smaller probabilities based on planetary or local conditions.

In addition, specific encounters at specific locations are always possible. For example, the referee may already have populated a location (perhaps a ruin) with specific animals. These are not subject to normal random encounter rules.

Procedure: Twice each day, the referee will roll to determine if an encounter occurs. If a band splits temporarily, each subgroup is liable for independent encounters. When an encounter does occur, the correct (based on terrain type) encounter column is then used to ascertain the class, type, quantity, and characteristics of the animal encountered (in some circumstances the encounter column may indicate that a non-animal event has been encountered instead). Any situation that calls for combat uses the personal combat system already presented.

Special Effects: Animal encounters sometime constitute the only general possibility of access that characters have to food, furs, or other valuable items. Guides may be hired or present for the purpose of assisting in the location of specific animals, contributing a DM of +2 or greater to influence encounter roll for a specific type of animal. Animals are usually edible (roll 5+ to be edible, DM -3 if the atmosphere is tainted) provided the planetary atmosphere is between 2 and 9, and the animal does not have a poison weapon. Otherwise, the animal is inedible. From 5% to 30% (roll one die times 5%) of an animal's weight will be edible meat. A person requires one kilogram of meat per day when living off the hunt.

Animal Descriptions: The referee may elect to describe animals in order to allow a better image in the adventurers' minds. The basic system may be used without this aspect, but descriptions such as lionlike, amoeboid, canine, or others prove useful.

Animal Definitions

The following definitions more fully detail the meanings of the descriptive terms used for animal categories, types, and events.

Herbivores

Animals that eat unresisting food are generally classed as herbivores. While this is usually construed as covering plant eaters, the definition is extended here to cover the eating of unresisting animals as well. For example, the anteater and the whale eat effectively unresisting animals (ants and krill) and should be classified as herbivores. Herbivores are grouped in three types:

Grazers: Animals that devote most of their time to eating are termed grazers. They may be solitary or grouped in herds. Their primary defense is flight, although such action may result in stampedes that could endanger adventurers in their path. When forced to fight, they will fight fiercely until killed or routed. Typical Terran grazers are the antelope and the moose. The whale (which scoops krill from the sea as it swims through it) is also a grazer.

Intermittents: Herbivores which do not devote full time to eating are termed intermittents. They tend to be solitary. Intermittents usually freeze when an encounter occurs, fleeing if attacked by a larger animal. There is some potential that an intermittent will attack to protect territory or young. Typical Terran intermittents are the chipmunk and the elephant.

Filters: Herbivores that pass the environment through their bodies are termed filters. Unlike grazers, which move to food, filters move a flow of water or air through themselves in order to gain food. Generally, filters suck, trip, push, or pull anything (even animals) at close range into a digestive sac, inflicting automatic wounds of 1D per 50 kg or less of animal mass (wound alteration should be ignored for filters). Filters are solitary and generally slow-moving. They will attack reflexively (as indicated above), succeeding against adventurers with a roll of 8-. Prompt struggle by adventurers (at a cost of one Endurance point each) will secure an escape with an Average Dex check, with DM+2 for each companion assisting at Contact range. Roll once per combat round, beginning on the round following the attack. A filter can absorb an animal up to twice its own weight. Terran filters are generally aquatic, such as the barnacle.

Omnivores

Animals that eat food without regard to its resistance are termed omnivores. The bear, which will eat fruits and berries as readily as it will hunt for animals, is an omnivore. Omnivores are of three types: gatherers, hunters, and eaters.

Gatherers: Animals that display a greater tendency toward herbivorous behavior are termed gatherers. In most respects, they are similar to intermittents. Typical Terran gatherers are the raccoon and the chimpanzee.

Hunters: Animals that display a greater tendency toward carnivorous behavior are termed hunters. In most respects, they are similar to small or inefficient chasers. Typical Terran hunters are bears or humans.

Eaters: The true omnivore (in the sense that it will eat anything and everything) does not distinguish its food, consuming all that it confronts. Eaters present considerable danger in that they will not avoid adventurers. A typical Terran eater is the army ant (when an entire swarm is considered to be one organism).

Carnivores

Animals that prey on other animals by attacking and killing them in the face of resistance are classed as carnivores. Carnivores are of five basic types: pouncers, chasers, trappers, sirens, and killers.

Pouncers: Animals which kill their prey by attacking from hiding, or by stalking and springing, are termed pouncers. Because of the difficulty of such attacks, pouncers are usually solitary animals. In an encounter, pouncers that have achieved surprise have succeeded in their basic aim and will attack regardless of range. If they do not have surprise, they will sometimes still attack. They will flee if they themselves are surprised. Typical Terran pouncers are cats.

Chasers: Animals that kill their prey by attacking after a chase are termed chasers. Typical chasers are wolves.

Trappers: Animals that passively allow their prey to enter a created trap wherein they are killed and then eaten are termed trappers. Any character who is surprised by a trapper at Contact or Very Short range is then trapped on a roll of 9-. Escape (in lieu of making any swings or blows, but costing one Endurance point) requires a Difficult Dex roll, with DM+1 for each assisting companion. Companions are subject to capture by the trap while providing assistance. Usually, a trap will not wound or damage a character, but will hold the adventurer so the trapper may try to kill him.

Siren: Distinct from the trapper, which creates a trap for its prey, a siren also creates a lure to draw prey to the trap. The trap is treated in much the same manner as that of the trapper, but the lure entails additional consideration. In most cases, the lure will be specific to some animal, but will be unnoticed by humans. In rare cases (roll 3-), the lure will be universal, perhaps a smell or scent, or a mirage or beautiful configuration, which will attract characters into a vulnerable position. Very rarely, the lure will be psionic in nature. Typical Terran sirens are the angler fish (its mouth is the trap) and the venus fly trap.

Killers: Some carnivores devote much attention to killing, apparently for the act itself, in a kind of blood lust. Killers' reason (such as territorial defense) is replaced by raw killing instinct. Attacks by killers are fierce and violent. Killers will generally disregard a defender's size. A typical Terran killer is the shark.

Scavengers

Animals that share or steal the prey of others, or that take the remains of kills, are classed as scavengers. Scavengers are of four types: intimidators, hijackers, carrion eaters, and reducers.

Intimidators: Scavengers that establish their claim to food by frightening or threatening other animals are termed intimidators. Their standard procedure is to approach a kill and force other animals away by appearing to be a threat. A typical Terran intimidator is the coyote.

Hijackers: Scavengers that establish their claim to food by simply taking it are termed hijackers. They rely on their superior strength or size to allow them to hijack food because the other animals present cannot effectively object. A typical Terran hijacker is the lion or the Tyrannosaurus rex.

Carrion Eaters: Scavengers that take dead meat when it becomes available (often waiting patiently for all other threats to disperse before beginning) are termed carrion eaters. Most typical of Terran carrion eaters is the buzzard.

Reducers: Scavengers that act constantly on all available food are termed reducers. They eat the remains of food after all other scavengers are finished with it, consuming bone and other leavings. Terran reducers are all microscopic, such as bacteria.

Events

In addition to animals, the referee may include one or more events in his encounter tables. An event may be almost anything: an unusual animal not covered adequately by the standard format, an interesting terrain feature, weather, even a natural disaster. An event's purpose is to add interest, atmosphere, and perhaps a bit of danger to the adventurers' travels. Events should be specifically tailored to the terrain in which they occur, and should take into account the nature of the party, its weapons, and its vehicles. A number of sample events are given below. In order to present as many ideas as possible, the descriptions of individual events are short.

Animals: An event is a convenient form to use in describing an unusual animal. The animal's statistics, in standard format, may follow the description, or the event may describe unusual behavior by an animal found elsewhere on the table. An event may also describe the animal's lair or spoor, rather than the animal itself.

Chameleon: These animals are very well camouflaged. If the animal chooses to attack, the encounter will take place at Contact or Very Short range and the animal will have surprise. Otherwise, there will be no encounter.

Psionic Assaulters: Telepathic carnivores attack the party. All persons are attacked by psionic assault as explained in the psionics rules. The creatures will remain hidden within 50 meters of the party, emerging only if most of the party is incapacitated.

Circling Flyers: A number of flyers spot the party and circle above their heads. After about 10 minutes the party will be attacked by chasers. The animals are symbiotic: the flyers spot prey for the chasers, and are allowed to share in the feast.

Poisonous Pests: While the party was stopped, tiny (1 gram) creatures have crawled into concealed places within the party's equipment (packs, boots, etc.). They are poisonous, and attack when encountered (when a character reaches into his pack, puts on his boots, etc.), doing 3D damage unless the character makes an Average Dexterity roll.

Stampede: A herd of grazers, frightened by carnivores, stampedes into the party. They can be turned by loud noises (gunshots, explosions) or laser bolts. Otherwise, they will run straight through the party. Each individual must roll Average Dex roll to avoid 2D accidental damage.

Rutting Season: A large, normally harmless herbivore mistakes the party's ATV for a rival and charges. Roll 4- each combat round, DM + driver's skill, to avoid a collision. On 5- per collision, the ATV will be damaged and rendered immobile until repaired.

Lair: The party comes upon a large burrow in which there are five immature pouncers. They are not dangerous, but if the party remains in the area more than a few minutes, the mother will return and attack immediately.

Plants: Although plants will generally remain just part of the scenery, some may be interesting or dangerous enough to qualify as events.

Hallucinogenic Pollen: The party comes upon a field of flowers. The air is filled with their pollen, which will cause strong hallucinations if breathed. The hallucinations, threatening in nature, will continue for about 20 minutes after the party leaves the field.

Carnivorous Plants: Apparently solid ground collapses beneath the lead member of the party and he falls into a circular pit 4 meters deep; the walls are covered with downward-projecting spikes, and there is 1 meter of liquid at the bottom. This is a digestive organ grown by nearby trees, and if the character is not rescued within a few minutes, the liquid will begin to digest him.

Wirebushes: The party comes to an area filled with low bushes. Their branches are very tough, and if the party tries to drive through, their ATV's tracks will be entangled, requiring 2D man-hours to free. Bypassing the area adds an half an hour travel time.

Weather: Various types of weather may endanger a party or impede its progress.

Dense Fog: The party encounters a low area filled with a dense fog. Visibility is reduced to medium range, and safe travel is reduced to half speed.

Sandstorm: High winds fill the air with abrasive sand particles. Progress will be impossible for 12 hours. Individuals will be buried, and vehicle windscreens will be abraded into translucence.

Cold Snap: The ambient temperature falls rapidly. Individuals must obtain shelter or lose 2 points of Endurance per hour.

Tornado: A tornado is heading toward the party. If it achieves surprise, or the party does not act to avoid its path once it is sighted, it will destroy their vehicle and inflict 3D hits on each member of the group.

Rainstorm: A sudden rainstorm reduces visibility and turns the ground to thick mud. Travel is slowed to quarter speed for the day.

Natural Disasters: These make good events if used sparingly. The more violent events will serve to warn travellers away from certain terrain types, and enough warning should be given to allow a clever party to escape.

Prairie Fire: A line of fire can be seen on the horizon. The fire is 20 km across and must be detoured around. Animals fleeing the fire will ignore the party unless their escape path is blocked. Detour will take 4 hours; roll for 3 encounters during that time.

Flash Flood: A wall of water rushes along the river bed, sweeping all before it. The party must get to high ground before the flood reaches them. Vehicles roll 4– to avoid destruction, while individuals must make Difficult Dex roll to avoid being carried several km downstream, suffering 3D points of damage.

Volcano: A nearby volcano erupts, and the party must flee or be overcome by poisonous gases. After the eruption, ash and lava flow have sealed the mountain pass, preventing forward progress.

Seismic Quake: A seismic disturbance shakes the ground. Each adventurer must roll strength or less to avoid being thrown to the ground, taking 1D points damage.

Terrain Features: Adventurers may encounter variations in the local terrain, too small to show up on planetary maps.

Broken Ground: The terrain becomes very rough. ATVs must slow to quarter speed or risk a track breakdown (throw 6+ per hour to avoid).

Oasis: The party approaches an oasis, with a pool of water surrounded by heavy vegetation. Roll 6– for the water to be drinkable. If it is not, moisture may still be recovered from reservoirs inside one species of plants.

Crevasse: A deep crevasse blocks forward progress, and 2D hours will be required to detour around it.

Radiation Area: An area in the forest is devoid of life, and a geiger counter will show very high levels of radiation near the center. Individuals who spend more than 10 minutes in the area will suffer from radiation sickness, taking 1 point of damage, every day for the next two weeks, for each 10 minutes spent in the area; for

instance, a character who spends an hour in the area will take 6 points of damage each day for two weeks.

Quicksand: Average Dex roll is required to avoid becoming trapped. If trapped, roll strength or less each round to escape. If a companion is able to help, DM+3. If the adventurer does not escape within 10 rounds, he drowns.

Ford: Sandbars in the river create a shallow area, allowing vehicles to cross.

Curiosities: Some events may have no importance whatsoever, merely providing atmosphere to an adventure.

Statues: The party finds a large stone statue, half buried; the torso is human but the head is that of a local carnivore. Natives of the area, if consulted, will state that such finds are common and will give varying opinions of their origin.

Jungle Drums: Distant drums are heard at night; periodically they fall silent and are answered from another direction. If the party investigates, they may be able to discover that these are the mating calls of a large omnivore.

Marsh Gas: Moving lights are seen in the distance, apparently following the party. They may temporarily be mistaken for the running lights of an air raft.

Vacuum Worlds: Encounter tables for vacuum worlds (or any world without life) must be largely composed of events.

Dust Pool: Micro-fine dust fills a crater. If any character walks though the pool, roll 4– for a vac suit malfunction to occur from dust contamination. If dust enters the party's vehicle (carried in on a character's vac suit) roll 4– every hour for malfunction of some element of the vehicle's electronic circuitry.

Solar Storm: Increased solar activity makes radio communication impossible for several days.

Magnetic Anomaly: A large underground metal deposit deflects compass readings by up to 60 degrees. Travellers who do not notice this will be steered off course.

Tracks: ATV tracks cross the party's path. If the party follows them in the right direction, they will be led eventually to civilization.

Pressure Tent: The party comes upon a small inflatable shelter of the type used by prospectors. There is breathable air inside, but no light or heat, as the shelter's power pack has run down. The owner's body may be found (if anyone undertakes a search) under a rock slide several hundred meters away.

Greater Complexities: Events may be used to trigger rolls on special encounter tables. For example, if an event describes a forest clearing, a special table may be made up to handle encounters in that clearing. An event may be made specifically applicable to an adventure in which a party is involved; for example, if a party is prospecting the location of a mineral outcropping could be an event. Events may trigger small adventures, separate from the main adventure. For instance, an event could consist of the exploration of a cave previously mapped by the referee.

Animal Characteristics

This table indicates the behavior that may be expected from any specific animal. Determine animal category and type. Roll once in each column (to attack, to flee, and typical speed); the result tells if that specific animal type must attack or flee (otherwise the animal does nothing). The number for speed is the multiplier times ordinary speed.

For example, for a grazer, roll to determine attack; one die is rolled, with a result of 6 (+2=8), so the animal will attack on a roll of 8+ when encountered. To determine the roll to flee, one die is rolled, for a 3 (–1=2), so the animal will flee on a roll of 2+. The speed die roll is a 4 (–2=2), so the animal has double speed.

Note that the rolls to determine these numbers use one die, but in all cases, they then represent two-die rolls when used on the animal encounter tables.

Formatting: Each roll is generally a single digit, and should be preceded by the letter A (attack), F (flee), or S (speed). For example, A6 F7 S2 means an animal that will attack on 6+, flee on 7+ if it has not already attacked, and have a speed of double ordinary.

In some cases (where phrases are given above) animals will behave according to the situation. The number used should be 0 to indicate a special case.

If possible indicates that a filter will attack if it possibly can.

Surprise indicates that the animal will attack if it has surprise.

Surprised indicates that the animal will flee if surprised.

If more indicates that the animal will attack if there are more of it than there are potential prey.

Herbivores: Most animals will attack before they flee, so the order of codes should be A F S; herbivores will probably flee first, so they should be coded F A S.

Typical Animal Encounter Table

The Encounter Table for Regina shows the format for the presentation of the encounters. The table is clearly headed with the type of terrain, and with the world on which the terrain occurs. Headings for the individual columns make use of the material easier.

Aliens

The **Traveller** universe teems with intelligent life, and not all of it is human. Every star system can radiate its warmth onto a lush blue-green world where the seeds of life may grow to intelligence and civilization. The children of distant stars are a fundamental component of science fiction. Their alienness serves to enrich and define, to demonstrate the diversity of form and intellect that might evolve on other worlds, when they are all the while but reflections of ourselves. Beyond the hardware and technology, the economics and governments of human worlds, **Traveller's** aliens serve to gently remind that the tempo of the rest of the galaxy the synchronous rhythm of inhuman hearts.

Aliens in the Imperium

The Vilani Imperium and the subsequent Ramshackle Empire held sway over a vast volume of space encompassing tens of thousands of stars. Within that space are hundreds of worlds where intelligent life emerged against the odds to take over. Around the Imperium's fringes are other worlds where aliens have taken to the stars themselves to make their own bubbles of influence on the galactic map. Each race contacted has had its impact, however small, on the Imperium and its rulers.

The Imperium is and always has been dominated by humans. The Vilani are humans, but so are the Zhodani they encountered to rimward and coreward, and so too the Solomani from Terra who overthrew the empire to create the Rule of Man. The Solomani Hypothesis sets the true birthplace of the human species on Terra, and holds that the Vilani, Zhodani, and the host of other human races that never reached the stars on their own were seeded from there by the mysterious Ancients. Their motives are unknown, but what is certain is that all the races of humanity are at least genetically identical; it is cultures that set them apart to one another.

By Imperial reckoning, any race that invented the jump drive and therefore achieved star travel on its own is termed a *major race*. Consequently, any intelligent alien species that never developed that technology independently is a *minor race*. There are exactly seven major races; the Vilani, then the Aslan, Hivers, K'Kree, Solomani, Vargr, and Zhodani. Minor races are more difficult to identify and quantify, since the definition of true intelligence is by no means universal. There are likely more than a thousand unique minor races in the Imperium's galactic neighborhood.

Every alien race has room for enormous diversity. The descriptions here apply to mainstream populace, but every imaginable extreme can exist somewhere within their millions.

Major Races

Vilani are the most numerous humans, and their Imperium sets the standards by which all other races are measured. As a starfaring society, they have set the hurdle high for inclusion as a major race, so high that only six others have joined them. Each major race holds dominion over a large volume of space rivaling that occupied by any of the three Imperiums.

The vast history of the Imperiums spans the ascension of the other major races as well. As the fortunes of the Vilani rose and fell through the centuries, so too did those of the other major races. Every important event has its place in that long history, from first contact to periods of enormous influence on the Imperium. In any given Milieu, the Imperium may be locked in struggle with one major race, while another has yet to be contacted.

Aslan

The Aslan are a warrior race driven to rapid expansion through the stars by an instinctive desire for greater territory. Their homeworld is Kussyu, a large world of vast plains and oceans located approximately 175 parsecs rimward and spinward from Sylea. Early Terran explorers regarded the Aslan as "lion-like," a notion that has stuck with them ever since.

Aslan are descended from four-limbed, carnivorous pouncers on Kussyu, where they once occupied the top of the food chain in the thick forest lands. Climatic changes depleted the forests, forcing the primitive Aslan onto the plains to hunt, initiating cooperation and the emergence of communication and greater intelligence. Today they are upright bipeds averaging 2 meters in height and 100 kg in weight. They retain sharp claws and great speed and endurance from their carnivorous roots. There are both male and female Aslan, the latter outnumbering the former by 3 to 1.

Male Aslan are driven by territorial instincts to the exclusion of most everything else, leaving females to advance the race's technology and civilization. Families are organized into prides and these into clans. Families are male-dominated and polygamous; a male of higher social standing generally has more wives. Many females abstain from marriage, devoting themselves instead to pursuits of science, business, or other matters. The preeminent 29 clans, or *Tiaukhu*, all maintain territory on Kussyu itself, and together set up the Hierate, a means to regularly meet and discuss differences in a widespread society otherwise devoid of government. The Hierate meets continuously on the homeworld to settle disputes and arbitrate differences among clans. Still, duels hamper Aslan society. Military forces are maintained by each clan.

The Aslan developed the jump drive in the year -1999, and it provided a timely outlet for territorial pressures that threatened to destroy the race. They expanded slowly as their drive technology grew, occupying a vast area of space by 242. First contact with humanity occurred during the Long Night, sparking the many Aslan Border Wars that occurred between -1120 and 380 until the Peace of Ftahair established much of the Reaver's Deep sector as a buffer between the two races. Aslan commonly live and travel in the Imperium after 400. Limited conflicts between the two largest Aslan clans and the Solomani are common between 1000 and 1200.

Hivers

Hivers are the most inhuman of the major races, occupying a large volume of space trailing the Imperium. They are perhaps the most civilized of major races, and regard other races as "children," immature species in need of their help for elevation to true civilization.

Hivers are descended from omnivore gatherer/scavengers who lived in the tunnels and mounds of a very large burrowing animal on their homeworld. The primitive Hivers provided the burrow

er food in exchange for shelter, growing fungus and foraging the surrounding area for food. Intelligence arose when climatic change forced foragers to range farther from the nest and then to cooperate to trap live game. Their bodies display a modified six-fold radial symmetry, the limbs and head protruding from a fused carapace section that houses the brain and internal organs. The head is a modification of one of the limbs and contains six eyestalks and six manipulative tentacles, plus paired infrared sensor organs and three ears placed around the neck near the head. Hivers have no spoken language, communicating instead by elaborate arm and tentacle waving with physical contact. There is only one sex, and genetic materials are exchanged whenever they meet. Larva are dropped from the body to survive in the wild, culling the weak before adulthood. Once returned to the nest, however, young adults are guarded with a fierce parental instinct.

Hivers are extremely individualistic, organizing themselves into nests of from five to five hundred individuals devoted to some civilized task. Cities are formed from several nests, with most of the tunnels and work areas underground. The Hive Federation government concerns itself mostly with the preservation and uniformity of their kind as a species. Hivers excel at communications and computer technology, as well as complex mathematical theory. Individually, Hivers are motivated by the survival of the race, a strong parental instinct, personal survival, and a driving curiosity.

After the discovery of the jump drive, the Hivers expanded into space more from curiosity than population pressure. They have no military history among themselves, driven to conflict only by contact with another major race. The Hiver/K'Kree War of -2029 to -2013 was characterized by quick strikes by the aggressive K'Kree into Federation worlds. The Hivers built fleets to defend themselves, but ended the conflict by demonstrating to the K'Kree negotiators a plan to radically alter their social order; the K'Kree withdrew to the original borders in the face of this unexpected threat.

K'Kree

The Centaurs, as they are commonly known in human space, occupy a region they call the Two Thousand Worlds trailing the Imperium. Their homeworld, Kirur, is approximately 200 parsecs from Sylea.

K'Kree are descended from bilaterally symmetrical, hexapedal, herd-oriented herbivore/grazers on the grassy plains of their homeworld. A nearby supernova three million years ago rained heavy particles on the world, wiping out many species and initiating intelligence as a survival trait in others. Evidence suggests that at least one carnivorous race also developed intelligence, and that much of K'Kree prehistory revolves around a genocidal war against that predator. An adult Centaur stands 1.5 meters at the shoulder and between 2.0 and 2.4 meters when erect. Smell is their dominant sense, which they use for identification and communication.

The Centaurs are gregarious and rarely found alone. A lone K'Kree will quickly sicken and die, and any who voluntarily seek isolation are deemed insane. Their attitudes are influenced most heavily by their history of struggle against dangerous predators, which found them ideal prey. Modern K'Kree are militantly herbivorous. They are very uneasy anywhere their sensitive noses detect the smell of cooking meat, anyplace where meat has been cooked recently, or the presence of anyone who has eaten meat within the last two or three days. Their society and government is based on the herd organization, and individuals are held in a rigid caste system. Females are outside the caste system, offered no place in society other than the rearing of young.

The K'Kree have had star travel for almost as long as the Vilani, discovering it just one hundred years after the founding of the First Imperium. However, two factors kept their expansion to the stars slow. First, K'Kree conservatism and resistance to change left

them unmotivated to reach for other worlds. Second, the herd mentality made space travel more difficult for them than individualistic major races. Star flight set them on a mission to secure their area of space for vegetarianism, enabling them to eliminate or convert any species unwilling to adapt to their strict dietary doctrine. Their single significant contact with another major race was the Hiver/K'Kree War of -2029 to -2013, an expansion quickly curtailed in the face of radical measures threatened by their rimward opponents. Governing over interstellar distances and their natural conservatism keep the K'Kree within their borders.

Solomani

The Solomani are humans who can trace their ancestry through Terran *Homo sapiens*. All humanity is spawned from Terra, but 300,000 years ago the Ancients plucked primitive *Homo sapiens* from there and deposited them on many other worlds, including Vland and Zhdant, the Vilani and Zhodani homeworlds. Even so, without suffering direct intervention, the humans left behind on Terra were forever changed by their contact with the Ancients, propelling them forward to eventually dominate their world.

Physiologically, Solomani are pure humans, tracing their genetic stock directly to *Homo sapiens* and *Homo erectus* before them. In the galactic picture, the Solomani are the self-proclaimed champions of human supremacy. They are more regimented in their thinking and governments, more militaristic than the other humans of the Imperium.

Solomani developed jump drive in -2431 (2087 in Terran reckoning), and they quickly encountered Vilani of the First Imperium virtually in their backyard—unearthly human aliens! Conflict was inevitable. A series of Interstellar Wars between Terran and Vilani forces raged in the neighborhood of Sol, until the Terrans developed jump-3 technology. They managed to defeat the Imperial ships and drive them deep into the empire, already teetering on the edge of destruction from within. Terran ships battled relentlessly against the Imperium, forcing its collapse and the Rule of Man.

Solomani nobility took control of the Imperium from -2204 to -1776. The Ramshackle Empire, as it was later known, was marred with corruption and inefficiency, and decayed directly to the Long Night. Solomani influence over the breadth of the Imperium was short-lived.

By 588, Terra joins the Third Imperium, and the core of Solomani government is moved 30 parsecs rimward to Home in Aldebaran sector. In 990 they fight the Solomani Rim War, retaking Terra, then losing it again in 1110. Solomani see themselves as the rightful rulers of the galaxy, and the Vilani and their Imperiums as mere pretenders. The various Solomani governments, including the Solomani Triumvirate in power during the later years of the Third Imperium, are all committed to the control of Terra and the expansion of their own influence over other worlds and races. In that pursuit, individual rights are often set aside in the name of Solomani security, and policing of individual loyalty and suspension of basic rights is commonplace among their own people.

Vargr

Vargr are descended from carnivore/chaser stock transplanted from Terra to Lair/Grnouv in the Provence Sector during the heyday of the Ancients, approximately 300,000 years ago. These transplanted carnivores were of the family *Canidae*, and almost certainly of the genus *Canis*. Their selected homeworld is approximately 100 parsecs coreward from Sylea. They are, essentially, upright biped canines, and why the ancients chose to modify them and grant them intelligence on a distant world remains a mystery.

Physically, a typical Vargr is about 1.6 meters in height and weighs approximately 60 kilograms. They are upright bipedal carnivores, rear limbs digitigrade, and still bear a considerable resem

blance to their ancestral canine stock externally, though internally there are many important differences. Vargr hands are very similar in size, appearance, and strength to human hands, and the two can share equipment easily. They are covered with short fur, generally brown, black, or rust colored, though frequently combining shadings of these and other colors. They have long tails that end in a flaring brush. The muzzle is shorter and less pronounced than in Terran canines, but still is quite evident. They have sharp eyesight and keen noses.

Just as they physically exhibit many of the features that are derived from their ancestral stock, so too do Vargr show a number of mental and behavioral traits that bear a fairly obvious relationship to the instinctive behavior of the social carnivores of Earth. Vargr are frequently characterized as "inconsistent" by outsiders, adopting contradictory attitudes and actions. Within the family group, they are gregarious but constantly locked in subtle competition for dominance and prestige. They display a pack mentality, driven by dominance and their own unique concepts of charisma.

Vargr discovered the jump drive in -3810 and spread to the stars slowly. Since time and distance reinforce their basic lack of acceptance accorded to remote authority, they have never formed a cohesive stellar empire, remaining balkanized and generally unorganized. Vargr did encounter Vilani around the time of the collapse of the First Imperium, and their contribution to that collapse is debated still. Vargr corsairs gained a reputation for their ruthlessness during the Long Night. Through the history of the Third Imperium, Vargr never mount a unified challenge to their right to rule over the systems rimward from their traditional home.

Zhodani

The Zhodani are another branch of humanity transplanted from Terra approximately three hundred thousand years ago, these to Zhdant, a world far spinward of the Imperium. They are masters of psionics and utilize mind reading as a natural part of their everyday culture.

Primitive Zhodani on Zhdant appear to have had more lengthy influence by the Ancients than the other branches of humanity. Multiple strains of humanity existed there before final assimilation into the present Zhodani species. One of the first great empires was based on moon worship, but this collapsed into their first Dark Age. Following this the Zhodani reached a space-faring, if not star-faring, technology before a plague nearly wiped them out, causing the second Dark Age. It was during the slow recovery that they began to embrace psionics in its many forms, especially as an aid to governing large numbers of people. Within six hundred years of reaching space flight, the Zhodani developed the jump drive and spread their psionic civilization to the stars.

Zhodani contacted the Third Imperium in the sixth century of Imperial expansion, and the two powers fought five different Frontier Wars between then and 1111. By this period the Zhodani Consulate controls approximately 6,500 star systems in more than 175 subsectors. The government of the Consulate is a democracy, but citizenship is restricted to the nobility. They have mounted a series of expeditions to the core of the galaxy, the last one reaching 5,000 parsecs from Zhdant

Use of psionics is very disturbing to Vilani, especially later in the Third Imperium. They view psionics as a dangerous invasion of personal privacy and cannot fathom how a society can be so controlled. To Zhodani, humans who don't regularly submit to mind reading must have something to hide, and they feel that most Vilani are liars, since they regularly say one thing while thinking another. This basic mistrust between the two branches of humanity is certain to be the cornerstone of struggles against each other for many years to come.

Minor Races

Intelligent species who never achieve star flight independently are termed *minor races*. Their technology may be very high, and they may even achieve space travel within their home systems. Many minor races have been welcomed into the Imperium, and they have travelled widely, even to set up enclaves on worlds distant from their homes riding on Imperial jump-capable ships. An individual from a minor race can function as a citizen of the Imperium, within the restrictions of its unique physiology and psychology.

Asym

Asym are a minor race native to a rocky, harsh world where the deserts and rock wastes have gradually taken over once rich and fertile areas. Their ancestors emerged from the dwindling grass and forest lands onto the widening wastelands as primitive gatherers. Specialization of their limbs appears to have occurred during this period. One arm developed great strength for lifting large stones and boulders, the other grew slender to reach beneath and remove the meager nourishment growing beneath. To humans, the most notable feature of the race at first glance is that their upper torso is asymmetrical. They are known, therefore, as *asym*s throughout the Imperium. They can also be known colloquially as "pack rats" or "double tails."

They are asymmetrical bipeds from gatherer/omnivore stock. In their natural or defensive position, the head rests down into a fleshy cavity in the torso, making the Asym 1.3 to 1.5 meters tall. But when they need to they can extend the "head" with its single large eye and triangulated ears, on a periscoping neck another half meter. They have two arms, the left one very powerful and thick, the right very slender and delicate. They have two prehensile tails, one branching out from the base of the spine just above the legs, the other emerging from mid-back. An Asym's legs are short and muscular, with broad, flat, tough feet. Asym's are naturally curious and inventive, tinkering and inquisitive.

Denaar

Denaar are a minor race that has the ability to transfer its intellect and personality into a fresh body when the old one is worn out, making them effectively immortal. There are only 1.7 million Denaar personalities on their homeworld. In common Imperial parlance they are known as "intellect downloaders" or even "body boppers."

The Denaar are six-limbed, quadrupedal dual vertebrates. Their brain and internal organs are stored beneath a thickly carapaced body cavity. The forearms are extremely dexterous. An adult Denaar stands about 1.5 meters tall and weighs between 70 and 110 kilograms.

Denaar are asexual, but require the genetic material of another to produce offspring. These unintelligent replacement bodies are herded around until required to house a personality, accomplished by touching cerebral stems, located behind flexible carapace material on the front of the body cavity.

Denaar are highly individualistic and, from a human point of view, very devil-may-care. They take risks with their personal lives or business ventures since time means very little to them. Trial and error is always an acceptable means toward an end.

Graytch

The "spidertaurs" are octopedal omnivores native to Borrun, a backwater world in the Imperium. They have a head and two-armed torso that rides above a six-legged body section, but that is where their similarity to Terran arachnids ends. Graytch are the most intelligent, but not dominant, life-form on their homeworld. They live in the high tree canopies of the many islands of their world, letting another species, the *thay-tra*, retain dominance on the land masses.

An adult Graytch is 1.5 to 1.75 meters tall from the ground to the top of the head, and 2.0 to 2.25 meters from snout to rump. They mass between 75 and 125 kilograms. Their means of locomotion is best suited to three-dimensional environments like their native tree canopies, so their cities, buildings, and starship interiors are set up like intricate jungle gyms. There are three sexes: male, female, and neutral. Males and females are bound to a strict reproductive cycle that interrupts their adult lives two or three times. Neutrals are not so bound, and are therefore better suited to some tasks in Graytch society.

Graytch are vehemently nonviolent, following strict moral codes handed down for centuries. Sharing their planet with another, dominant species has made them extremely tolerant of alien races and cultures they have encountered. They are intensely curious about xenobiology and the societies under distant stars.

Graytch developed slower-than-light space travel independently and have populated a number of other worlds and moons in their star system. They are well suited to occupations in enclosed spaces, such as starship engineers.

Hresh

The Hresh are a race of intelligent, free-moving photosynthesizers native to a double-star system on the fringes of the Imperium. When measured against the norms of a Terran ecosystem, the Hresh appear more plant than animal, but the independent evolution of their biology makes this distinction superficial, at best. At first glance a human might mistake a Hresh for a bush or small tree; indeed, they use a variety of chlorophyll just as green as any Earthly garden. But in terms of intelligence and freedom of action, the Hresh are viable citizens of the new Imperium. They are graceful, peaceful creatures, swaying their branches and leaves to the rhythms of their fertile world.

Mature Hresh are large creatures, standing 3 meters tall with a ball of branches and leaves about 2 meters in diameter. They are not dense, however, weighing just 90 to 110 kilograms each. Their life cycle proceeds rapidly from seedling to sapling to maturity; extremely old Hresh become immobile but continue to live for hundreds of years.

Hresh display a diverse mothering instinct, allowing small animals and insects to live among their branch-arms. They lead a very slow-paced existence, and do not share a human concept of time. Also, they passively profess a photosynthetic bigotry, citing any diet that calls for the destruction of living cells as needlessly cruel.

Rye-Ben

The Rye-ben are a race of humanoids subjected to life on a heavy gravity world more than a hundred generations. Rye-ben are at first glance quite inhuman, but they are derived from human stock. All Rye-ben stand between 4 and 4.5 feet tall and weigh between 350 and 450 kg. Their torsos and limbs are short and thickly muscled, their necks virtually invisible beneath flattened, wide skulls. Genetically, they are pure humans, and they can bear offspring with other human beings.

The Rye-ben are the survivors of a mining expedition abandoned at the end of the First Imperium. Forced to survive in the harsh gravity for more than two thousand years, they have been deformed. Psychologically, they are intolerant of abandonment and preoccupied with height, no doubt associated with the knowledge that altitude and survival have been of paramount importance on their world.

Aliens in Traveller

Aliens add unique dimension to a **Traveller** campaign, but a referee must be careful in their administration to make their inclusion valuable. Every alien species has its own intricacies that make it

unique and inhuman, and careless handling of those attributes can render them nothing more than humans in an alien costume. Once outside the cultural umbrella of the Imperium, the potential for aliens is substantially increased. Differences in physique cause some changes in rules and game concepts, but cultural differences cause even greater changes. The influence of culture, society, and thought are far stronger forces in shaping each unique alien race.

Careful Administration: The referee is cautioned not to overuse aliens. The **Traveller** universe is a predominantly human universe; the rules and concepts are built around human societies with the technology to reach for the stars. Aliens serve to enrich the landscape of play, giving the referee some rational, inhuman cultures to introduce to the players. To set a **Traveller** campaign solely in an alien environment is difficult, and not recommended for the novice referee.

Role Playing Aliens: Players who choose to role play aliens as their characters should be encouraged to emphasize the alienness of their kind. The physiology of each alien makes its passage through the **Traveller** campaign unique and different. Is that state-room going to be comfortable for my alien character, or should I modify it somehow? Can I use this piece of equipment, or can the translator relay this concept to a human? More importantly, the psychology of the alien should dominate the player's thinking. Would my alien join in this firefight, or seek some other solution? The humans are showing compassion (or anger) at this situation, but should my alien? The task is a demanding one, but very rewarding. Cooperating with the referee to role play an alien can be one of the most exciting and interesting aspects of an ongoing **Traveller** campaign.

Creating New Alien Races: The referee trying his hand at creating a new alien race should take this into consideration:

Major Race or Minor Race. If the campaign is set in the Imperium, then you shouldn't introduce new major races—they're all accounted for. However, there's still room for many minor races. A new major race must have developed a jump drive, so a rationale must be created for how they did it.

Homeworld: The physical characteristics of the homeworld have an enormous impact on the type of alien intelligence that might grow upon it. Evolutionarily speaking, the homeworld itself may go through great change from the time a species crawls from the muck to when it reaches for the stars.

Physiology: It may be best to use the animal creation rules to generate the basic form of the alien. Make notes on how the form of the creature will affect it in the **Traveller** universe.

Psychology: The foundations of a psychological profile are best drawn from the alien's racial background. A carnivore is more likely to be aggressive, a herbivore or filter passive. Changing planetary conditions or long-term cultural biases may also affect the alien's psychology.

Playability: An alien intelligence can take on many forms, but the best aliens for role playing are those that can exist within the **Traveller** universe, using starships and other technology to adventure among the stars.

Relative Power: The referee should resist the temptation to create super beings. If he creates a race that has tremendous strength and intellect, never sleeps and can run faster than a cheetah, then every PC will want to play that alien race. As a good rule of thumb, give the alien race one disadvantage for every advantage it has over humans.

These elements are only a starting point. The order can be switched around. The type of homeworld may dictate the type of creature, or the referee may want to work the other direction, creating an alien and then inventing a likely world where it might have evolved. Once created, a new alien race is better introduced as NPCs before allowing players to use them in a campaign.

RANDOM ENCOUNTER MATRIX

2nd Die	1st Die Roll					
	1.	2.	3.	4.	5.	6.
1.	11	12	13	14	15	16
2.	21	22	23	24	25	26
3.	31	32	33	34	35	36
4.	41	42	43	44	45	46
5.	51	52	53	54	55	56
6.	61	62	63	64	65	66

Patron Encounter Matrix One

11	Naval Officer	43	Belter
12	Scout Administrator	44	Naval Architect
13	Marine Officer	45	Steward
14	Hunter	46	Financier
15	Starport Warden	51	Navigator
16	Naval Officer	52	Swindler
21	Reporter	53	Broker
22	Technician	54	Arms Merchant
23	Doctor	55	Doctor
24	Rogue	56	Pilot
25	Noble	61	Merchant
26	Government Official	62	Rogue
31	Barbarian	63	Embezzler
32	Scout Pilot	64	Belter
33	Pirate	65	Bureaucrat
34	Researcher	66	Diplomat
35	Writer		
36	Professor		
41	Underworld Leader		
42	Scientist		

43 Belter
 44 Naval Architect
 45 Steward
 46 Financier
 51 Navigator
 52 Swindler
 53 Broker
 54 Arms Merchant
 55 Doctor
 56 Pilot
 61 Merchant
 62 Rogue
 63 Embezzler
 64 Belter
 65 Bureaucrat
 66 Diplomat

Patron Encounter Matrix DMs:

1st Die Roll: Naval character, DM-1. Merchant character, DM+1.

2nd Die Roll: Streetwise-1+, DM-1. Admin-1+, DM+1.

PATRON ENCOUNTER MATRIX TWO

11	Arsonist	43	Spy
12	Cutthroat	44	Scholar
13	Assassin	45	Governor
14	Hijacker	46	Administrator
15	Smuggler	51	Mercenary
16	Terrorist	52	Naval Officer
21	Crewmember	53	Marine Officer
22	Peasant	54	Scout
23	Rumor	55	Army Officer
24	Clerk	56	Mercenary
25	Soldier	61	Noble
26	Shopkeeper	62	Playboy
31	Shipowner	63	Avenger
32	Tourist	64	Emigre
33	Merchant	65	Speculator
34	Police	66	Rumor
35	Scout		
36	Rumor		
41	Diplomat		
42	Courier		

Patron Encounter Matrix DMs:

1st Die Roll: Merchant, DM-1. Noble (Soc 11+), DM+1.

2nd Die Roll: Army or Marine character, DM+1. All others, DM-1

RANDOM ENCOUNTER LIST

Die	Qty	Type	Remarks
11.	1D	Peasants	-3
12.	2D	Peasants	-2
13.	2D	Workers	-1
14.	3D	Rowdies	L
15.	2D	Thugs	L
16.	4D	Riotous Mob	-1
21.	2D	Soldiers	+1 LGA
22.	2D	Soldiers	LGAV
23.	1D	Police Patrol	+1 GA
24.	2D	Marines	LGA
25.	3D	Security Troops	+1 GA
26.	2D	Soldiers on Patrol	GA
31.	1D	Adventurers	+2 GAV
32.	2D	Noble with Retinue	LGAV
33.	2D	Hunters and Guides	+1 LGV
34.	2D	Tourists	+2
35.	1D	Researchers	+3 V
36.	1D	Police Patrol	VG
41.	1D	Fugitives	-2
42.	2D	Fugitives	V
43.	3D	Fugitives	G
44.	2D	Vigilantes	G
45.	3D	Bandits	L
46.	3D	Ambushing Brigands	LGA
51.	1D	Merchants	+1 LA
52.	2D	Traders	GV
53.	2D	Religious Group	
54.	1D	Beggars	L
55.	5D	Pilgrims	
56.	3D	Guards	A
61.		Determined by Referee	
62.		Determined by Referee	
63.		Determined by Referee	
64.		Determined by Referee	
65.		Determined by Referee	
66.		Determined by Referee	

Remarks: All encountered individuals have necessary survival equipment such as vac suits, filter masks, or respirators, regardless of local tech level (equipment may assumed to be imported if necessary). Unless otherwise stated, all individuals are armed with blades (not guns), unarmored, and are on foot.

Abbreviations indicate special equipment levels for the encounter:

L: a leader is present. He will have the best possible equipment for the tech level.

G: the group is armed with guns.

A: the group wears armor.

V: the group has a vehicle consistent with local tech level (this includes riding animals).

-N (where N is a number): tech level for the group is that number lower than local tech level.

+N (where N is a number): tech level for the group is that number greater than local tech level.

Reaction

Die	Reaction
2.	Violent. Immediate attack.
3.	Hostile. Attack on 5+.
4.	Hostile. Attack on 8+.
5.	Hostile. May attack.
6.	Unreceptive.
7.	Noncommittal.
8.	interested.
9.	Intrigued.
10.	Responsive.
11.	Enthusiastic.
12.	Genuinely friendly.

Rolls of 2 and 12 (exactly on the dice) are not subject to DMs. Modified results of less than 3 are 3, and more than 12 count as 12. DM+1 if character served 5+ term in Army, Navy, Scouts, or Marines. DM-1 if population is 9+.

RUMOR MATRIX

2nd Die	1st Die Roll					
	1.	2.	3.	4.	5.	6.
1.	A	B	C	D	E	F
2.	G	U	U	W	W	H
3.	I	U	Y	Y	W	J
4.	K	X	Z	Z	V	L
5.	M	X	X	V	V	N
6.	O	P	Q	R	S	T

Rumor List

Specific Rumors

- A Background information
- B Minor fact
- C Major fact
- D Partial (potentially misleading) fact
- E Veiled clue
- F Information leading to trap
- G Location data
- H Important fact
- I Obvious clue
- J Completely false information
- K Terminology
- L Library data reference
- M Helpful data
- N Location data
- O Reliable recommendation to action
- P Major fact
- Q Background information
- R Minor fact
- S Veiled clue
- T Misleading clue

General Rumors

- U Broad background information
- V Misleading background information
- W Reference to library data
- X General location data
- Y Specific background information
- Z Misleading background information

Rumor Matrix DMs

The referee, when constructing a rumor matrix, must take into consideration the possible differences in character types and their predisposition to receiving specific types of rumors.

Specific DMs on the matrix may be established.

ANIMAL ATTRIBUTES

Die	Beach	Marsh	River	Sea	Swamp	Other
2.	S +1	S -6	S +1	S +2	S -3	—
3.	A +2	A +2	A +1	S +2	A +1	—
4.	A +2	A +1	—	S +2	A +1	—
5.	—	—	—	A +2	—	—
6.	—	—	—	A	—	—
7.	—	—	—	S +1	—	—
8.	—	—	—	S -1	—	—
9.	—	—	—	T -7	—	—
10.	—	—	—	T -6	—	F -6
11.	F -6	F -6	F -6	F -6	F -6	F -5
12.	F -5	F -5	F -5	F -5	F -5	F -3

Roll 2D to determine special attributes and size DM for the specific animal type. DMs: Planetary Size 9+, -1; 5 or 4, +1; 3-, +2. Atmosphere 8+, +2; 5-, -1. The abbreviation shows attribute, if any. Number is a size DM used in addition to the DM from the terrain types table (for flyers, the DM from this table is the only one used). A = Amphibian, F = Flyer, S = Swimmer, T = Triphibian.

ENCOUNTER COLUMNS

2 Dice Column		1 Die Column	
Die	Category	Die	Category
2 S	Scavenger	1 S	Scavenger
3 O	Omnivore	2 H	Herbivore
4 S	Scavenger	3 H	Herbivore
5 O	Omnivore	4 H	Herbivore
6 H	Herbivore	5 O	Omnivore
7 H	Herbivore	6 C	Carnivore
8 H	Herbivore		
9 C	Carnivore		
10 E	Event		
11 C	Carnivore		
12 C	Carnivore		

These two encounter column formats are suggestions. Other such columns with different arrangements may also be used if desired. Construct one table for each terrain type of each world.

TERRAIN TYPES

Terrain Type	Terrain Equivalent	Type DM	Size DM
Beach	Shore, Sea Edge	+3	+2
Broken	Badlands	-3	-3
Bottom	Ocean, Sea	-4	—
Cave	Cavern	-4	+1
Chasm	Crevasse, Abyss	-1	-3
Clear	Road, Open	+3	—
Crater	Hollow	—	-1
Depths	Ocean, Sea	+2	+4
Desert	Dunes	+3	-3
Forest	Woods	-4	-4
Jungle	Rainforest	-3	-2
Marsh	Wetland	—	-1
Mountain	Alpine	—	—
Prairie	Plain, Steppe	+4	—
River	Stream, Creek	+1	+1
Rough	Hills, Foothills	—	—
Ruins	Old City	-3	—
Sargasso	Seaweed	-4	-2
Sea Cave	Sea Cavern	-2	—
Shallows	Ocean, Sea	+2	+2
Surface	Ocean, Sea	+2	+3
Swamp	Bog	-2	+4

ANIMAL TYPES

Die	Herbivore	Omnivore	Carnivore	Scavenger
0.	Filter (1D)	Gatherer	Siren	Carrion-Eater (1D)
1.	Filter	Gatherer	Pouncer	Carrion-Eater (2D)
2.	Filter	Eater	Siren	Reducer (1D)
3.	Intermittent	Gatherer	Pouncer	Hijacker (1D)
4.	Intermittent	Eater (2D)	Killer (1D)	Carrion-Eater (1D)
5.	Intermittent (1D)	Gatherer	Trapper	Intimidator (1D)
6.	Intermittent	Hunter	Pouncer	Reducer
7.	Grazer	Hunter (1D)	Chaser	Carrion-Eater (1D)
8.	Grazer (1D)	Hunter	Chaser (3D)	Reducer (3D)
9.	Grazer (2D)	Gatherer	Chaser	Hijacker
10.	Grazer (3D)	Eater (1D)	Killer	Intimidator (2D)
11.	Grazer (2D)	Hunter (1D)	Chaser (2D)	Reducer (1D)
12.	Grazer (4D)	Gatherer	Siren	Hijacker
13.	Grazer (5D)	Gatherer	Chaser (1D)	Intimidator (1D)

Roll two dice on this table (and modify by the type DMs in the Terrain Types Table) to determine the animal type for a specific encounter column entry.

ANIMAL SIZES AND WEAPONRY

Die	Weight	Hits	Wounds	Weapons	Armor
1.	1	1D/0	-2D	hooves/ horns	(+6)
2.	3	1D/1D	-2D	horns	—
3.	6	1D/2D	-1D	hooves/ teeth	—
4.	12	2D/2D	—	hooves	2
5.	25	3D/2D	—	horns/ teeth	—
6.	50	4D/2D	—	thrasher	—
7.	100	5D/2D	—	claws/ teeth	—
8.	200	5D/3D	+1D	teeth	—
9.	400	6D/3D	+2D	claws	—
10.	800	7D/3D	+3D	claws	2
11.	1600	8D/3D	+4D	thrasher	—
12.	3200	8D/4D	+5D	claws/ teeth	(+6)
13.	(+6)	(+6)	(+6)	claws+1	3
14.	6000	9D/4D	x2	stinger	2
15.	12000	10D/5D	x2	claws+1/teeth+1	1 Rigid
16.	24000	12D/6D	x3	teeth+1	1
17.	30000	14D/7D	x4	as dagger	2 Rigid
18.	36000	15D/7D	x4	as spear	4
19.	40000	16D/8D	x5	as broadsword	3 Rigid
20.	44000	17D/9D	x6	as body pistol	4 Rigid

Roll once for weight/ hits/ wounds and once each for weapons and armor. If the result is (+6), roll again with DM of +6. If (+6) is rolled again, just reroll.

Animal Size DMs: From Special Attributes and Terrain Types Tables. If planetary size 8+, DM-1. If planetary size 4-, DM +1.

Animal Weaponry DMs: Carnivore, +8. Omnivore, +4. Herbivore, -3.

Animal Armor DMs: Carnivore, -1. Scavenger, +1. Herbivore, +2. Flyers and triphibians never have armor.

ANIMAL WEAPONRY DAMAGE

Weaponry	Combat Range	Damage Rating
Claws	Contact/Very Short	2D
Hooves	Contact/Very Short	2D
Horns	Contact	2D
Stinger	Contact/Very Short	3D
Teeth	Contact	2D
Thrasher	Contact/Very Short	2D

ANIMAL CHARACTERISTICS

Category	To Attack	To Flee	Typical Speed
Herbivore			
Filter	If possible	1D+2	1D-5(min. 0)
Intermittent	1D+3	1D+3	1D-4(min. 1)
Grazer	1D+2	1D-1	1D-2(min. 2)
Omnivore			
Gatherer	1D+3	1D+2	1D-3(min. 1)
Hunter	1D	1D+2	1D-4(min. 1)
Eater	1D	1D+3	1D-3(min. 1)
Carnivore			
Pouncer	surprised	surprised	1D-4(min. 1)
Chaser	if more	1D+3	1D-2(min. 2)
Trapper	surprised	1D+2	1D-5(min. 0)
Siren	surprised	1D+3	1D-4(min. 0)
Killer	1D	1D+3	1D-3(min. 1)
Scavenger			
Hijacker	1D+1	1D+2	1D-4(min. 1)
Intimidator	1D+2	1D+1	1D-4(min. 1)
Carrion-Eater	1D+3	1D+2	1D-3(min. 1)
Reducer	1D+3	1D+2	1D-4(min. 1)

ENCOUNTER TABLE

GENERATION CHECKLIST

Use this checklist to create unique encounter tables for individual terrain situations on different worlds.

- Determine UPP and terrain types appearing on world in question.
- For each terrain type, generate an encounter table.
 - Determine type DM and size DM for terrain from Terrain Type Table.
 - Select Encounter Column format or generate a different one.
 - Determine animal type and quantity using Animal Type Table.
 - Determine special attributes (if any) for each animal type.
 - Determine specific details of animal.
 - Note weight and hits.
 - Note weapon used and wounding as altered by wound alteration.
 - Note animal armor.
 - Determine animal characteristics.
- Apply common sense as required.

Encounter Table for REGINA (A788899-A), Clear Terrain

Die	Animal	Weight	Hits	Armor	Wounds	Weapons	
2.	1 Hijacker	200kg	18/11	2	11	teeth	A9 F7 S2
3.	2 Hunters	12kg	3/7	none	4	claws	A9 F10 S1
4.	1 Reducer	12kg	7/8	none	6	horns	A6 F10 S2
5.	1 Flying Gatherer	3kg	1/3	none	1	claws	A10 F10 S1
6.	8 Grazers	400kg	25/15	none	14	hooves	F13 A7 S4
7.	7 Flying Grazers	6kg	5/7	none	1	teeth	F10 A6 S2
8.	1 Grazer	1600kg	33/11	2 Rigid	21	thrasher	F9 A9 S2
9.	1 Chaser	50kg	11/9	none	6	claws+1	F7 A14 S2
10	Event — Howling Carnivores. Out of sight, animals (die roll 11 below) are heard howling continuously. If the party spends the night nearby, they may attack (roll 7-).						
11.	6 Chasers	25kg	6/11	1	9	teeth+1	F9 A14 S2
12	1 Killer	200kg	21/12	none	17	as spear	F5 A13 S1

A **Traveller** referee's fun is different from a player's fun. Whereas players plot and scheme on the basis of (often) incomplete data, the referee knows the whole situation. So where is the referee's sense of adventure? It lies in observing the players. The one thing a referee cannot know for certain ahead of time is how the players are going to react. Observing the reactions of different people to the same problem, or watching an intricate plan unfold (and often turn out quite differently from what the players had intended), these and more are the rewards for the **Traveller** referee.

First Approaches

To begin your new **Traveller** campaign, start out small, especially if you are new to the game. Don't try to run something of breathtaking scope the first time out. The record-keeping alone will overwhelm you, and your players will rapidly lose interest.

There are several possible approaches to your first few games. Which one you choose depends on what other role-playing experience you and your players have had.

An experienced person refereeing other experienced players for the first time will have few problems. Prior experience will have shown where the pitfalls lie in running entertaining adventures, and the referee probably has some idea of what is interesting to players in general.

If both players and referee are neophytes, neither really knows what to do, and everyone should show patience. Play a few single scenarios as experiments before proceeding to a full campaign.

A scenario is like a science-fiction novel. The players characters are given some specific goal and the adventure occurs as they try to attain it. Scenarios can be one-time affairs, ending when the goal is achieved.

Create a scenario as you would a story, with something to be achieved and difficulties strewn in the path of that goal. Scenarios can be as complex as the referee feels necessary, ranging from the simplest plot devices to complex adventures worthy of a great adventure writer. To help the beginner get started, several introductory adventures are included in this book.

In devising scenarios, you may find it necessary to create from scratch such items as a plan of a large office building, a terrain map of an area of countryside, or something similar.

If you are a war-gamer, you may already have such items available to you. Maps from many games can be adapted for use in a scenario, especially games on a tactical level. It will probably be necessary to redesignate some or all of the terrain features on such a map.

As another option, it may be possible for you to draw inspiration from real life. If, for instance, your players want their characters to rob a bank and need a diagram of the building from which to make their plans, simply tell them that the bank looks exactly like some local bank or similar building with which they are all familiar. (Discourage them from "casing the place" in person, however. The real-life security guards might become suspicious, and real-life problems could occur.) Likewise, if you need a plan for an office building, park, or other building complex, use some suitable local institution, calling upon the players' memories or diagramming it yourself. If you do not have knowledge of the full details of a building, make up whatever is needed (it may be necessary to change some details anyway, especially if players are more familiar with the building than the characters would be).

After you have been through a few scenarios, your players will find themselves becoming attached to certain characters and expressing a desire to let them continue from one scenario to another. A campaign need be nothing more than a series of scenarios, set against a common background and using common

characters. After you have played a few scenarios, determine what your players want to accomplish. Some groups will want to become pirates, some soldiers of fortune, some merchants, some confidence men, some will want to carve out their own empires, others will want to explore unknown regions of space.

Adjust the subsector you create to fit your players' desires. If, for instance, they show an interest in exploration, don't start them out in the middle of civilized space. Put them on the fringe of known territory, instead.

Give your players obstacles to overcome in seeking their ultimate aims, but don't make these obstacles too difficult or the players will become frustrated. Conversely, don't make things too easy or they will become bored.

The main thing for referees to avoid in starting out is taking on more than they are able to handle. It is an easy thing for a referee to be pushed into a campaign by anxious players before he is properly prepared for it. Trying to go too far too soon just results in a referee that feels overworked and players that feel bored, a sure formula for an abandoned campaign.

Referee Responsibilities

The purpose of a referee is to present obstacles for players to overcome as they go about seeking their goals, not to constantly make trouble for them. This is a very subtle distinction, and one that many beginners have trouble with.

To a certain extent, **Traveller** adventures are a contest between the referee and the players, as the referee represents all the nasty things that the universe can throw at people. It can be easy for a referee to fall into the trap of viewing the players as "the enemy", whose every move is to be thwarted. In that frame of mind, a referee will take every opportunity to make things tough on the players, throwing problem after problem their way and piling disaster on top of disaster. But this just makes the players sullen and suspicious, and spoils the entertainment value of the game.

Signs of a Good Referee

Other than the right attitude, what qualities must a good referee have?

First of all, imagination is paramount. Without an imaginative referee, the game is merely rolling dice and reading tables. Fortunately, imagination is the one thing that science-fiction readers in general, and **Traveller** players in particular, have in abundance.

Second, the ability to improvise is important. Oftentimes, situations arise where the referee will be called upon to make up something on the spot, such as the cargo of a randomly encountered starship or the personality of a patron. The necessity to improvise can be minimized with proper planning and organization, but it cannot be eliminated entirely.

Third, a sense of proportion is required. Rewards should be proportionate to the risks the player characters take, neither too much nor too little. A common way beginners maintain player

interest is to hand out ludicrously large rewards for successful completion of the most insignificant actions. The players rapidly accumulate enormous sums of money, and come to see it as their sole purpose in the lives of their characters. In addition, they will rapidly overwhelm **Traveller's** carefully balanced economic system. Players will cease to find life a challenge, and become bored. If the referee tries to get tough later, players will demand to know why they are not paid as much now as they were once paid for similar activities and will become dissatisfied. Either way, the game is a loser. Arrange things so that your players have to constantly scramble for eating money for the first few months of their characters' lives. You and they will both enjoy the game more. Remember, it is always better to start out tough and then relax that hold than it is to start out lenient and then try to get tough.

It is also important for the referee to be organized. The reasons for this should be readily apparent. Nothing slows a game down more than a referee who must rummage through a briefcase filled with hundreds of random sized sheets of paper while searching for the details of a particular world or installation. The exact system is not important; you may use whatever you feel like (manila folders, index card files, ring notebooks, home computers, and so on) as long as you can rapidly retrieve information from it.

Finally, it is important for the referee to be confident. There is an old saying that "The secret to life is sincerity; learn to fake that and you have it made." For a **Traveller** referee, the secret to life is confidence. If you don't have it, fake it. Remember, when it comes to how the rules work and how everyone else in the universe responds to the actions of the PCs, *you are in charge!* As long as you are a benevolent dictator, everyone will have a good time.

Preliminary Steps

Once the referee has settled on the background for his or her universe, accumulated a group of players, and created characters, then what? The referee still has a few duties to perform before the first adventure. In all likelihood, the players will be dumped into the middle of a new situation. If the adventure were "real life," the people involved would know what they had done with their lives up until that time: they would know where they were and how they got there, and might have a halting familiarity with the geography of the region.

It is necessary for the referee to divide the information about his or her universe into four parts:

- 1) information that player characters would logically know by virtue of what they are
- 2) information that player characters can find out with little or no cost
- 3) information that player characters can find out only at great cost, and
- 4) information that the player characters would be unable to find out at all by their own efforts.

Type 1 could be such things as how to behave in polite society, or some simple data about a planet if the character has Navigation skill. Type 2 could be information obtained from a library, from asking around at bars, hotel lobbies, and so on, or obtained by direct observation of some event or condition. Type 3 could be information that requires the theft of one or more documents (payment in time) or the bribery of some official (payment in money). Type 4 should be information about the true nature of reality, perhaps the fact that the information contained in the library is false, or other knowledge for the referee's eyes only.

Players can generally be trusted to keep track of their own characters' finances and possessions, which will save the referee a great deal of time and trouble. Occasional surprise audits, however, can help to keep them honest.

The beginning referee should keep the group small, even when he has had experience playing. As a rule, there should be no more than three or four people in the first group you run. As you gain experience in refereeing, you will be able to expand this number, but try not to let it get too large for you to handle. Once a group gets too large, the individual players suffer from a lack of the referee's personal attention.

The rolling of dice is a convenient way to represent unknown variables or to assist the referee in making decisions. But feel free to modify the results if you do not like the way they turned out. Change a death result to a severely wounded result if you feel a character has behaved heroically and deserves a second chance, or kill off one who has done something incredibly dumb but lucked out on the die roll. Be fair in doing this, however, and try not to be too heavy-handed. Most players feel better if their character is done in by an unlucky die roll than if killed by fiat.

The deft use of non-player characters is one of the most important things for a referee to learn. Non-player characters are the population of your universe. Through non-player characters, you can give the players rumors, hints, and threats, help them out of tight spots, lure them into tight spots, get them back on track, lure them away from their objective, and generally help or hinder the characters as much as is necessary. Non-player characters provide a major link between player characters and the referee, and they offer the referee a chance to get in the fun of acting a role.

Exactly how a referee portrays a non-player character depends to a great degree upon the talents of the referee. Some referees are able to assume a non-player character's personality and play the part to perfection, carrying out an actual conversation with the player, complete with accents, body language, gestures, subtle variations in tone and pitch of voice, and so on. Less theatrically inclined referees, or those who do not think as fast, can instead concentrate on describing what the non-player character is saying and doing rather than trying to perform it.

Non-Player Characters

There are four sorts of non-player character: spear-carriers, informants, patrons, and troublemakers. Each has a different usefulness for the referee. Keep in mind, however, that these types are merely a sort of shorthand for the referee. The players should never be told ahead which of these functions a particular NPC is serving.

Spear-carriers (called extras in the movies) serve to provide atmosphere, needed skills the player characters might not have, or cannon fodder (in case a referee wants to show what great danger the PCs are in by killing someone, but does not want to do in one of the PCs).

Informants serve to give the player characters information, and are ideal for those situations in which the referee needs to give false data, but does not feel like lying to the players outright. Informants may be experts the PCs consult (such as a university professor or scholar), passengers or crew of a starship the PCs are on, or people the PCs casually meet in the course of seeking rumors or employment.

A **patron** is a non-player character who has a job offer for one or more of the player characters. The patron provides some of the information the PCs will need to carry out the job (rarely will all information be provided; the PCs must find some things out for themselves), and will offer a reward of some sort.

Troublemakers are specifically intended to cause problems for the player characters. Troublemakers can include police; customs, tax, and immigration officials; other government red-tapers; thugs, ruffians, hijackers, thieves, and con-men; religious fanatics, and so on. The presence of troublemakers may or may not be immediately obvious to the players.

Many non-player characters must have as detailed a character development as player characters do, and should be given a great deal of careful attention if they are intended to stay around for a while. NPCs are often needed on the spur of the moment, so keep all of those old characters you generated while learning to use the system.

The Adventure Session

Each adventure session should be conducted in some relatively quiet, comfortable place where there is room for the referee to lay out his materials out of the direct vision of the players, but close enough for conversation. If the quarters are too close, it may be necessary for the referee to use a screen of some sort to prevent the players from reading the referee's information sheets. (A passable screen can be made by taping sheets of cardboard together, accordion-style.)

Beginning an Adventure

During the first adventuring session of a campaign, and at the beginning of each adventure scenario, take a moment to determine a little background data. Ask the players to discuss where their characters are when the adventure begins. If the adventure situation is being presented to one character in particular to begin with, ask that player to decide how he gets in touch with the other PCs, and why.

Working out this sort of background data will help the players get into their roles. And it encourages everyone to cooperate in setting the stage for the story that will follow. That cooperation will go a long way toward making certain everyone is involved and has fun throughout the adventure.

A close examination of the player characters themselves can often help with this. Are several of the characters former Navy personnel? Perhaps they met in the service and became friends, deciding to seek their fortunes after they were all discharged on the same planet. Perhaps the characters are distantly related, or have mutual friends, or are old school chums. A little imagination can provide a reason why these people want to try a group effort, and will give the players some basis for later behavior.

When this background is sketched in, give the players such information as they would logically have. Where are their characters, and how did they get there? Are they actively looking for work, or were they sought out? Is there a patron involved? What are the player characters supposed to do? What will be their payment if they are successful? What do they need to find out to carry out the task? What equipment is available? And so on.

Give the players a few minutes to talk the job offer over, and then ask them to decide their actions. It is often a good idea to have the group choose one player to speak for the group. If the group wants to split up and do different things, try to talk them out of it unless one of the splinters will require little or no continuing action on the part of the referee (e.g. research in a library), the groups will rejoin quickly, or you have one assistant referee available for each separate group of players. Beginners will find keeping track of two or more lines of action while running back and forth from one room to another grueling, and the players who are not with the referee at the moment will become mightily bored. If you do allow the group to split up, it is a good idea to remind yourself to work around the room once in a while, to make certain that everyone is getting some of your attention. This is a good practice to remember during periods of high action, as well, when more vocal players tend to dominate your attention.

When the player's initial actions are made clear to you, (don't be afraid to ask questions) take a moment to decide what will happen to them as a result of those actions. If, for example, the group

wishes to adjourn to a library to search for information they want, the referee should consider where they are and how long the trip will take. If they are hundreds of kilometers from a settlement, it may take some time just to get to the library. If they are in a hotel lobby and ten meters away there is a computer terminal that hooks into a planet-wide information grid, only a few seconds will pass. How long it takes the group to find out what they are after depends on what the information is (they could not, for instance, use a library to find out the specifications of the local prison's latest security procedures) and how the players go about searching for it. Obviously, it is easier to find out something if you already know a little about what you seek, and know what to look for.

With such considerations in mind, the referee must decide how much information the group can find out, and how long it will take them. The referee reveals the information the players have discovered, and tells how much time was used up, and any other relevant details (or irrelevant details intended to throw the players off track) that the player characters may have noticed, like the fact that someone is following them as they leave the library.

Many times, it will be useful to think of a situation in present-day terms, scaled down a little. For a starport, think of an airport or seaport. For a world, think instead of a country. The use of such analogies will help you to resolve most situations easily.

Game Time

The passage of game time is of great importance. Player characters' actions must be measured against those of the rest of the universe. An important part of being a good referee is keeping proper track of the passage of game time. One of the greatest tools available to a referee is the ability to make players waste game time on items unrelated to the task at hand, especially if the group is working against a specific deadline. The ratio of real time to game time is left up to the referee. Obviously, it must be a flexible ratio, depending on circumstances.

Referees should watch out, however, for situations that take almost no game time, but take a great deal of real time. For instance if a character wants to know certain details of a door he is about to go through, he might ask "How big is it?" On being told, he might ask "Is it shut or open? Can I see anything through it or is the area beyond it dark?" All of this information could be gained in a few seconds of observation if the player were actually present. It is the artificial nature of game play that makes it take so long. Referees should not count this against the passage of game time.

In addition, the passage of time may cost the characters money. Characters must eat and must have lodging. Characters who suffer aging effects may require medical care. Starships must be maintained at regular intervals, or they will deteriorate. Simply by causing the players to become side-tracked while investigating some minor puzzle, a referee can cause their schedule to become upset and their intricately planned schemes to fail.

Outside Influences

The actions of forces in the universe other than the players should not be neglected, and must be almost constantly on the referee's mind. A group of characters might run afoul of the law while completing a job, or might anger some local criminal organization. If the referee decides that something of this nature has happened, he should decide what action (if any) the offended party (or parties) will take, how long that action will take to put into motion, and what effect the action will have on the players. Sometimes it will be necessary for a referee to keep track of several such plots at once, while running a group of player characters who are often blissfully unaware of the events building around them.

As the session continues, the players will often engage in discussions of varying lengths. The referee should try to keep these discussions on track (don't let them stray to outside events, such as a replay of last night's football game, or a blow-by-blow of a similar situation in another game), but otherwise should let them run their course. As the discussion takes place, the referee should consider what is really happening to the characters and how long it takes in game terms. If the characters begin a loud argument in the middle of a restaurant, for instance, the owner will interrupt them and ask them to leave. If the adventurers are having the argument in the privacy of their own spaceship, however, the referee need only figure out how much game time the discussion takes, and let it run its course. Many times, these interludes will allow the referee time to "catch up" with the action, and plan out what will happen to the characters next. Keep half an ear tuned to what they are saying, and offer such advice as may be needed, but otherwise, enjoy the short break from the frantic activity of refereeing.

As the adventure progresses, the referee may have the urge to "help out" the players by providing them with information that they otherwise would not, or could not logically know. This is poor form, and the referee should resist this urge whenever it arises. The function of a referee is to guide, not control. The only time a referee should directly intervene is when a group of beginners has gotten itself into such a hopeless situation that the referee is certain it will not be able to extricate itself, and the referee does not wish to force the full consequences upon the players.

As the referee gains experience in indirectly giving information to the players (through non-player characters, rumors, library data, and other sources), the urge to hand out "divine revelations" will lessen.

Direct intervention of the referee in a situation is also poor form. Referees should not get into the habit of stepping into their universes to put right some anomaly, unless there is no alternative. Many referees use this course of action instead of thinking of a more subtle means of correcting a situation. The hand of a good referee, like that of a good puppeteer, should be invisible.

As referee, don't be afraid to kill off characters who have gotten themselves into tight spots, especially if they have done so as a result of foolhardy play. Conversely, it is a good idea to be compassionate now and then. It is very easy for a player to become heavily involved with a character, and resent what appears to be arbitrary cruelty by the referee. Sometimes a particular character will deserve a miraculous escape from a certain-death predicament.

Ending the Session

An adventuring session should end when the players' goal is reached if a scenario is being conducted, or when some convenient stopping place is reached if a campaign is being undertaken. In any case, the session should be ended before the players or referee are exhausted (four to six hours is a fair limit). It may not be possible to resolve a particular scenario in one session, and certainly will not be possible to exhaust the possibilities of any competently designed universe in such a time. When a stopping point is reached (either some temporary lull in the action, when the players are guaranteed safety for the next few minutes of game time, or some particularly dramatic cliff-hanger, when the coming action could swing either way) the referee should make written notes of the situation, paying particular attention to the condition of characters and noting any special aspects of the situation (if they are on a vacuum world with their air supply running out, and so on). The action can then be picked up during the next session right where it left off, even if considerable time passes between play sessions.

When the players have accomplished their goal, the scenario is over, but if the session is part of a campaign, the referee's work

is not yet ended. The referee must determine whether the players will receive the reward they were promised (this should usually be the case, but having a patron skip out without paying is a useful plot device). Additionally, the referee should decide if the actions of the players (either in the process of completing the job or some activity they used) allowed them to gain friends or enemies. If this happens, the referee should figure out who these NPCs are, how happy or angry they are with the players, and what action, if any, they will take, either on the players' behalf or against them.

Friends in high places can be very beneficial, and enemies anywhere add excitement and thrills to any campaign. If your players should happen to run afoul of the law, pursue them with any interplanetary or interstellar agencies the crime makes appropriate. There's nothing like being chased by some interstellar version of Interpol or the KGB to add spice to a character's otherwise dull, drab, wretched existence.

Obnoxious or obstreperous behavior should not be tolerated by the referee. A word or two of warning may be adequate, but a continually disruptive player should be ejected from the group. The referee owes this to himself and to the other players.

By the same token, a referee has a duty to the players to remain calm and collected. Losing one's temper is no fun for anybody involved.

As time passes, the referee will gain experience, and the players and referee will become accustomed to each others' styles and desires. Adventuring sessions will become smoother and the pleasure received from an evening's adventure will increase for all.

Character Experience

Experience gained as the character travels and adventures is, in a very real sense, an increased ability to play the role he has assumed. But characters can grow more practiced with their skills over time as well. They can even, through considerable effort, gain training in new skills and improve their characteristics.

Skill Improvement

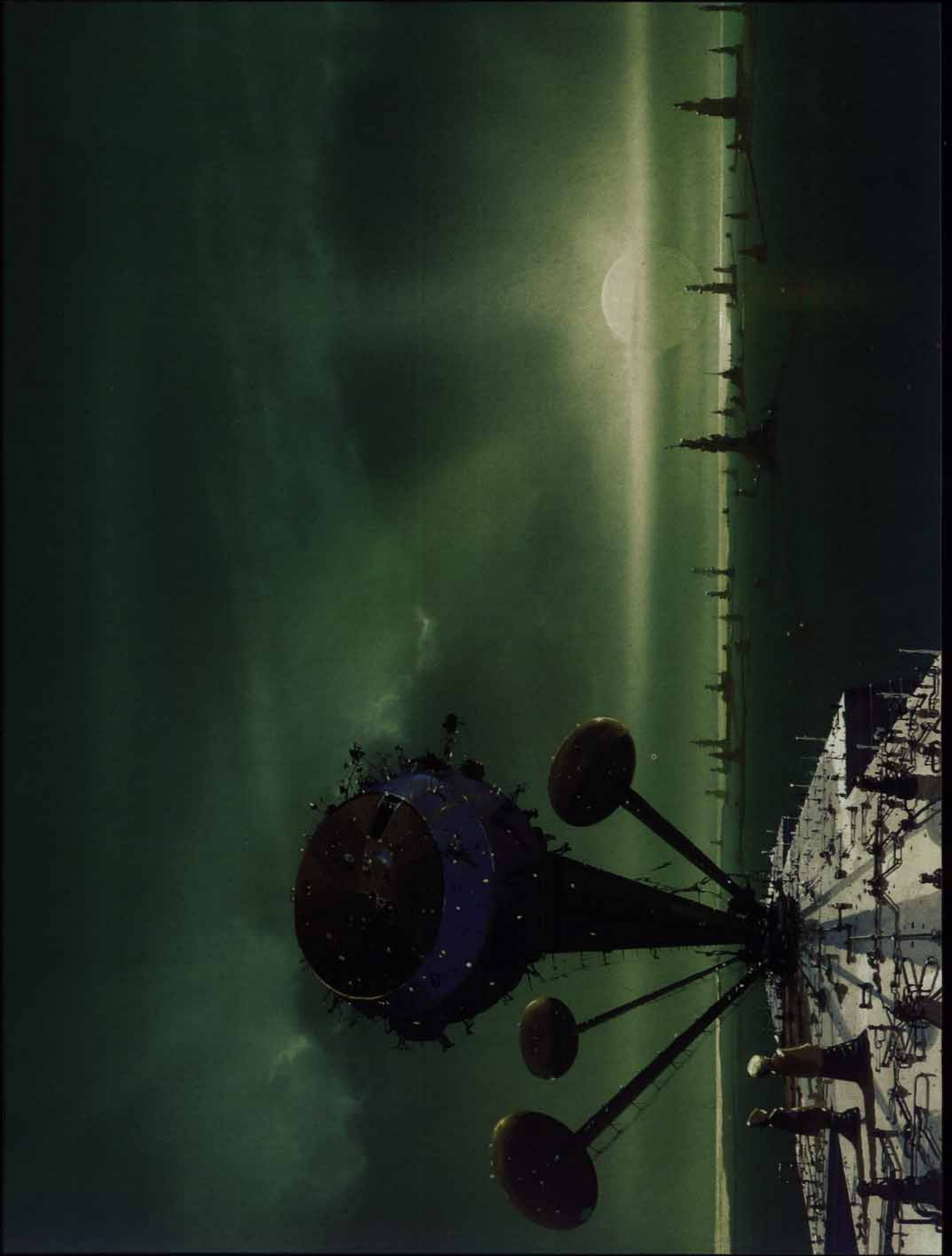
After financial rewards, improvement of skills already possessed is a character's primary reward for adventuring. The mechanics for this are simple, allowing characters with little skill (and much to learn) a good chance at improvement, while making it more difficult for an expert at a skill to learn anything new about it.

During the course of an adventure, whenever a character uses a skill successfully, have the player put a check mark next to that skill. Then, at the end of the adventure, let the players know how many points the adventure was worth, based upon its length and difficulty. A one-session encounter might be worth only one point, for example, while a major adventure that spanned encounters on several worlds, with many dangerous creatures, might be worth as many as four or five. (Remember, though, that it is always better for a referee to start out stingy and then grow more open-handed than it is to do the opposite.)

Each player receives a number of points equal to the value you set for the adventure. If you want, you may give an extra point to a player whose character was particularly heroic or useful.

These points are not accumulated, however. Rather, they are all spent immediately after the adventure. Each point lets a player test one checked skill to see if that skill is improved by experience. The player may decide which checked skills to test, based upon what goals he perceives for his character. (A character who intends to become the fastest gun slinger spinward of Sylea will probably test his Pistol skill any chance he gets, for example.) The player rolls 1D, and if the result equals or exceeds the current skill level, the skill improves by one point.





Skills of rating 7 or higher improve only if the 1D roll is a six, and a second roll is made and added to six, for a total equal to or greater than the current skill rating.

If desired, a player may spend more than one experience point on the test of a single skill, to improve his character's chance of raising that skill rating. For each point spent after the first, the test die roll is adjusted upward by one, to a maximum roll of six. Spending a point for this adjustment can be made after the test die has been rolled.

Experience points cannot be saved from adventure to adventure. They must be spent at the end of the adventure.

Examples: A character with a skill rating of Pistol-3 and Pilot-1 has used each skill at least once during the last adventure, so he has a check mark next to each. At the end of the adventure, the referee awards the character one experience point. (It wasn't a very long or dangerous adventure this time.) The player decides to try to improve the character's Pistol skill. He spends the one experience point to test that skill, rolls 1D, and scores a 1. This is lower than the character's current Pistol rating, so the character learned nothing of note about Pistols as a result of this adventure. If the player had spent the point to test the character's Pilot skill instead, a roll of 1 would have allowed that skill to be improved (from Pilot-1 to Pilot-2). Unfortunately, his character was concentrating too much on practicing with his pistol to pay attention to what he might have learned as a pilot.

Suppose another character, with a skill of Gambling-8, wanted to improve his Gambling skill after the same adventure. Assuming that the character used the skill during the adventure (and so has a check mark next to it), the player could spend his experience point to test that skill for improvement. In order to improve the skill, he would have to first roll a 6 on 1D, and then roll a second 1D for a result of 2 or greater, making a total equal to or greater than his current skill.

Finally, imagine that a character has received three experience points for an adventure and wants to improve his checked Computer-4 skill. The player spends one point to test the skill for improvement and rolls a 3. This is insufficient to improve the skill rating, but the player could spend a second experience point to raise this roll of 3 to a 4, enough to equal the current skill level and raise it a point. The player would have one of his original three experience points remaining to check another skill.

Learning New Skills

The procedure for learning new skills falls into two categories: zero-level skills and professional skills.

Learning Zero-Level Skills: Those skills that can be used by anyone without training (at half the related characteristic rating), can be learned much like normal skills. The only difference is that the player must spend two experience points for a single chance to test the skill. Obviously, whatever the roll, it will be higher than the current rating of level-0.

Learning Professional Skills: Skills that cannot be used without training can be learned during the course of a campaign. But it is not an easy thing to do so.

First, the character must find a training program. This can be the subject of an adventure in itself. Then the character must take a sabbatical (for two years of game play) for the purpose of specifically pursuing that training. Such activity is the equivalent of a technical school or college education, and allows the acquisition of one specific non-weapon skill with a level of 2. Cost of this education is Cr70,000. During this time, the character will be unavailable for adventures lasting for longer than a weekend or holiday.

Improving Characteristics

Improving characteristics is much more difficult than improving skills. To permanently improve an characteristic, a character must first dedicate himself to a program designed for that characteristic. Only one characteristic may be focused upon at a time. It is up to the referee to decide whether a character's plan to improve that characteristic is justifiable.

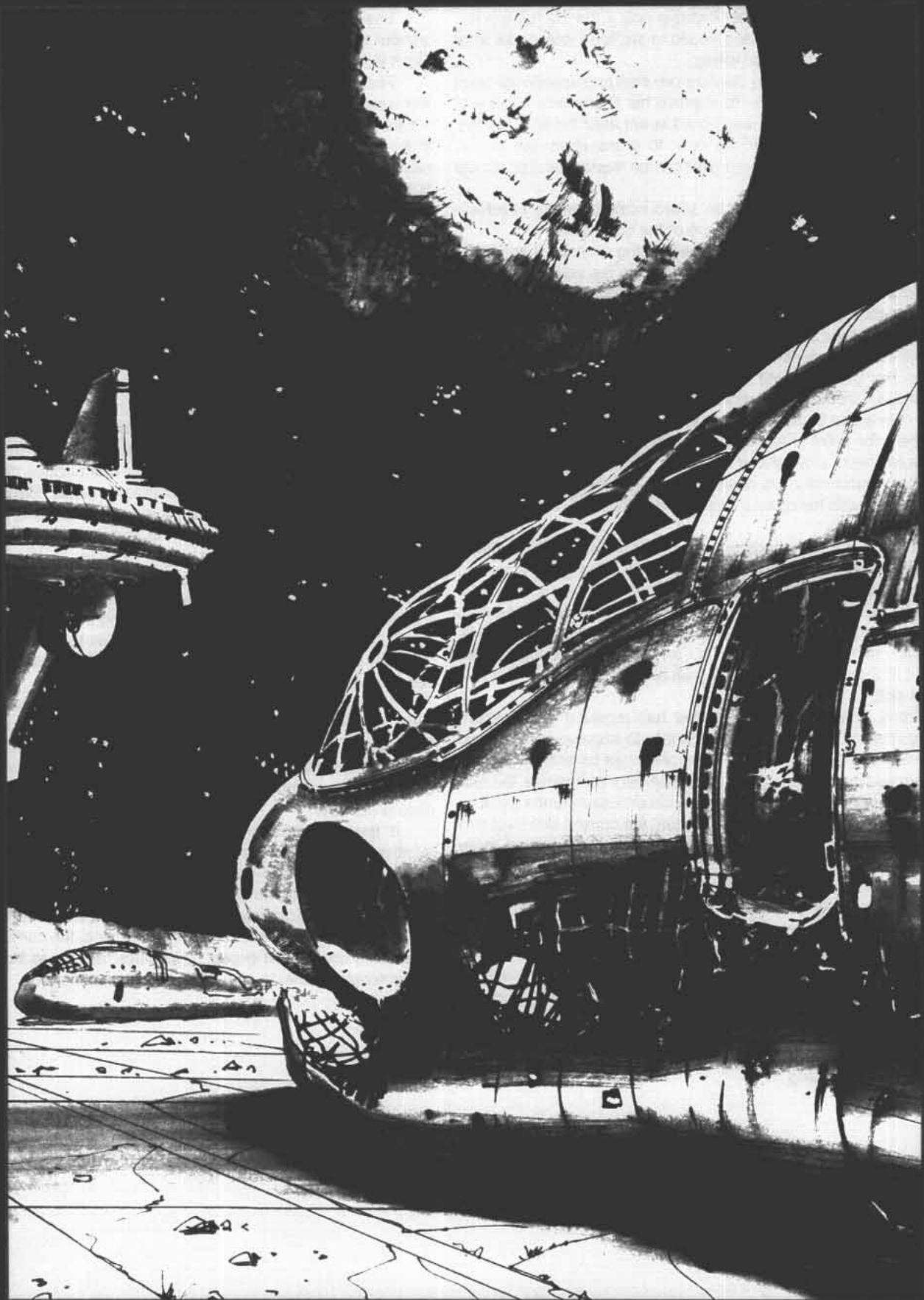
(Raising Strength would require a program of weightlifting and nutrition, for instance. Raising Intelligence would require the character to train in mind-building exercises and puzzles designed to challenge the way in which the character thinks. Raising Social Standing would require the significant expenditure of money to raise the character's standard of living and change the way the rest of the universe views him.)

The improvement program must continue for a number of months equal to the current characteristic rating. (And the referee may limit the character's adventuring during the meantime.) At the end of this period of time, the player may test the characteristic as if testing a skill for improvement. If the test is successful, the characteristic improves by one point.

If the test is not successful, the player may state that the character is continuing the program for another month. At the end of that month, the characteristic may be tested again. A character may continue the improvement program, testing the characteristic from month to month, for as long as the player desires, until success is achieved.

If the program continues unsuccessfully for a number of months equal to twice the current characteristic rating, a dice modifier of +1 is applied to the test each month thereafter. If it continues for a number of months equal to three times the current characteristic rating, a dice modifier of +2 applies, and so on.

Once a characteristic has been increased, the current training program is considered ended. If the player desires to increase the characteristic further, a new program must be started.



The Third Imperium fosters exploration and expansion, with great opportunities for those bold enough to pursue them. Still, the shattered remains of earlier ages litter many worlds, a grim reminder of the Long Night from which the galaxy is slowly emerging.

Traveller adventures span the entire range of experience that can be expected in the universe of the far future. The potential for adventure is endless, depending as it does on the situation and on the characters themselves. Nevertheless, each adventure can be classified in a number of different ways. These classification schemes can help any referee produce his or her own adventures.

Adventure Classifications

Adventures can be classified by their settings, patrons, situations, and catalysts. Each classification is independent, and an adventure can contain one of each.

- **Settings** are places or locations for adventures. Four basic settings for adventures are the ship, the location, the world, and the choreographed novel. The ship covers any vessel, whether marine, interplanetary, interstellar, or other type; ships provide interesting movable settings with an abundance of machinery and other equipment. The location indicates any building or natural feature and is usually indoors; it is often presented as a maze or labyrinth to be conquered. The world indicates a setting that is geographic in nature; it may be an entire world, or it may be a mapped area or a smaller portion of a world. The choreographed novel involves a setting already thought out by the referee and presented to the players; it may be any of the above settings, but contains predetermined elements. As such, the referee has already developed characters and settings that bear on the group's activities, and they are guided gently to the proper locations. Properly done, the players never know that the referee has manipulated them to a fore-ordained goal.
- **Patrons** are non-player characters who provide direction and guidance to the players. In many cases, they speak with the voice of the referee in providing their help. Typical patron missions include stealing an object, protecting an object, finding an object, or killing someone. At times, the players themselves will develop their own missions and become for a time, their own patrons. Rumors are especially helpful in this regard.
- **Type** indicates the actual nature of the adventure. An adventure need not be purely of one type, often mixing several types together for more excitement. Types of adventures include the chase/pursuit, the assault/rescue, discovery/exploration, enrichment, the enigma/mystery, and novelty.

The *chase/pursuit* may involve characters on either side of the situation, and it is possible for events to turn the tables, converting the pursuers to the pursued on a moment's notice.

Assault/rescue usually involves force or violence in overwhelming enemy characters or the forces of nature in order to obtain some goal. Characters may be on either side of the assault/rescue.

Discovery/exploration puts the characters into an unknown situation where they must find information about their environment, either to ensure their own survival, or as part of some interest they have.

Enrichment makes economic, social, intellectual, or other improvement the primary goal. Such adventures are mercenary (although not necessarily military) in nature.

The *enigma/mystery* presents a situation for the characters to solve. It may be a simple murder mystery, with clues all around, or it may be a puzzling alien structure about which the group is curious.

Novelty adventures place the characters in interesting situations and allow them to deal with them. A visit to an interstellar casino for a round of gambling could be a novelty to some characters.

- **Catalysts** serve to spark an adventure by providing interest and direction. They include danger (which forces action through threats), opportunity (which forces action through a promise of reward), and puzzles (which prompt action through curiosity).

By assembling these aspects of adventures together, the referee can produce interesting adventures for players.

Running Traveller Adventures

Traveller adventures come in many sizes and types. In ascending order by size, they are called patron encounters, casual encounters, amber zones, short adventures, adventures, and campaigns. Size also has a direct bearing on the completeness of detail presented and on the complexity of the situation. Each type of scenario has its own special appeal.

Patron Encounters: The smallest and easiest encounter is with a patron. As dictated by the chapter on encounters, it is possible to encounter a patron after a short search. The patron will provide a purpose when hiring the adventurers, and may provide limited funds for the task.

One method of administering a patron encounter is to write a short paragraph for the players to read, which briefly details the information available to them. Such information includes the location, a description of the patron, the task to be assigned, and the remuneration that will be paid. In addition, several details should be included to establish some opinions in the minds of the characters. To further complicate the situation, a selection of perhaps six possible rationales or outcomes to the situation can be made up (for example: the patron is Lying, the patron is crazy, the patron is honest, the patron has been swindled, the patron is deviously trying to achieve something he hasn't mentioned, or the patron is confused), and the true outcome picked by the referee from the list, influencing the referee's description of the encounter and the ensuing job.

Rumors encountered in the course of adventures may add to what the players know about their patron and the situation. In some cases, a rumor may be treated as an absent patron, leading the characters off on a search of their own.

Casual Encounters: Somewhat more detailed than the patron encounter is the casual encounter. A patron appears, but is more fully detailed and described. This description often helps the adventurers determine attitudes or opinions of the patron, helping guide the travellers' decisions. The referee will already have established a single purpose, mission, or task for the patron, and will present it to the players. They must decide whether or not to accept the assignment, and then set about planning a course of action. Because the causal encounter patron is more clearly defined, the referee may be called upon to role-play the patron (taking care not to take over the action, or to provide too much guidance). Casual encounters are usually more detailed than are patron encounters.

Amber Zones: Amber zone is a travel zone code promulgated by the Travellers' Aid Society to warn off individuals from dangerous worlds. This same name has been assumed for situations that present a danger to characters and warn them to use caution. An amber zone situation need not take place on an amber zone world. These situations present a problem, task, or predicament to the players and usually include a general outline for the referee to follow. The referee must provide deck plans or maps where called for, and he or she must be prepared to deal with problems in background or reactions when it becomes necessary.

Short Adventures: Complete situations presented to the players for their response are often short adventures. Such short adventures include relatively complete maps or deck plans, plus descriptions, detailed situations, animal encounter tables, or other necessary information, and an overview to explain the situation to the referee. Short adventures are restricted only in their length, and often are confined to a single building, starport, or incident that must be dealt with by the players.

Short adventures focus mainly on a single interesting situation and provide relatively detailed background and data on that specific item.

Adventures: Large, detailed scenarios that deal completely with a single topic are called adventures. Although similar in nature to a short adventure, the larger adventure provides pre-generated non-player characters, crews for ships, details of starships to be encountered, background or library data, and other materials to flesh out the local portion of the universe. All of this embellishment is in addition to the basic situation to be dealt with. It serves to make the environment more realistic, more challenging, and more informative. In the course of dealing with the basic idea of the adventure, the players also deal with the background that makes the universe in this situation seem more real.

Adventures are also long enough and complex enough that the players will encounter several situations, often only different aspects of the same basic premise, while they play.

Campaigns: The campaign is a combination of all of the above types of situations into one continuous, intermeshing role-playing life. The background for a campaign remains constant and consistent, while individual adventures, short adventures, amber zones, casual encounters, and patron encounters unfold within it. The fact that the campaign maintains a constant background means that players who learn some fact about the universe in one adventure can often depend on that fact and use it later in another adventure.

Campaigns are almost always dependent on continuing characters. Once a character is generated, he continues (at least until death or retirement) to adventure within the same framework of history and background, gradually building up a knowledge of the universe that should help in dealing with adversaries or nature.

Running *Traveller* Campaigns

Traveller campaigns can be a simple string of adventures and encounters set against the background of a pregenerated subsector in which the adventurers fly from world to world, engaging in trade and speculation, seeking and finding patrons, taking on and solving problems, and generally randomly wandering about the universe. With a small bit of effort on the part of the referee, however, a campaign can be structured to be much, much more.

There are four (sometimes five) seeds to a good campaign. Any referee should have them in his mind when creating any situation that is to continue for more than one session. These seeds are called the basics, the push, the pull, and the gimmick. The optional fifth seed is the enigma.

The Basics: Maybe the thought of the basics is obvious, but it often gets overlooked. The rules for **Traveller** are presented in this book, but there are certain basic facts that the referee must provide. First and foremost is the map and an idea of what lies within the map and why. Consider any modern map. It may have place names scattered about, but even a grade school education enables a reader to see beyond the names: the center of South America is jungle; some countries are democracies or dictatorships; they may be rich or poor; they may be allies or enemies of their neighbors. The same background is required for a subsector map. The referee needs to give some critical thought to the political organization of the areas shown: is there an empire, a federation, an unsettled frontier? How does the government interact with its citizens: is it benevolent or oppressive, or is its presence even felt? These basics may well be sketched-out ideas: rough maps where the holes can be filled in later. But these basics need to be there, or the players will later find themselves wandering into inconsistencies.

At a minimum, the basics should address the subsector map, interstellar government, and local technological levels. As needed, the referee may add more basics to the campaign, including animal encounter tables, local organizations of importance, world and local laws, history, and other foundations. With the basics available, it is possible to set any mundane adventure without further preparation. The only problem is that such adventures will be mundane; there is no real spirit of excitement behind them. The campaign needs more.

The Gimmick: Any campaign needs gimmicks to appeal to the players. Early on, they have no idea what is of importance in a grand sense, and will be self-centered to a certain extent. Gimmicks are designed to appeal to the players, enabling them to search for obviously valuable items while they also learn about their universe. Gimmicks (some say the word is derived from *gimmee*) are things that players want: things they are fascinated with. In **Traveller**, they rank above money or ordinary ships; they must represent some advantage, such as high technology or special talents. The Psionic Institute is an example of a gimmick sought early on by most characters. It meets one definition of a gimmick: an advantage the player has over most people.

Gimmicks are things that cannot be bought—they must be earned through hard work, clever planning, and good fortune. Keep in mind that gimmicks are things that are acquired early by the players, and then serve the person (and the group) for the rest of the campaign.

The Pull: The pull is a simple name for a goal that attracts adventurers, much like a magnet attracts iron. It can be as simple as a fabled mineral deposit on a distant world, or as complex as a secret formula that will keep the sun from going nova—to be found within a certain time limit.

Pulls need a lot of thought, and often must be tailored to characters in the campaign. When one character is an anthropologist and is interested in primitive cultures, the pull can be the secret of some race on a far-off world, one which allows the player to use his talents to puzzle it out after long expeditions. If a player tends to be a violence-prone soldier, then the pull may be a long-sought bit of training from a military society, available only after he has proven his worth.



Deep in space, adventurers may run across strange new alien civilizations waiting to beg, borrow or steal needed materials for credits. However, not all encounters will be highly profitable, in fact, some may end up being very deadly.

Often, a campaign can do with two pulls. One may be major and the other minor, but a multiplicity of pulls allows one to be important while the other lies dormant until needed. Shifting emphasis can make the total campaign realistic; a realistic course for the action is rarely a straightforward path directly to the adventurer's seeming goal.

The Push: The push is (obviously) the opposite of the pull. It is something the players do not especially like, but it keeps cropping up anyway. The push can be relatively simple, like law officers, or relatively complex, like a nefarious group or race intent on conquering the universe.

As with pulls, there can be multiple pushes, some large and some small. Pushes also have a benefit for the referee: they can come into play when the referee wants to push someone. If the group is wasting time in some place and the action should really move on, then over the hill comes a horde of barbarians, the same ones that have been following the group for weeks, whom everyone knows are bloodthirsty killers. "Quick," the group says, "let's move on!"

The Enigma: There is always something that the players will not understand. They may not realize that the emperor who

holds ultimate political power also controls (more subtly) the economic power of the major corporations in the region, or that some worlds are being slowly strangled by a major corporation, in order to gain political control. As clues are presented, the group learns more and more about a larger situation, which they can then deal with to their benefit, or to someone else's benefit. This enigma is, on a large scale, the secret of the universe; on a smaller scale, it is still a secret worth knowing.

Early in a campaign, the players may not even know what the enigma is. Later, when presented with several clues, the group may realize that there is a puzzle, but have no idea of its solution. Still later, they may have all of the information (perhaps in the form of raw data still to be refined) and need to find an analyst to decode it.

Finally, with the secret at their disposal, they will need to decide how to use this information. Doling out the clues and information slowly can make the campaign an intense, interesting cliffhanger until the very end.

Interstellar trade is the transport of commercial goods from one world to another in the pursuit of profit. The prime law of trade is an ancient one: *Buy low and sell high*. Merchants who follow it make money, grow rich, and become successful; those who don't go bankrupt.

Definitions: The following definitions govern the **Traveller** trade system.

Sourceworld: The world where trade goods are purchased by speculators. The source or origination point of any trade goods.

Marketworld: The world where trade goods are sold by speculators. The market or destination for trade goods.

Cost: Amount paid for trade goods by speculators or traders at the sourceworld.

Price: Amount expected to be paid to speculators or traders for trade goods at the marketworld.

Selling Price: Amount actually paid to speculators for trade goods at the marketworld through use of the Actual Value Table.

Required Data: This trade System is based on information derived from the UWPs (see Chapter 10) of the worlds involved: from the sourceworld to determine the availability and cost of the goods, and from the marketworld to determine the sales opportunity and selling price of the goods.

Cargo Identification

Cargos are not identified by their nature, but instead by their sourceworld. Trade goods, rather than identified as polymers, crystals, or pharmaceuticals, etc., are labeled, for example, "TL8 Lo Ni Po Ba," meaning tech level 8 goods from a world with trade classifications Low Population, Non-Industrial, Poor, Barren. The precise nature of the goods is unimportant, and equivalences are provided for individual characters wanting or needing to use cargos from this system for their own purposes.

Determining Cargo Identification: A cargo is identified by its sourceworld's starport type, tech level, trade classifications, and cost. Starport type and tech level are shown on the sourceworld UWP. All possible trade classifications are determined (see the trade classifications section), and then listed together. Cost is calculated using the cost system. If the cargo is not of an Imperial sourceworld, its origin should be noted.

For example, a Cr7,00 cargo from Pennell in Sylea sector would be identified as: C-9 Ag Ni Cr7,000.

Lower cost cargos are always preferable because potential profit is higher (the difference of cost and selling price is gross profit).

Trade Classifications

The trade classifications for all worlds can be determined from their UWPs. The fifteen classifications are given in the Trade Classifications List.

The Trade Classifications Table indicates the world UWP required for each classification, and it is important to examine a world for all possible trade classifications.

Trade Classification Definitions: The following define the various trade classifications.

Agricultural: The world has climate and conditions for extensive farming and ranching. It produces relatively inexpensive foodstuffs. Agricultural goods sell well to worlds that cannot farm their own (Desert, Fluid Seas, Poor, Water Worlds, Industrial Worlds). Agricultural worlds are excellent markets for products from Industrial worlds, other Agricultural worlds, Barren worlds (for new plant and animal strains), and Rich worlds.

Asteroid Belt: The world is an asteroid belt. It produces raw and semi-finished materials, especially ores, metals, and minerals. Asteroid Belt goods market well on Industrial worlds, Non-Agricultural worlds, Vacuum worlds, and other Asteroid Belts. They themselves are good markets for products from Agricultural worlds, Industrial worlds, Non-Agricultural worlds, and Vacuum worlds.

Barren World: The world has no population, government, or law level. Shipments to the world are generally small, usually in preparation for eventual colonization, or for scientific expeditions. Goods from Barren worlds are generally raw materials mined or gathered by ship crew. They are poor sourceworlds and even poorer markets.

Desert World: The world has no open or standing water. Desert world products sell well to Non-Agricultural worlds and other Desert worlds. They are good markets for merchandises from Agricultural worlds, Industrial worlds, Non-Agricultural worlds, and Rich worlds.

Fluid Oceans: The world's oceans are not composed of water. Non-water oceans may be valuable sources of raw materials for industry, and this world is a terrific market, for both buying and selling, for Industrial worlds and other Fluid worlds.

High Population: The world's population is one billion or more. Because of the economic production scale, this world's items sell well on High Population worlds, Low Population worlds, and Rich worlds. High Population worlds are good markets for merchandises from Agricultural worlds, Industrial worlds, High Population worlds, and Rich worlds.

Ice-Capped: The hydrographics for the world are locked in ice-caps. Goods from Ice-capped worlds are popular on Industrial worlds. Ice-Capped worlds aren't good buyers, however.

Industrial: The world is heavily industrialized and produces many types of goods. Industrial items sell well on most other worlds, and Industrial worlds are good markets for most products.

Low Population: The world has a population of less than 10,000 persons. Although low Population world cargos sell well to Industrial worlds and Rich worlds. they are rarely self-supporting. Consequently, they are excellent markets for goods from High Population worlds and Agricultural worlds.

Non-Agricultural: The world is unable to produce enough food agriculturally to feed its population, so it relies on synthetic food production. Non-Agricultural worlds are good sources for other Non-Agricultural worlds, Asteroid Belts, Desert Worlds, and Vacuum worlds.

Non-Industrial: The world has a population less than ten million. Non-Industrial worlds conduct business and trades mostly with Industrial worlds. Not surprisingly, their goods sell poorly on other Non-Industrial worlds.

Poor World: The world has poor grade living conditions. Poor worlds are markets for Industrial worlds. They are not good sources for cargos.

Rich World: The world has high living standards. Rich worlds are good markets for Agricultural worlds, Asteroid Belts, High Population worlds, Industrial Worlds, Low Population Worlds, Rich worlds, and Water worlds. They are good sources of cargos for Agricultural worlds, Desert worlds, Industrial worlds, High Population worlds, Rich worlds, and Non-Agricultural worlds.

Vacuum World: The world has no atmosphere. Vacuum worlds are markets for products from Asteroid Belts, Industrial, Non-Agricultural worlds and Vacuum worlds. They are good sources for Asteroid Belts, Industrial worlds, and Vacuum worlds.

Water World: The world is covered with water. There is very little land above water. Water worlds are good markets for Industrial and other Water worlds. They are good sources for Industrial, Rich, and Water worlds.

Computing Costs of Goods

The cost of trade goods is computed using the Cost of Goods Table.

Base Cost: The base cost of goods is Cr4,000 per ton.

Trade Class Effects: Determine all trade classifications that apply to the sourceworld for the goods, and consult the Cost of Goods Table. For each matching trade classification, apply the price modification indicated.

Tech Level Effects: Multiply the tech level of the sourceworld by Cr100 and add it to the base cost.

Starport Effects: Note the starport type, then increase the base cost according to the starport level. If starport type A, - Cr1,000. If starport type C, + Cr1,000. If starport type D, + Cr2,000. If starport type E, + 3,000. If starport type X, + Cr5,000.

The final result is the cost of goods per ton. It becomes a part of the cargo identification, and is the price when purchasing cargo for speculation.

The Actual Value Table is not used when calculating cargo cost, and brokers are not involved.

For example, the *Esquire* is nearing the end of a voyage from Efate to Regina (both in Regina subsector of the Spinward Marches). The ship has just called at Ruie (C776977-7 Hi In) and the captain has ascertained the correct UWP and all possible trade classifications. Modifications for Hi and In total - Cr2,000; for tech level, + Cr700; for starport effects, + Cr1,000. The captain computes the local cargo available as C-7 Hi In Cr3,700. In a speculative mood, he arranges for the purchase of 10 tons of the goods and pays Cr37,000 for the lot. The next day, his ship lifts off for Regina.

Computing Base Price Of Goods

It is possible to compute the base price of goods before arriving at a world simply by analyzing the marketworld's UWP. Careful merchants do this to predict the relative marketability of goods at various accessible worlds.

The base price of goods is computed using the Market Price Table.

Base Price: The base price of goods is Cr5,000 per ton.

Trade Class Effects: Determine all trade classifications that apply to the marketworld for the goods, and consult the Market Price Table. Total all matching trade classifications and multiply the result by Cr1,000. Apply this price modification to the base price.

Tech Level Effects: Subtract the marketworld tech level from sourceworld tech level and multiply it by 10%. Multiply that result by the base price, and add it to the base price.

High tech sources at low tech markets are advantageous. A TL15 source selling to a TL1 market produces an increase of 140% (10% times 14) in base price. Conversely, low tech sources at high tech markets are disadvantageous. A TL10 source selling to a TL15 market is a decrease of 50% (10% times - 5) in base price—a drop in value. A decrease of 100% or more means that the goods have no value and cannot be sold at the indicated market tech level.

The result is base price for the goods at the marketworld.

For example, aboard the *Esquire* headed for Regina, the captain rechecks his preliminary calculations. Regina is A788899-A Ri. He knows that his cargo (C-7 Hi In Cr3,700) has a base price on Regina of Cr5,000. Trade class modifications total + Cr2,000; tech level effects, - 30% (translating to -Cr2,100). The base price for the goods at Regina will be (Cr7,000 - Cr2,100 =) Cr4,900.

Computing Selling Price

The selling price varies as the actual market conditions fluctuate. It is determined at the moment of sale using the Actual Value Table. The base price of the goods is used when consulting the Actual Value Table.

Broker Selection: A broker may help in the arrangement of a sale. The quality of brokers is determined by the marketworld's starport type:

Type A starports have broker levels 1 to 4.

Type B starports have broker levels 1 to 3.

Type C starports have broker levels 1 and 2.

Type D starports have broker level 1.

Type E and X have no brokers.

Player characters may use their own Broker skill to assist in the sale. If they do, they receive the standard brokerage fee, but they are assumed to spend half of that fee in arranging the sale. Maximum skill allowable for such transaction is Broker-4.

Bribery may also be used to assist in arranging a sale. Each level of Bribery skill add a DM of + 1/2 (round fractional DMs down) on the Actual Value Table, and each level used costs 7% of the final sale price. Bribery in merchant activity is called a *kick-back*, which does not require reaction die rolls and can be achieved automatically.

Trader skill enables partial prediction of the Actual Value Table result by allowing one die to be rolled early (the table uses two dice). This gives a more accurate prediction of the sale price. For example, the two dice roll, range from 2 to 12, indicates actual values between 40% and 170% of base price. If one die is rolled beforehand and it is a 6, then the character knows that the final actual value must range between 7 and 12 (or between 100% and 170%).

Trader skill levels increase the time span over which the prediction is accurate, at the rate of three days prior to the sale per level, i.e., Trader-1 predicts the value three days before; Trader-2 predicts the value six days before. Because an interstellar jump takes 7 days, Trader-3 is required to predict actual value before making an interstellar jump.

For example, upon arrival of the *Esquire* at Regina, its captain moves to sell his speculative cargo (10 tons of C-7 Hi In Cr3,700). Knowing his base price is Cr4,900, he feels that, with any luck at all, he can clear a profit of Cr1,200 per ton. However, just to be sure, he hires a Broker-4, lending a DM +4 on the Actual Value Table. The roll is 5, DM +4 makes it a 9, so the goods sell for 120% of the *base price* (Cr4,900), or Cr5,880 per ton. The ship captain momentarily thinks he has made a profit, but then remembers the broker's commission. Cr5,880 less 20% commission is Cr4,704—he has lost Cr196 per ton on this venture.

Special Rules

The following special rules also apply to trade activity.

Accelerated Delivery: Normally, merchants are given four days to deliver goods to a waiting ship. It is possible to accelerate delivery of goods by paying a premium of 10% of base cost per day of advanced delivery.

Required Execution: Once goods are offered for sale and the Actual Value Table is consulted, they must be sold at the price indicated. A sale may be stopped at any point before rolling on the Actual Value Table.

Alien Effects: When a cargo has a nationality or race of source different from those of the market, there may be an effect on base price. Consult the Alien Market Effects Table for the impact of taste, prejudice, and novelty on the local consensus of goods. For example, Zhodani goods are generally poorly regarded in Imperial markets and well-received in Sword World markets. Imperial goods are sought after in Droyne markets but collect dust in Solomani markets.

Trade Goods

Trade between planets depends on a demand for the goods being shipped and sold. Trade goods need to have a relatively high value, but beyond that basic requirement, they can be any number of things.

Because of the expense of interstellar transportation, most worlds strive to be self-supporting. But despite producing their own materials, food, and necessities, there are still a wide variety of merchandises that can be and are shipped between the stars.

Types Of Interstellar Trade Goods

Interstellar trade goods may be of any type, but some are more common than others. Ordinary materials (such as cast iron ingots) are probably not prime interstellar trade goods. The following are examples of some probable trade goods.

Raw Materials: One of the basic trade goods in interstellar trade is raw materials. The exploration of space is driven in part by a search for essential raw or basic materials in the hopes that they can be found and made available at competitive prices, even after the cost of their transportation over interstellar distances. Raw materials include:

Unprocessed ores (radioactives, special isotopes, rare metals, gems, or special compounds).

Processed ores (from which the basic contaminants have been removed).

Raw organics (harvested plant or animal materials usable in various manufacturing processes).

Waste materials suitable for recycling (industrial chemicals, used or unfashionable clothing, radioactive wastes, scrap, and obsolete equipment).

Rare Materials: In contrast to raw materials, rare materials are processed on their sourceworld before they are shipped out. Rare materials include precious metals (gold, silver, platinum, gallium, lanthanum), radioactives (uranium, thorium, radium, or plutonium), crystals (diamonds, emeralds, rubies, semi-precious stones), items with special characteristics (refined isotopes, special compounds such as heavy water, metallic hydrogen).

Pharmaceuticals: Medicine for the treatment of illness or human disability is a prime candidate for interstellar trade. Some medicines may be produced in excess quantity and exported to help bring down the costs of overall production. Some medicines are best processed or manufactured close to the source of raw materials; the finished product is then exported to other worlds.

Special pharmaceuticals are in special demand for their effects on healthy individuals: anagathics to increase the human lifespan, slow and fast drugs to affect the subjective flow of time, and various drugs which can counteract physical deterioration or help built stamina or muscle.

Novelties: New products never before seen are powerful commodities in the marketplace.

Some products are unique: an exotic wood that adds interest as a decoration or flavor as when burned for cooking, an herb of a special flavoring, an iridescent feather that becomes fashionable for a limited time, a pebble that makes gentle noises when heated.

Others are just cheaper: bright pebbles that respond to body heat, twisted metal puzzles that can be assembled more cheaply on a high population world where costs are lower, costume jewelry in alien styles.

Some novelties are fads. They cease being fashionable after a few weeks or months. Others become staples, leading to new social customs that call for a specific novelty to be given as a gift of love, a token of respect or admiration, or perhaps as an obligatory room decoration.

Consumables: A constant traffic in quality consumables can be expected. Consumables are ordinarily perceived as food and drink, but may also include aromatics, simple objects (such as flowers), or disposable clothing.

Consumable foods may be chic gourmet goods (the equivalent of caviar), or common flavorings (the equivalent of a spice like paprika). Food can also be staples, basic life-sustaining food necessary on worlds where it cannot be produced economically.

Consumable drinks may be flavored waters, alcoholic beverages, milks, nectars, syrups, or decoctions such as teas, or exotic wines. Other drinks may include fluids of various animals or plants, the juices of fruits or vegetables, distillations of organic materials, and even artificial or mixed drinks. Exotic consumable drinks may be in demand because of their novel flavors, their real or imagined health benefits, or their gourmet status.

High Technology Devices: The value of higher levels of technology is undisputed. Such items cannot be produced economically locally, but they can be used, often at great advantages in efficiency or quality.

Information: A perennial trade good is information. Books, tapes, and software all enjoy a continuing prosperity as individuals pursue educations and find a need for basic materials.

Creative Works: The products of the artistic sense are always in demand as decoration and ornamentation for homes and businesses. Quality art paintings, sculptures, and even music or movie recordings routinely fetch good prices.

Performances: Characters may also sell their artistic talents in performances. The normal base payoff for a performance tour (one month) on each world is Cr500 times the market world's population code (from its UWP). Multiply this times the appropriate skill level of the performer (Acting, Art, Dance, Music, or Writing), and then multiply it again by the Broker skill of the character acting as agent (which may be the performer himself). Then consult the Actual Value Table for the final payoff, applying the usual modifiers (including Broker skill). No modifiers apply for sourceworld or marketworld; it is assumed that the performer tailors the show to suit the audience.

For example, a performer with with Music-3, managed by a trader with Broker-4, performing on a world with a population code of 10, would have a base price of Cr60,000 (3 x 4 x 10 x Cr500). If the roll on the Actual Value Table were 9, the Broker skill would raise this to 13, resulting in a 200 percent payoff. The performer would receive Cr120,000 for this set of shows.

Raw Scientific Data: Scientific inquiry depends on data for its existence. Raw scientific data from established research stations, data collection stations, or laboratories is marketable to the research and development departments of various corporations, and to research faculty at institutions of higher education.

Social scientists also need raw materials for their researches. Historians need accounts of historical events; sociologists need data on alien or alternate societies; psychologists need data on individual behaviors. After a period of time, the information available on one world becomes commonplace, so social scientists look to other worlds for new data.

Imbalance Items: When the cost of producing a trade item is very low, it can be shipped between the stars and sold for less than its local production cost. Worlds with low labor expenses often produce goods that can be sold interstellarly at a profit.

Prototypes: When the inventive mind produces new ideas, they are translated into prototypes that are shipped to other worlds, where they are processed into row after row of finished goods.

It is possible that multiple prototypes may be produced to achieve the same result, but through different means. Thus, a data recorder from one inventor could be especially accurate in higher wavelengths, while another could be better at lower wavelengths. Research and development companies continue to evaluate and purchase prototypes in hopes of finding ways of improving their own products.

Invention prototypes based on totally new principles are equally welcome because of their potential in introducing new consumer goods.

Units of Exchange: Sometimes shipments between worlds consist of money itself.

Interstellar trade eventually produces an inequity in the balance of payments for specific worlds, and bringing the economy back to equilibrium requires a physical exchange of money. Some worlds have their own currencies, and some of those are produced offplanet (perhaps at higher tech level worlds). Shipments of money for local circulation are thus periodically necessary.

Governments aren't the only ones creating and circulating money. Some corporations also create money for use within their organizations, especially when local governments are not able to maintain stable currencies.

Red Tape: The products of different interstellar government bureaucracy must be distributed through its area of authority. Red tape shipments include originals or reproduction of regulations, files of information about citizenry and companies, and reports.

Much of the red tape shipped between worlds is not sold. It is transported as cargo to archives or to other bureaucratic offices. But certain information can be brought and then sold to businesses or organizations on other worlds. For example, tax records might indicate likely customers for specific goods, and reports might provide clues (after analysis) to future political decisions.

Uniques: Uniques are specific items that cannot be duplicated or imitated due to their specific nature. They may be antiques, artistic creations, specimens of alien culture, memorabilia, souvenirs, archeological finds, or ancient artifacts,

In one sense, all interstellar trades traffic in uniques—no one would transport materials that could be procured locally for less money.

Specially Processed Goods: Some goods are best processed under specific or special conditions. Certain materials produced in hi-G, low-G, or zero-G environments may have higher quality than those manufactured under less than optimum conditions. In such case, the increased costs are offset by the increased reliability and efficiency of the goods.

World-Specific Goods: The very nature of some worlds and the challenges that those worlds pose to their inhabitants create world-specific goods—products made to meet specific situations. Water worlds may produce exceptionally good artificial gills. Asteroid belts may excel in prospecting equipment. Desert worlds may specialize in food synthesizers. Fluid atmosphere worlds might be the purchasing point for equipment to sample or exploit fluid deposits.

TRADE CLASSIFICATION LIST

The following trade classifications are used in this trade and commerce system.

- Agricultural:** Produces foodstuffs.
- Asteroid Belt:** Many small worldlets.
- Barren World:** No population, government, or law level.
- Desert World:** No water.
- Fluid Oceans:** Oceans composed of fluids other than water.
- High Population:** Population of one billion or more.
- Ice-Capped:** Hydrographics contained in polar ice-caps.
- Industrial:** Heavy industry forms a major part of local production.
- Low Population:** Population less than 10,000.
- Non-Agricultural:** Dependent on synthetic food production.
- Non-Industrial:** Population less than 10,000,000.
- Poor:** Low grade living conditions.
- Rich:** High grade living conditions.
- Vacuum World:** No atmosphere.
- Water World:** Entire world surface covered by water.

PLAYER SKILLS

The following skills can be useful to player-characters in their pursuit of available cargo, passengers, and freight.

- Administration:** Admin allows consultation and negotiation with local passenger agents for booking additional passengers. DM +1 per skill level for middle passengers available on the Passengers Table.
- Bribery:** Bribery may apply as a DM on the Actual Value Table (bribing a buyer to purchase goods through kickbacks). Each two levels of Bribery add DM +1 and costs a kickback of 7% of the final price.
- Broker:** Broker allows a DM on the Actual Value Table equal to the skill level (to a maximum of Broker-4). Brokers receive 5% of the final sale price per skill level. It is possible to use less than maximum Broker skill.
- Carousing:** Carousing skill may be used in regard to high passengers on the Passengers Table.
- Streetwise:** Streetwise permits the recruitment of local inhabitants for low passage berths. DM +1 per level of Streetwise for low passengers available on the Passengers Table.
- Trader:** Trader skill provides an understanding of market process. Trader allows one die on the Actual Value Table to be rolled in advance. Each level of Trader allows a roll three days prior to the sale date.

TRADE AND COMMERCE CHECKLIST

This checklist governs trade goods.

1. Buying Trade Goods.
 - A. Find Source World Trade Data.
 1. Trade Classifications.
 2. Starport Type.
 3. Tech Level.
 - B. Find Cost of Goods.
 1. Trade Price Modifiers.
 2. Tech Level Modifiers.
 3. Starport Type Modifier.
 4. Accelerated Delivery.
 - C. Purchase Goods.
2. Selling Trade Goods.
 - A. Find Market World Trade Data.
 1. Trade Classifications.
 2. Tech Level.
 3. Starport Type.
 - B. Find Price for Goods.
 1. Trade Price Modifiers.
 2. Tech Level Modifiers.
 3. Select Broker.
 - C. Sell Goods.

NOTING CARGO IDENTITY

Cargos are identified for trade and commerce by stating the following:

1. Starport Type (of sourceworld).
2. Tech Level (of sourceworld).
3. Trade Classifications (of sourceworld).
4. Cost (after all modifications).
5. Nationality or Race of Source (assumed to Imperial unless stated).

Example: A cargo from Rethe (In the Regina subsector, UWP of E230AA8-8. Desert World. High Population. Non-Agricultural. Poor.) is identified as "E-8 De Hi Na Po Cr3,800."

Price Versus Cost

Cost is the amount a speculator or merchant pays to buy a cargo.

Price is the amount paid to a speculator or merchant for that cargo. Base price is the price before consulting the Actual Value Table.

SHIP EXPENSES

Bank Payment: Equal to 1/240th of cash price for ship. Payable monthly. Required only if ship is being purchased with installment payments.

Fuel: Cr100 per ton for unrefined fuel; Cr500 per ton for refined fuel. Fuel may be purchased at starports. Free from gas giant skim or dipping from oceans.

Life Support: Cr2000 per crew member, high, or middle passenger per trip (two weeks). Cr100 per low passenger.

Maintenance: One-tenth of one percent (0.1%) of cash price of ship per year, for annual overhaul.

Salaries: As indicated on the crew salaries table.

Berthing Costs: Approximately Cr100 to land and remain six days. Cr100 or outsystem. per day for each additional day.

TYPICAL ACTIVITIES

- I. Arrive in star system.
 - A. Scan area for potential danger, problems, and other data.
 - B. Set course in system.
 - C. Possible ship encounter.
- II. Local gas giant.
 - A. Achieve orbit.
 - B. Refuel.
 - C. Set course to major world
- III. Local major world.
 - A. Achieve orbit.
 - B. Proceed to orbital starport (unstreamlined ships) or surface starport (streamlined ships).
 - C. Arrival on planet.
 - 1. Unload high passengers.
 - 2. Unload mail.
 - 3. Unload middle passengers.
 - 4. Unload cargo.
 - 5. Unload low passengers.
 - 6. Conclude low lottery.
 - D. Refit and maintenance.
 - 1. Refuel from starport.
 - 2. Renew ship life support.
- E. Commodity activity.
 - 1. Sell speculative cargo.
 - 2. Buy speculative cargo.
- F. Ship business.
 - 1. Pay berthing costs.
 - 2. Pay bank payment.
 - 3. Pay maintenance fund.
 - 4. Pay crew salaries.
- G. Miscellaneous activity.
 - 1. Patron encounters.
 - 2. Planetary exploration.
 - 3. Local areas of interest.
 - 4. Hire new crew members.
- H. Prepare for departure.
 - 1. Load cargo.
 - 2. Load low passengers.
 - 3. Load middle passengers.
 - 4. Load high passengers.
 - 5. Load mail.
 - 6. Collect income for all aspects of current trip.
- IV. Departure.
 - A. Lift-off.
 - B. Achieve orbit.
 - C. Set course outsystem.
 - D. Possible ship encounter.

BROKERS

Brokers can influence consultations of the Actual Value Table but must be paid a commission. Brokers, however, vary in quality and availability by starport type.

Starport type A	Broker-4 or less.
Starport type B	Broker-3 or less.
Starport type C	Broker-2 or less.
Starport type D	Broker-1.

TRADE CLASSIFICATION TABLE

<i>Code</i>	<i>Size</i>	<i>Atmos</i>	<i>Hydro</i>	<i>Popul</i>	<i>Govt</i>	<i>Law Level</i>
Ag		4-9	4-8	5-7		
As	0	0	0			
Ba				0	0	0
De		2+	0			
Fl		A+	1+			
Hi				9+		
Ic		1-	1+			
In		2-,4,7,9		9+		
Lo				3-		
Na		3-	3-	6+		
Ni				6-		
Po		2-5	3-			
Ri		6,8		6-8	4-9*	
Va		0				
Wa			A			

*Asian rich worlds ignore government type. Vargr rich worlds may be government type 4, 5, 6, 8 or 9 (not type 7). See chapter 13 for reference to these alien races.

COST OF GOODS

Code	Trade Class	Price Mod
—	No Class	0
Ag	Agricultural	-1,000
As	Asteroid Belt	-1,000
Ba	Barren World	+1,000
De	Desert World	+1,000
Fl	Fluid Oceans	+1,000
Hi	High Population	-1,000
Ic	Ice-Capped	0
In	Industrial	-1,000
Lo	Low Population	+1,000
Na	Non-Agricultural	0
Ni	Non-Industrial	+1,000
Po	Poor	-1,000
Ri	Rich	+1,000
Va	Vacuum World	+1,000
Wa	Water World	0

Base Cost: Cr4,000 per ton.

Trade Class Effects: Add the price mod shown for each trade class.

Tech Level Effects: Multiply tech level by Cr100 and add to base cost.

Starport Effects: Starport type adds to base cost — A: - Cr1,000. C: +Cr1,000. D: +Cr2,000. E: +Cr3,000. X: +5,000.

ACTUAL VALUE TABLE

Roll	Percentage Value
2.	40%
3.	50%
4.	70%
5.	80%
6.	90%
7.	100%
8.	110%
9.	120%
10.	130%
11.	150%
12.	170%
13.	200%
14.	300%
15.	400%

Results of less than 2 are treated as 2. Results of greater than 15 are treated as 15.
DM +Broker (to maximum of +4).

ALIEN TRADE EFFECTS TABLE

	As	Dr	Hv	Im	Kk	So	Va	Zh
As	—				-2		+1	
Dr		—						+2
Hv	+1		—	-2				
Im				—				-1
Kk					—		-2	
So			+1	-1		—		
Va					-4		—	
Zh	+1	+1		-2				—

Goods in a row selling to a column receive the modification on base price shown (+1 = plus Cr1,000).

As: Aslan. **Dr:** Droyne. **Hv:** Hiver. **Im:** Imperial. **Kk:** K'kree. **So:** Solomani. **Va:** Vargr. **Zh:** Zhodani.

This table serves as a basic guide for trade effects between the major alien races. Similar tables can be created for relationships between other races.

MARKET PRICE TABLE

Source Code	Market Code															
—	—	Ag	As	Ba	De	Fl	Hi	Ic	In	Lo	Na	Ni	Po	Ri	Va	Wa
—																
Ag		+1	+1		+1		+1		+1	+1	+1			+1		
As			+1						+1		+1					
Ba		+1							+1							
De					+1						+1					
Fl						+1			+1							
Hi							+1			+1				+1		
Ic									+1							
In		+1	+1		+1	+1	+1		+1			+1	+1	+1	+1	+1
Lo									+1			-1				
Po													-1			
Ri		+1			+1		+1		+1		+1			+1		
Va			+1						+1						+1	
Wa									+1					+1		+1

Total all intersections between source trade classifications and market trade classifications, and multiply by Cr1,000. Add this figure to the base market price of Cr5,000. If the market code includes Ba, goods may not be sold. If a source or market is As, don't count it Va as well.

"Exit Visa" is a complete, short adventure for **Traveller**. It concerns the exploits of the crew of a free-trader on the world Alell. It is assumed that this adventure will be presented by a referee who has read through it in its entirety, and who is familiar with the rules of **Traveller**. All rules necessary for this short adventure are contained in this book. Other materials that may prove necessary include note paper, graph paper, pencils or pens, and six-sided dice.

For Referees Only

This entire adventure is for the reference of the **Traveller** referee. Players should not read any part of it until they have finished the adventure.

Standards and Assumptions

The following standards and assumptions are used in the text of this adventure.

Current Date: 001

All dates in this adventure correspond to the Imperial calendar, which uses consecutively numbered days within a 365-day year, and consecutively numbered years beginning with year zero—the founding year of the Imperium. The initial date for this situation is 300-1105; 300 is the current day (the 300th day) of the 1105th year of the Imperium. Once the adventure begins, time should flow normally. If necessary, change the date to match a local situation or campaign.

Location: Alell, Regina Subsector, Spinward Marches.

This adventure takes place on the world of Alell (0106-B46789C-A), in the Regina subsector of the Spinward Marches of the Imperium. Alell is 6,400 kilometers in diameter, with a Standard Atmosphere and approximately 70% of its surface covered with oceans of water. Alell has a population numbering 203 million as of the census of 1100. Its government is an impersonal bureaucracy. The world, when first colonized, was under the authoritarian rule of the colonization ship captain, and his descendants have continued to rule under the title Captain. The government, responsible to this Captain, provides many necessary functions, but these functions seem to be performed more for the overall good of the world (and the government) than for the individual citizens. The Law Level on Alell is extremely restrictive and allows no individual possession of weapons of any sort. Alell's Tech Level is A, about average for the interstellar community.

Starport: Alell Down Starport is classified as type B, providing good quality facilities, with adequate capacity for ship repair and the construction of interplanetary craft. A Travellers' Aid Society hotel and office is located just outside the starport boundary. Refined fuel is available at Cr500 per ton, or unrefined fuel at Cr100 per ton.

Alell Down's companion facilities, Alell Orbital Starport, provide services, refueling, and maintenance for unstreamlined ships calling on the world.

Characters

Any group of characters may set out on this particular adventure. For optimal result, a group should have certain skills and a ship.

Ship: This adventure centers on the crew of a ship which has been denied an exit visa from Alell. The group must have a ship, preferably a free-trader. If they do not have a ship, the referee may direct the situation by providing a patron: the captain of a free-trader who needs a crew. Once the crew has served for several jumps, this adventure can be played out.

Skills: Useful skills for *Exit Visa* include Administration, Streetwise, Bribery, Forgery, and any other social skills which can convince others to act on the characters' behalf.

Weapon skills will be of only minimal value because of Alell's high law level.

Transport skills will come in handy if the group needs to undertake a journey of any sort.

Equipment: The characters have whatever items they have prior to arriving on Alell. While on Alell, they may wish to buy other equipment that may be available during the adventure.

The group's ship should have the contents of the ship's locker shown below, in addition to other items that may already be inside.

Ship's Locker

- eight vac suits, each with oxygen tanks for eight hours and short range communicators
- four shotguns, each with ten loaded magazines
- two automatic pistols, each with ten loaded magazines
- four cutlasses, each with a belt scabbard
- one lockpick kit
- eight sets of cloth armor
- one pair of image-intensifier goggles
- one radiation detector
- one grav belt
- one long range communicator

Free-Trader Beowulf

If the adventurers have been hired on as crew for a free trader, the following description of the ship should be made available. In other situations, the referee may wish to use details of the ship in describing that situation.

The *Beowulf* is a type A free-trader, 200 tons, and approximately thirty years old. It has ten staterooms and twenty low berths. Cargo capacity is 82 tons. The ship is streamlined, and can refuel by skimming gas from gas giants or drawing water from planetary oceans. Armament for the ship consists of one triple turret with a heterogeneous mix: one missile, one beam laser, and one sandcaster. A second hardpoint on the hull is plated over. Some day, the captain hopes to acquire a second turret and weaponry.

Expenses: Expenses for this sort of ship are high. The monthly bank payment is Cr155,000. Life support (assuming two trips per month) runs Cr24,000. Fuel costs are Cr30,000 per trip (refined fuel), or Cr6,000 per trip (unrefined fuel). Minimum crew salaries come to Cr18,000. This is in addition to berthing costs. Approximate total costs for the ship per month run Cr200,000. Actual costs depend on usage rates and number of voyages made.

Revenues: The ship (assuming two trips per month), can produce an approximate maximum income of Cr282,000. Because business operation is rarely at maximum, average income is somewhat less.

The Situation at Alell Down Starport

The ship has just landed on Alell, and is discharging both chartered cargo and passengers. The captain will receive Cr80,000 when the cargo is signed over in a few hours.

The adventure begins with the presentation of the situation. The group should be aware that they are on Alell, unloading cargo, and probably looking for new shipment. Procedures from the **Trade and Commerce** chapter, as well as passenger and cargo availability, should serve to fill these needs.

After about a day on the world, a port official calls the ship and asks that the captain report to the port warden's office as soon as convenient. Roll for reaction by the port warden when the captain arrives to determine attitudes and the method of conducting the meeting. The message will, however, be the same. A seemingly minor irregularity in the ship's papers has been discovered and as a consequence, the port warden is revoking the ship's exit visa. The ship will be forced to remain at Alell until the matter is cleared up.

If the port warden is reacting positively to the captain, he should confide that the problem is minor, and really just a matter of paperwork, and that it should be resolved within a few days, a week at most.

The captain, will of course, see the matter differently. Even assuming that he can fill his cargo hold and staterooms, he has to leave within six days in order to earn his fees, or he risks being late with his next ship payment. If he misses that payment, he could lose his ship.

The Irregularity: As soon as possible, the captain will take the group into his confidence and discuss the probable nature of the irregularity that is causing the problem. Some months ago, his ship was involved in a smuggling operation. He undertook the job because he needed cash. And he almost got caught. In the rush to escape capture, he left a landing field while enforcers were approaching the ship, and he thinks that certainly one or more of them were killed.

That incident took place parsecs from here, and his ship was properly disguised to avoid proper identification. Nevertheless, if they are checking into that incident, they could find him out. He would lose the ship, and possibly his life. It is essential that they leave Alell before the investigation turns anything up.

Making matters worse, the authorities will probably assume that the present crew was part of the incident, and hold them as well.

Options Available

The oppressive Law Level of Alell makes many of the usual options (such as a running gun-battle as the ship lifts off) impossible. Alell will not tolerate that sort of behavior, and most likely everyone would be killed if they tried that. Instead, subtlety and discretion are called for.

The crew has one major course of action available: to persuade someone to grant an exit visa to the ship and her crew. That requires finding the right official and doing whatever is necessary to convince him or her to grant the right papers.

During the course of the search, it is possible that the crew could find out where to steal the right papers, or discover their format so that they could be forged, but the major emphasis must be on dealing with the bureaucracy.

Time Spans

The ship needs to leave within six days. Within that time, the crew must secure an exit visa. Nevertheless, time should pass in a reasonable manner.

Each day should consist of four periods: morning, afternoon, evening, and night. No meetings are allowed at night—everyone should be sleeping at that time. One meeting with an official is allowed per other period. Entertainment of officials takes place only in the evening.

Sleep: The crew must sleep one period in four. Generally this will be at night. In some circumstances (such as the crew sneaking out or burglarizing offices at night) sleep must be taken in the period before night. Initially, efforts will be slow, but between one and three officials can be reached per day. Specific details concerning which officials are available and when are discussed in the sections on meeting officials.

Permission to Leave: Begin rolling for official granting of an exit visa from the fifth day on. Roll the day number or less on 2D for the port warden to call the ship and say that the exit visa has been restored. For example, on the fifth day, roll 5- for the exit visa to be granted. On the seventh day, throw 7- for that to happen. If the exit visa has not been granted by the seventh day, the referee should make daily announcement via official agents that it is expected on the following day.

The Bureaucracy on Alell

As the crew of the ship struggles to find a way off-planet before their time runs out, they will meet all varieties of bureaucrats performing their roles within the government of Alell. These bureaucrats are the key to the crew's safety. Within the morass of different departments is the possibility that one of these officials can provide an exit visa.

Thirty-four distinct officials are presented. Each has an Official Number (to help keep track of them all), a description of the official's position, a bribery price for the official, a note on the skills which may help in dealing with him or her, and an indication of what that official can do for the crew.

Each official is a framework on which an encounter may be built. Once the official is carefully enticed into helping, the group will find out the precise nature of that help and can proceed to the next official.

Reactions: The referee should roll on the Reactions table to determine the official's response to the crew's approach. That roll is also the official's roll (or less) to execute whatever he or she is capable of for the crew. Thus, if an official's Reaction roll is 7 (non-committal) then the crew must roll 7- on two dice to recruit that individual to help.

Bribery: As indicated in the definition of Bribery skill, bribery may be used to convince an individual to help. This listing shows his or her price for a bribe. If that price is paid, then Bribery skill may act as a positive DM to convince (which is helpful). Reaction rolls of more than 7 are considered negative, and bribes offered to individuals in those circumstances will be rejected. Any rejected bribe offer is reported on a roll of 11+.

The amounts shown for the bribes are minimums and used as guides. A character, when contemplating a bribe, should suggest his or her own amount. If that is too low, then the referee may indicate that it is insufficient. If it is too high by more than approximately Cr100, then the referee may suggest that it is more than enough.

Other Skills: Administration and Streetwise may be used as skills to assist in getting an official to help. If the skill is mentioned in the official's listing, then it can be used as a DM. However, only one person may use such a skill while negotiating with that official. Thus, the most capable individual should step forward to deal with the bureaucrat.

Some skills are listed as double. A listing of double Administration indicates that each level of administration skill applied to the situation counts as two.

Entertainment: The group may decide to try entertaining an official by taking him or her out to dinner, have some drinks and a good time, all in an attempt to prompt a positive, helpful attitude. If entertainment is a possible method of influencing an official, then the word entertainment (followed by a price) appears. That price must be paid by the crew for the official and for each member of the crew engaged in the festivities. The number of crewmembers taking part in the entertainment is the positive DM on the roll for the official to help. If the official is not amenable to entertainment, then any offer made will be politely (or not so politely, depending on Reaction rolls) declined.

Ingenuity: During the course of the encounters, players may come up with ingenious ideas for meeting officials, influencing them, or hurrying the course of events along. For example, a player character whose prior career was the navy might be given an advantage when dealing with the Alell Navy Port Defense Squadron executive officer (official number 27), and an even greater advantage if the player character is a former naval officer, perhaps forcing an appointment later in the same day instead of on the next day. A character with Computer skill could check the local computer banks for information on an official, perhaps learning a clue to the approach most likely to gain a favorable reaction. The referee should encourage ingenuity on the part of the players, but such attempts should always be kept reasonable and should be based on the characteristics, skills, and experience of the characters.

The First Encounter

The group automatically meets official number 0. He is a clerk who can be bribed for Cr10, and who can be influenced by entertainment and Admin skill. He can refer the crew to a customs supervisor (official number 17) who might be able to help.

0. Clerk in the port warden's office. Cr10. Entertainment (Cr10), Administration. Refers crew to customs supervisor (Official Number 17).

The encounter might proceed in the following manner: Official Number 0's initial Reaction roll is 6, unreceptive. The characters cannot expect a lot from this clerk. They could elect to entertain him or use Administration skill. Offering to bribe a negatively reacting character would be ill-advised. To entertain, one character could invite the clerk out for drinks later that evening (and the clerk would accept on 6-, his initial Reaction roll or less). If the invitation were accepted, then the character would have to pay Cr20 (Cr10 for each of them). For each additional character accompanying the party, the cost would be Cr10 more.

Ultimately, the crew would have to roll 6- for the clerk to refer them to someone who might help. The DM is equal to the number of adventurers accompanying the official, i.e. if three crewmembers came along, the DM would be +3, for a roll of 9- for success. If the roll succeeds, they are referred to a customs supervisor (Official Number 17).

Because entertainment must take place in the evening, there may not be time for treat each official this way, thus some other skills may be necessary. Because this official is influenced by Administration, some character with Admin skill may make the appeal. Admin skill applied is used as a DM on the roll for success. If the character has Admin-2, then the roll for success is 6 plus 2 (skill levels) for a final roll of 8-.

Meeting Officials

Once per day, the group will randomly encounter an official who has potential to assist them, whether the group splits up or remains together. Whether the group splits up or remains together, still only one such official can be met by pure chance

per day. If the group splits up, then roll to determine which individual character actually meets a potentially helpful official. To determine which official has been randomly encountered, roll two dice. Add a DM of either the highest Administration skill level present, or the highest Streetwise skill level present. The resulting number is the number of the official encountered. If the characters have already met this official previously, ignore the roll and there is no encounter.

Randomly encountered officials may refer the crew to other officials, as may those other officials. The newly-referred official will be available for meeting within one day of the referral. If, on the first day, Official Number 0 directs the crew to Official Number 17, then the crew may meet with Official Number 17 on the second day.

Subsequent Encounters: While the crew can find only one new official randomly per day, officials from prior encounters may provide leads for seeking out other officials. It is possible to meet with two referred officials per day in addition to the one randomly encountered official.

For example, on the first day, the crew rolls 4 (DM +2 for highest Streetwise in the group) and meets an administrative clerk in the Department of Registration (Official Number 6). They convince this clerk to help, and he refers them to the supervisor in the Department of Registration (Official Number 13). On the next day, the crew rolls a 5 (DM +2 for highest Streetwise in the group) and encounters the local Commemorative Society Membership Supervisor (Official Number 7). The crew may meet with both the randomly encountered Official Number 7 and the referred-to Official Number 13.

Multiple Encounters: The referee should note those officials who have been encountered, as the crew has only one chance with each official. Future meetings will not produce additional referrals.

The Capital: Lucifer, the capital of Alell, lies some 1,200 kilometers north of Alell Down Starport. Not all bureaucrats perform their duties near the starport. Those officials numbered 25 and higher have offices in Lucifer. Travel by monorail from the starport to Lucifer takes about six hours, so in effect, a character riding the monorail must spend all morning, all afternoon, all evening, or all night doing so. Monorail passage costs Cr80 per person one way, and Cr150 per person round-trip.

The Officials

The following list of 33 officials includes individuals from all levels of the bureaucracy on Alell. Only officials numbered 2 through 12 (or higher as allowed by DMs based on Streetwise or Administration skill) can be encountered randomly. Such encounters are assumed to occur as the crew visits various government offices in search of assistance. Other officials can be reached only if referred to by a previously encountered official.

1. Clerk in the Port Warden's Office. Cr50. Administration. Refers crew to clerk in the Starship Regulation Office (official number 10).

2. Clerk in the Immigration Office. Cr75. Administration, Streetwise. Refers crew to chairman of the Commemorative Society Committee for Non-Residents (Official Number 19).

3. Starport security guard. Not bribable. Streetwise, Entertainment (Cr10). Refers crew to Starport Security Supervisor (Official Number 18).

4. Customs Inspector. Cr100. Administration, Streetwise. Refers crew to clerk in the Port Warden's Office (Official Number 1).

5. Customs Inspector. Cr100. Streetwise. Refers crew to clerk in the Starship Regulation Office (Official Number 10).





6. **Administrative clerk in the Department of Registration.** Cr40. Administration. Refers crew to supervisor in the Department of Registration (Official Number 13).

7. **Commemorative Society Membership Supervisor.** Cr100. Administration, Streetwise, entertainment (Cr20). Refers crew to secretary of the Commemorative Society Central Committee Chairman (Official Number 31) in Lucifer.

8. **Starship Safety Inspector.** Cr60. Administration. Refers to Starship Movement Control Supervisor (Official Number 14).

9. **Immigration Officer.** Cr10. Entertainment (Cr30), Streetwise. Refers crew to supervisor in the Department of Immigration (Official Number 21).

10. **Clerk in the Starship Regulation Office.** Cr25. Administration. Refers crew to supervisor in the Starship Regulation Office (official number 15).

11. **Starport hotel clerk.** Cr20. Streetwise, Administration. Refers crew to supervisor in the Department of Immigration (Official Number 21).

12. **Commemorative Society Local Education Committee Chairman.** Cr200. Entertainment (Cr50), Administration. Refers crew to Starport security guard (Official Number 3).

13. **Supervisor in the Department of Registration.** Cr100. Double Administration. Has samples of exit visas for examination. Refers crew to secretary to the Administrator, Department of Registration (Official Number 16).

14. **Starship Movement Control Supervisor.** Cr75. Double Administration. Refers crew to the Starship Movement Control Archives Librarian (Official Number 20).

15. **Supervisor in the Starship Regulation Office.** Cr150. Entertainment (Cr35), Streetwise, Administration. Refers a lawyer specializing in starship registration (Official Number 22).

16. **Secretary to the Administrator, Department of Registration.** Cr200. Administration. Has blank exit visa forms in his safe. Refers crew to a merchant broker (Official Number 23).

17. **Supervisor in the Department of Customs.** Cr300. Entertainment (Cr100). Refers crew to Chairman of the Commemorative Society Committee on Non-Residents (Official Number 19).

18. **Starport Security Supervisor.** Cr150. Administration, entertainment (Cr90). Refers crew to Alell Navy Port Defense Squadron Executive Officer (Official Number 27) in Lucifer.

19. **Chairman of the Commemorative Society Committee for Non-Residents.** Cr150. Administration. Regrets that he cannot help, but refers crew to Starship Safety Inspector (Official Number 8).

20. **Librarian, Starship Movement Control Archives.** Cr40. Administration. Refers crew to supervisor in the Department of Immigration (Official Number 21).

21. **Supervisor in the Department of Immigration.** Cr75. Administration. Refers crew to clerk in the Immigration Office (Official Number 30) in Lucifer.

22. **Lawyer specializing in Starship registration.** Cr400 (in addition to a legal fee of Cr100). Double Streetwise. Refers crew to clerk in the Registration Office (Official Number 28) in Lucifer.

23. **Merchant broker.** Cr200. Entertainment (Cr100), Administration. Refers crew to a fellow merchant broker (Official Number 25) in Lucifer.

24. **Clerk local Starship Movement Control Office.** Cr500. Streetwise, Administration, entertainment (Cr50). Can forge an exit visa (which will work on 8-).

25. **Merchant broker.** Cr100. Administration. Refers crew to a fellow merchant broker (Official Number 26) in Lucifer.

26. **Merchant broker.** Cr50. Streetwise. Regrets that he cannot help, but refers crew to an Administrative Clerk in the Department of Registration (Official Number 6).

27. **Alell Navy Port Defense Squadron Executive Officer.** Not bribable. Entertainment (Cr50). Refers the crew to the Imperial Assistant Consul (Official Number 32) in Lucifer.

28. **Clerk in the Department of Registration.** Cr80. Administration, Streetwise. Refers crew to clerk in the local Starship Movement Control Office (Official Number 24).

29. **Supervisor in the Passport Office.** Cr150. Administration. Has authority to grant an exit visa, providing the ship carries a consignment of visa validation forms off-world at no charge.

30. **Clerk in the Immigration Office.** Cr180. Streetwise, Administration. Refers crew to supervisor in the Passport Office (Official Number 29) in Lucifer.

31. **Secretary to the Commemorative Society Central Committee Chairman.** Cr500. Administration. Regrets that he cannot help the crew.

32. **Imperial Assistant Consul.** Cr10. Administration. Refers crew to a supervisor in the Department of Trade and Commerce (Official number 33) in Lucifer.

33. **Supervisor in the Department of Trade and Commerce.** Cr5. Provides exit visa upon application.

Role-playing the Officials

The referee has many opportunities to turn the brief descriptions of the officials into interesting situations for the Traveller players in this adventure. The following is an example of a strictly by-the-roles, but completely flavorless, way to handle an encounter:

"You have just met Official Number 0, a clerk in the Port Warden's Office. I have rolled for his reaction, and he reacts unreceptively—that's a six. Admin will affect him. So who wants to talk to him?"

One player speaks up, "I will! I have Admin-4."

"OK, roll to see if he'll help."

"So I need 10-, right? The clerk's reaction roll, plus a DM of 4 for my Admin skill?"

"Correct."

"I rolled a 5. What's the clerk say?"

"He says you can talk to the Customs Inspector, Official Number 4, who might help."

"Great! Let's go."

Now for a better way to handle the same situation:

"As you leave the Port Warden's office, a clerk at the counter catches your eye." (Rolling a 6, he is unreceptive, but still looks like he might be able to help. Since the players don't know what skills might come into play, allow the entire group to approach, but single out one character in the group for interaction. Even if he does not have the best skill level for the job, he should have some appropriate skill level.)

"OK, my character Jamison will try to talk to him," says one player.

"He'll talk, but seems brusque." (Encourage the players to figure out the procedure themselves.) "He seems kind of officious."

"Maybe we could slip him some cash?" interjects someone with Bribery skill.

"Do you want to try that?" (Let the player make the decision while giving enough data to allow a reasonable response. A character without Bribery skill should be rebuffed, while one with skill might be told, "He's not acting friendly enough to be bribed at the moment.")

If necessary, push the players to ask the official if he can help. Note who does the asking, and use that player's skills to modify the dice roll. Roll the dice secretly, but let the players know they are being rolled. If the result indicates the clerk will give help, then the referee could say something like, "The clerk thinks maybe you should make an appointment to see the Customs Inspector in Building 134 tomorrow. He might be able to help."

Crime

There is always the possibility that the crew of the ship might turn to obviously illegal means to achieve an exit visa. The temptation could surely be extra strong after meeting the secretary to the Administrator of Department of Registration (Official Number 16), who has a supply of blank exit visas in his office safe. In such a case, the group could decide to try to burglarize the safe some night.

Burglary: Attempts at burglary will have to take place at night, which means that the would-be burglars need to sleep early, and need to gather up any required equipment for the job. If this option is selected, the referee will have to provide floorplans for the office and building to be broken into, as well as any other details.

Bribery: Graft and corruption are parts of life on Alell, and the punishment for bribery (or attempted bribery) is rather light: a Cr100 fine. However, getting caught at attempted bribery is a social blunder, and further attempts at bribery by a character are subject to a DM of -1 (which tends to make bribery less possible).

Curfew: The high Law Level on Alell (12) is very restrictive. No outside activity is allowed without special permits during night. Roll 12+ to avoid being stopped by an enforcer for curfew violation during night. Starship crews can often plead important commercial necessity and evade any citation by an enforcer on 6-, plus DM from Fast-Talk skill. If the policeman insists, the group is subject to an evening at the police station and a Cr50 fine each.

Police Encounters: Each day, the group (or each individual in the group) is subject to a roll of 2- to avoid being routinely stopped by an enforcer to determine the legitimacy of his or her activity. These throws may be avoided if the group is being scrupulously careful in its business. If not, then there is a chance of police encounter. Note that 2- means automatic harassment once per day.

Weapons: Carrying any weapons when questioned by an enforcer is grounds for immediate arrest, confiscation of the weapons, and a jail term of up to 1D days.

The Commemorative Society

Most of the titles for the officials available make sense and can be readily understood. The titles that make less immediate sense are those associated with the Commemorative Society. The following background should prove useful to the referee.

The Society. Annually, the government sponsors a week-long celebration of the initial settlement of Alell. During those seven days, work comes to a stand-still, and citizens can spend their time commemorating the establishment of this society in which they live. There are parades, parties, vacations, all manner of enjoyable diversions. The Commemorative Society is responsible for organizing the celebration. It has the power to tax any citizen one week's labor (in kind, in money, or in goods at wholesale) to support the activity. Some citizens, such as entertainers and servants, actually contribute their time during the week of celebration. Government officials are exempt from service, although some are taxed to provide their normal duties and are given time off later.

Local chapters of the Commemorative Society stage local celebration ceremonies, while the central chapter of the Society handles the lavish celebration in the capital.

Members: About 5% of the population has joined the Commemorative Society. Members contribute their labor in the continuing organization of the celebration. Members probably contribute more time and labor than the general population. The Captain (Alell's head of government) generally judges the quality of the Commemorative Society members by the quality of the celebration. A good celebration will bring recognition to the Society's many members; this recognition translates into political power with the government's impersonal bureaucracy. Many of the Society's members are individuals who need to deal with the government, and use their positions within the Society to help them.

Referee's Checklist

In running this adventure, this checklist may help the referee provide a consistent situation to the players.

1. Day One.
 - A. Indicate initial situation.
 - B. Stage encounter with official number 0.
 - C. Random encounter with official.
 - D. Schedule next day's appointments with referred-to officials.
2. Subsequent Days.
 - A. Random encounter with official.
 - B. Keep appointments with referred-to officials.
 - C. Schedule next day's appointments with referred-to officials.

Where to from Here?

Success or failure in acquiring an exit visa ends this adventure. Ideally, the group succeeds, and goes on to the next world. Failure calls for the referee to adjust the situation according to the events. Bon Voyage!

“**Rubicon Cross**” is an adventure scenario for **Traveller**. Referees should read it in its entirety before presenting it to the players. Players should not be allowed to read any part of it unless specifically directed to by the rules or referee. All rules necessary for this adventure can be found within this book. This scenario is designed to be flexible, taking as little as one session, or stretching throughout a campaign.

The Situation

Player characters come across two vessels floating eerily near an asteroid belt: one a free-trader, the other an unmarked but armed ship's boat—both completely devoid of crew! After wading through the asteroids for a closer look, it is apparent from the hull scars outside and blood smears inside that the free-trader was attacked and boarded. The aggressor—obviously a small pirate ship, should anyone search on board—is perfectly intact except, like the merchant liner, it is missing its crew...

The Story

The disabled free-trader, *Rubicon*, is actually an Imperial ship, a fact not readily obvious without closely inspecting the ship (see the ship descriptions, following). It carries no salient marking of the Imperium because it has been on a rather sensitive mission—one of arbitration and negotiation between two warring megacorporations competing for the Imperium's attention (and a fat contract). The rivalry has become so intense and fierce that Darren Quen, the Imperial representative in charge of this operation, decided to proceed incognito to reduce chance of sabotage or retaliation.

Quen and his entourage of negotiators had just been given a new technological device by one of the two corporations, that would persuade the emperor's decision to its favor. It appeared that a victor would finally emerge from the corporate war...

Except that the engineer on *Rubicon* had a different idea. On record, Jeth Ruddock is a normal guy with a plain history, but that is after he paid someone to conveniently erase the spotty past he had, before getting a job as the ship-system man on *Rubicon*. Part of that past included dealing with space pirates, something he was about to repeat.

Knowing the load of ultra-tech prototypes would fetch him a good sum, while on a shore leave he worked out a plan with the leaders of a pirate outfit: He would cut the ship's power and defenses when the *Rubicon* came around the asteroid belt. The pirates would have one of their ships there in a matter of minutes to make it look like a raid, spare no witnesses, take the cargo, then hand Ruddock a new set of ID and a healthy amount of credits.

Ruddock did what he was supposed to. So did the pirates... well, almost. The marauders spaced Quen and the rest of the crew, then, after Ruddock led them to the cargo bay, laughingly double-crossed him with a couple of slugs through the chest. But Ruddock, with the last gasp (and laugh), disengaged the safety and ejected both himself and all of his killers out of the airlock, leaving their loot still sealed and chained in the bay...

The Setup

The referee can lead the players into this scenario in two ways:

1. In a vessel of their own the PC can just chance upon the two ships. Of course, this requires that they possess a starship, or have access to one. Perhaps the characters are on one of the ubiquitous merchant liners, or work as part of an interstellar patrol, or are supposed to be Quen's escort at his next destination, and the tardiness is becoming unbearable—reason enough to launch a search.

Since Ruddock shut off the power prior to the attack, the *Rubicon* was unable to send out distress signals.

2. The characters are actually on the *Rubicon* in low passage. This requires justifications as why they are there in the first place; maybe they are casual acquaintances of Quen, who generously allowed them this passage to another planet; maybe their skills are deemed useful to Quen for his next mission, but for security and accommodation reasons they must travel in low passage. Characters introduced under this option will revive (no survival roll needed) shortly after the incident outlined above has run its course, only to find themselves alone in a damaged ship, with another empty ship docked next to it. But first, they must find a way out of the room they are in. This can be done by either jury-rigging the lock (Difficult Int roll, DM of Intrusion or Electronics skill) or forcing the door open (combined Strength of 13+).

The characters avoided Quen's fate because the pirates never quite made it to the low passage chamber, thanks to the fatal encounter in the cargo bay.

For added excitement, the referee may split up the characters, starting some off in *Rubicon*'s low passage and the rest in the ship that will stumble upon the situation.

There is no specific locations for this scenario. Place it virtually anywhere in the campaign system. Skills helpful for this scenario include Communications, Computer, Electronics, Engineering, Intrusion, Investigation, Gunnery, and Pilot.

The Ships

Characters will notice clues when they investigate the situation. However, they do not have all the time in the world! They have 1D x10 minutes before a fast boat (use light fighter stats but armor of only 4), sent by the impatient pirate horde, arrives to see what is taking so long. Therefore, it is imperative for the referee to ask how much time they plan to spend looking for certain clues and keep track of time.

The Rubicon

Use free-trader stats from Chapter 8 except that it has armor rating of 2, which should immediately raise some concerns as to the true nature of the ship.

Characters can enter the *Rubicon* via one of the two exterior side doors (the other currently blocked by the unmanned ship's boat), or through the open airlock of the cargo bay.

The power is out when the characters arrive on scene, so only devices operating on battery and minimal life support remain operational. It takes an Average Engineering roll from the engineering section to restore normal functions. Once the ship becomes functional again, the PCs can do whatever they wish to do with it, including operating it as if it is their own. But they should realize that they are in effect hijacking an Imperial property, and that has its own consequence! Piloting the *Rubicon* clear of the asteroid belt requires two Difficult Pilot roll, with the ship taking two points of damage on a failed roll.

Bridge: The main bridge computer has sustained minor

firearms damage and must be repaired (Average Electronics roll) before characters can retrieve information from it. Once turned on, it will display the Imperium insignia (as other main computers on board also do if they are checked), tipping off characters that perhaps this is no ordinary free-trader. Anyone with Compute skill can punch up the crew/ passenger roster with data as follows:

Joshua Winter, Captain
Sgt. Tomas Belongia, Pilot
Ensign Jeth Ruddock, Engineer
Lt. Vernon Winkle, Navigator

The most eye-catching peculiarity in the records listed here is the near court-marshal of Lt. Winkle, and the fact that he spent four months in the brig. However, any viewing character can make either a Forgery or Investigation roll on Formidable task level to spot the minute inconsistencies in Ruddock's file.

A successful Difficult Int roll, modified by Perception skill, on the quite bloody-bridge will net a searching character Capt. Winter's battery-operated voice log. It starts with Winter noting the ship's power has suddenly shut down due to what was reported as an electrical problem in the engineering section, and ends ten minutes later with several shots and screams.

Cargo Bay: The airlock here was opened manually, evident by the fact that the control lever has been pulled down. There are bloodstains in the general vicinity as well as some leading to and from the room.

The windowless door to the bay stays shut until the ship's power returns. Then the cargo bay air lock will close immediately and the entire area will automatically pressurize in five minutes. However, the lever will stay in the down position, with the console giving visual and audible alarm.

In the holding area is a single crate about three meters long, two meters wide, and one meter high. Slight drops of blood form a trail from underneath the lever to the airlock (Difficult Int roll, with DM of Investigation or Perception skill, to detect). The crate has no visible identifications or numbers but smears of blood. It is tightly secured by four chains crisscrossing the surface and fastened onto a grav plate. The chain can be cut through with proper tool in ten minutes. See the next section for its content.

Crew Quarters: These have a comfort level above the normal standards of a free-trader, furnished with stylish compartments and amenities. Searching characters will find a number of Imperial uniforms inside the closet or dressers. This should further confirm suspicions that the *Rubicon* is serving the Imperium in some capacity.

Passenger Quarters: Extravagant even for high-passage, though a few of the nice furnishings are now tainted with blood. These "passenger quarters" belong to Darren Quen, his two assistants (Douglas Post, Jonas Jansky), technical adviser (Nicholas Liner), and two security personnel (Lts. Denith Franklin, Gerrald Collins). Since the pirates never had the opportunity to rummage through the rooms, they are relatively undisturbed. As in the crew quarters, Imperial uniforms can be found in these rooms.

One of the most vital leads is in the form of Quen's personal data pad, hidden in his suite (requiring a Difficult Perception roll to find). If characters manage to access the contents (a Formidable Computer roll; it is designed for a man of his status), they will learn, in a nutshell, that Quen has been visiting two competing megacorporations and evaluating their offers on behalf of the Imperium. Both Bartizan Engineering/Advanced Development (BEAD) and ZARCRIN are weapon specialists who relish every chance to test out new design on the other—surreptitiously, of course. But in Quen's opinion, one of them (referee's choice) has just gained the upper hand with its latest project that could have full support of the Imperium behind it. In fact, the prototype is en route to Sylea, inside the *Rubicon's* cargo hold right now!

Personal data pads are found in the quarters of Quen's assis-

tants as well. They are easily spotted (Average Int roll), and each summarizes Quen's negotiations, with rather insignificant personal observations. What makes these two pads interesting are the contradictory final comments: In the one belonging to Jansky, it was predicted that BEAD will surely triumph, whereas Post lauded ZARCRIN's chances in his.

Engineering: This section, not coincidentally, suffered almost no weapon damage nor are there any bloodstains. A diagnosis (Average Engineering roll) of the engineering system will show that aside from incidental scratches, it is in good order and does not appear to have suffered any malfunction. Maybe someone is pulling the captain's leg...

The Pirate Ship

Use ship's boat stats with following changes: 50 tons, 1 Armor, and 2 laser batteries (doing 1-0-0-0 damage).

This ship is still connected to the *Rubicon* on the starboard side via a boarding tube, which characters can use for entrance.

A successful Average Perception roll lets a character spot, slightly sticking out from a pocket on one of the dirty jackets scattered around, a set of ID chips. The picture displayed is that of James Ruddock, but with the name Jack Ruger. If the characters have already seen the *Rubicon* crew roster, an Easy Forgery or Investigation roll will show these are fakes.

Access the comm log requires an Average Computer or Communications roll. The pilot's conversation with an unknown voice seems to indicate that the *Rubicon's* fate was premeditated, and that when the pilot asked, in precise words, what we do with him, the voice replied, "space him too."

There is a small locker with a crude submachinegun, modified to be dismantled for concealment and reassembled easily (in five minutes). Characters making an Average Streetwise roll will recognize it as the signature, albeit illegal, black-market weapon for the pirates of the New Order. Two cutlasses (use broadsword stats), a laser torch, crowbars, and other tools are also found inside.

During the search, the boat will receive several short, quick transmissions from the New Order pirates back home, inquiring its status.

The curiously small size of this boat should raise questions over the pirates' true motive—this almost seems as if its senders knew the free-trader would be helpless in advance, and were supremely confident that it could surprise and slaughter the crew quite easily...

The Cargo

So what's the desirable focus of this adventure? How about a three-part prototype-components for a new point-defense laser, designed not solely to improve power and accuracy of a fighter ship's turret, but also capable of multiple fires per turn?

Naturally, the engineers haven't quite perfected the trick yet. In game terms, it requires Difficult Engineering roll to install correctly for each of the three parts. Once installed, it adds 1D3 Fire Control rating, able to fire a number of times equal to the firer's Gunnery level minus 1 per turn (minimum of one attack, of course), doing 2-0-0-0. However, on a spectacular failure the circuits will overheat, causing irreparable damage to the weapon and the components.

The Hunt

What happens after the characters find that one hot potato of a cargo and what they do with it can lead to myriad exciting possibilities, maybe even forming a basis for a campaign.

The New Order pirates certainly will not be idle. If their second ship fails to report or brings back disturbing news, they will dispatch a good portion of the band (say, three to five combat-ready ships

with full armament and crew), with bloodthirsty intention of taking the cargo and thoroughly plundering the *Rubicon* (and whoever else is there at the time). They will stop at almost nothing to gain possession of the device. (The referee may lend a hand if the characters seem overpowered by the assault, by having system patrol fighters show up to combat the pirates.)

For lack of evidence, BEAD and ZARCRIN are both claiming credit for the cargo. Each is determined to recover it through any means available (and some can be dangerous to the characters' health.) "Retrieval" agent from these megacorporations will hound the characters, relentlessly attempting to extract information by guile or force. Whichever side is not responsible for the inventions will be interested in destroying Quen's data pad when they learn of its existence, as well. Meanwhile, on a more civil level, this incident will generate prolonged debates and vehement accusations over conference tables between the two giants, with the characters playing key figures. (The true owner of the prototype is deliberately left for the referee to decide to create more drama and allow adaptability to current situation.)

Interstellar law authority can't do much to help except detain the characters for questioning until the whole matter is cleared up (not good if they are on a trade run, behind on ship payment, or

both). A select few law enforcement agents may even suspect the characters. The characters can choose to sell or trade the parts, which will fetch a tidy sum (possibly MCr's if they play their cards right), but they will be marked men for the rest of their careers.

The referee should take advantage of this potential interstellar hunt to set up conflicts as well as intrigues of physical and mental natures from all factions and parties involved to challenge the characters; some direct, some indirect. They can be attacked while in a starport lounge by members of the New Order, then return to their quarters to find corporate agents rifling through their possessions, and so on. Don't forget, eventually they will have to answer to Imperial officials, too. Feel free to throw in hooks that can lead to other adventures, perhaps ones that will possibly clear the characters, or ones totally unrelated to the whole affair. The referee should create an atmosphere that the characters are on the run, with all sorts of dangerous elements chasing after them.

For a truly enterprising referee, the cargo can be separated from the ship—spaced out of the airlock along with Ruddock and the pirates! This adds to the confusion, with the additional trouble of trying to locate it on the surface of some asteroid where it landed...

CORE SUBSECTOR

Worlds of the Core subsector have always been dominated by Sylea and Ordun. At one point, the Governor General of the Rule of Man selected Sylea as his capital, and it remained a center of interstellar trade and commerce long after the Rule of Man collapsed. More recently, Sylea has been the center of the Zhunastu Industrial revolution and the resurgence of interstellar exploration and commerce.

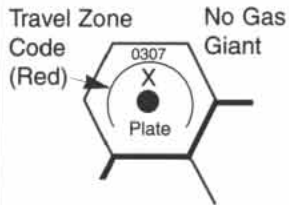
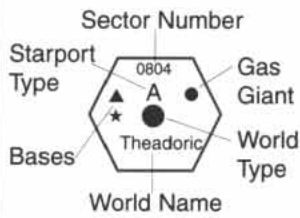
NAME	LOCATION	UWP	BASES	REMARKS	GAS GIANT
Arlea	0101	B885733-9	S	Agricultural.	G
Pennell	0104	C796646-8		Agricultural. Non-Industrial.	G
Hokatch	0105	B263521-B	N	Non-Industrial.	G
Borrun	0106	C4687A5-9		Agricultural, home to Graytch.	
Cupri	0107	C6A0758-A		Desert.	
	0110				
SYLEA	0201	A586A98-C	N S	High Population. Imperium Capital.	G
Azimuth	0202	B6566B9-A		Agricultural. Non-Industrial.	G
Kange	0203	B600426-A		Agricultural. Non-Industrial.	
Stin	0204	E310411-6		Non-Industrial. Ice-capped.	G
Axilion	0205	C873895-6			
	0209	E000			
ORDUN	0702	B236A82-B	N S	Industrial, High Population.	G
Tris	0304	E760600-5		Non-Industrial. Desert.	
Kosseff	0305	B6516AA-9		Non-Industrial.	
	0307				G
	0309				G
	0310				G
Remiun	0401	C675657-9		Agricultural. Non-Industrial.	G
	0407				
	0408				G
	0410				G
Horizon	0501	D410799-8		Non-Agricultural.	G
Linth	0502	B664884-A	N		
ENERI	0505	A886A8B-C		High Population.	G
	0510				
Mu	0601	D510434-8		Non-Agricultural	G
Korolon	0602	C200750-B		Non-Agricultural. Vacuum World.	
Ardis	0603	B4648AB-A			G
Lombard	0604	C320888-8		Non-Agricultural. Poor. Desert.	
Ermind	0605	C323786-9		Non-Agricultural. Poor.	G
Trannis	0606	D100341-9		Non-Industrial. Vacuum World.	G
Lishilli	0607	E410340-8		Non-Industrial.	G
ABBANOL	0702	B954A98-C		High Population.	G
Hazan	0703	B464652-C		Agricultural. Non-Industrial. Rich.	
Ighushin	0706	E432569-8		Non-Industrial. Poor.	
Fotherin	0707	E974610-4		Agricultural. Non-Industrial.	G
Nasea	0802	B867765-A		Agricultural.	
Baranik	0805	E620567-3		Non-Industrial. Poor. Desert.	G
	0809				G

Notes: Name provides the commonly accepted name of the primary world in a star system. The 4-digit number under Location shows the hex grid number of the world on the subsector map. UWP is the Universal World Profile for the primary world. Codes under Bases indicate Naval Bases and Scout Bases. Gas Giants indicates the presence of a Gas Giant (for refueling) with a G.

Worlds lacking information on the subsector map have not been formally contacted for centuries, and current information is not available.

Core Subsector Grid

MAP LEGEND



WORLD CHARACTERISTICS

- No Water Present
- Water Present
- ☼ Asteroid Belt

BASES

- ⊙ Imperium Naval Base
- ▲ Imperium Scout Base
- ★ Independent Base
- ⊕ Research Station
- ⋄ Scout Way Station
- ⊛ Imperium Reserve
- ◆ Imperium Prison

TRAVEL ZONES

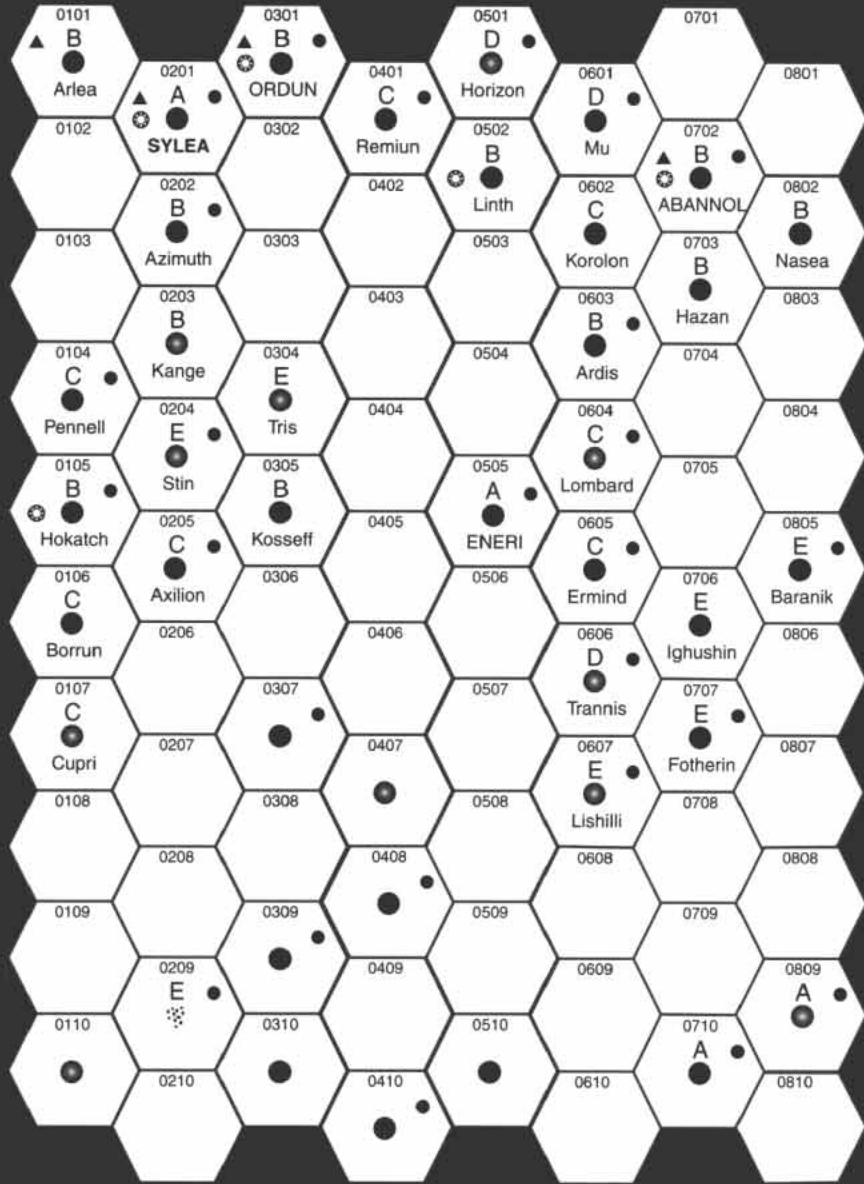


POPULATION

Secondus under one billion

PRIMUS over one billion

World names in **Bold** are subsector capitals



CORE SUBSECTOR

0101	Arlea	B885733-9	0305	Kosseff	B6516AA-9	0603	Ardis	B4648AB-A
0104	Pennell	C796646-8	0307			0604	Lombard	C320888-8
0105	Hokatch	B263521-B	0309			0605	Ermind	C323786-9
0106	Borrnun	C4687A5-9	0310			0606	Trannis	D100341-9
0107	Cupri	C6A0758-A	0401	Remiun	C675657-9	0607	Lishilli	E410340-8
0110			0407			0702	ABBANOL	B954A98-C
0201	SYLEA	A586A98-C	0408			0703	Hazan	B464652-C
0202	Azimuth	B6566B9-A	0410			0706	Ighushin	E432569-8
0203	Kange	B600426-A	0501	Horizon	D410799-8	0707	Fotherin	E974610-4
0204	Stin	E310411-6	0502	Linth	B664884-A	0802	Nasea	B867765-A
0205	Axillion	C873895-6	0505	ENERI	A886A8B-C	0805	Baranik	E620567-3
0209		E000	0510			0809		
0702	ORDUN	B236A82-B	0601	Mu	D510434-8			
0304	Tris	E760600-5	0602	Korolon	C200750-B			

LIBRARY DATA

Library data entries represent information available from any ship's computer using the library program, in response to the correct keywords. The information may be sought as background or supporting information for an adventure, as data to help players better understand the situations, or as leads to new adventures. In general, the referee can look into library data any time the player characters are researching a subject.

Library Data Entries

The following entries comprise library data.

Client State: An independent political unit that has elected (or was forced to accept) the patronage of a larger political unit. This relationship is, on general, mutually beneficial and is, in essence, commercial in nature. That is, the political or militaristic ties of any patron-client relationship are ultimately intended to promote trade between the two.

Confederation: Group of independent states, worlds, or systems united for specified purposes, while generally retaining more freedom of action than the members of a federation. League. Alliance (especially of princes, nations, states, worlds, or systems).

Directions, Galactic: Directional conventions that have achieved widespread acceptance. Toward the galactic core is coreward. Away from it, in the direction of the rim, is rimward. In the direction that the galaxy is rotating is spinward, while the opposite is trailing.

These directions are popular in describing Imperial features and businesses. For example, the Spinward Marches is a sector at the extreme spinward fringe of the Imperium. Rimward Lines is an important interstellar transport company.

Finally, within the Imperium, the term coreward is also used for the direction of Sylea, the Imperial core. There is potential for confusion if the term is taken out of context.

Dating Systems: There are three major dating systems used in reference to historical events: Terran, Vilani, and Imperial.

Terran calendar centers on a year about midway through the period of Vilani ascendance. The years ascend and descend from one, without year zero, and are suffixed AD and BC, respectively. Terran years have 365 days and are considered a standard for length of year. Years are further subdivided into months and weeks, although these divisions are no longer used outside the Solomani Sphere.

Vilani dates count from the founding year of the First (or Vilani) Imperium. Those before are suffixed PI (pre-Imperium), those after are suffixed VI (Vilani Imperium), with no year zero. Vilani years are approximately 1.33 standard years in length. Vilani years are further divided into seasons, months, and weeks.

Imperial dates count from the founding year of the Third Imperium, specifying year zero as a holiday year. Dates before that are negative, and dates after that are positive. Imperial dating uses a Julian system for specifying days. Each day in the year is consecutively numbered beginning with 001. Thus, the first day of the year 1105 is noted as 001-1105. Weeks of seven days and months of 28 days are used to refer to lengths of time, but rarely to establish dates.

Empire: Group of independent states, nations, worlds, or systems under the supreme rule of an emperor.

Federation: Group of states, worlds, or systems, each internally independent, joined in a union to which its members surrendered certain rights and responsibilities (most generally having to do with foreign affairs).

First Imperium (-4045 to -2219): The first major interstellar civilization, politically and culturally dominated by humans originating on Vland. The jump drive was discovered on Vland in -9235. They immediately reached all interfertile and technologically primitive human races on worlds within 60 parsecs, who were then gradually brought to a high-technology state with Vilani help, and assimilated into a loose interstellar community bound by trade and common culture. Eventually, the client races themselves explored beyond the local sphere, contacting and trading with still more races. But these new races gained their technology without being assimilated into Vilani culture, and the resulting cultural friction eventually precipitated a series of wars, beginning about -5400. In response, Vland began tightening its control of its trade sphere, finally organizing it into a centralized state in -5273. This marked the beginning of the First Imperium, although there was as yet no emperor.

During the thousand year period of the Consolidation Wars, Vland conquered and absorbed its enemies until there were no civilized states on its borders (except for a portion of the Vargr Extents, isolated from the Imperium by the Great Rift). The last war ended in -4045, and the Vilani calendar begins at this point. Without external threats, the Pax Vilanica lasted for nearly 1200 years. At its height, attained soon after the end of the wars, the First Imperium amassed 27 sectors and over 15,000 worlds. However, cultural rigidity became the cost of maintaining centralized control over this vast expanse. Exploration had ceased at the beginning of the wars. Now scientific research slowed to a halt, and a hereditary caste system began to emerge. Civilization was in decline. As long as there was no external threat, the Imperium was safe. But despite all efforts, technology gradually leaked across the borders. New interstellar states arose, and the Imperium could no longer afford to absorb them. Eventually, the Imperium lost territory along its coreward and trailing marches. Then, in -2422, the Imperium encountered along its rimward borders the Terrans, a then-recent entrant into space. Terran expansion into Imperium territories led to a series of interstellar wars, ultimately resulting in Terran conquest of the Imperium in -2219 and the founding of the Rule of Man.

The First Imperium bore many names in its long life, including the Grand Imperium of Stars, the Grand Imperium, and the Vilani Empire.

Holiday Year: The year zero in the history of the Third Imperium, proclaimed by Cleon I to commemorate the founding of the Imperium. Technically a calendar reform, the use of the year zero provides a central date point for counting years back into the Long Night and forward into the future of the Imperium. The actual advantages of a holiday year are slight: centuries begin in the hundredth numbered year instead of the first numbered year, and the number of years between any two dates can be determined by subtraction.

More importantly at the time, the holiday year was a part of the public relations campaigns designed to press the Imperium's authority upon local governments. The adoption of the new calendar by those government was taken as a sign of cooperation.

Humaniti (former spelling Humanity): Collective name for all of the human races, including Solomani, Vilani, Zhodani, and others. See Humans.

Humans: Intelligent major race dominating the Imperium and several other interstellar communities. Humans stand approximately 1.8 meters in height and weigh about 100 kilograms. Descended from omnivore gatherers, humans developed intelligence in response to shifting climatological factors.

The most unusual aspect of humaniti is the fact that humans are present on many different worlds and stand at various levels of development on those worlds. The Solomani Hypothesis states that Humans evolved on Terra (Sol subsector) and were scattered to many different worlds for reasons currently unknown. The result is that many different, parallel human races exist, and coexist throughout known space.

The three most widespread human races are the Solomani (humans from Terra), the Vilani (humans from Vland), and the Zhodani (humans from Zhodane).

Interdiction: The Imperial interdiction of worlds within the boundaries of the Imperium had long been a source of contention between liberal and conservative factions in the government. Interdictions must be approved by a member of the Imperial family, but such approval is usually given in response to a request from an interested service, almost always the Scouts or the Navy.

It is generally held that the Scouts recommend interdiction to shield a young or sensitive culture from the interference that trade and commerce will bring. The Navy is held to be more vindictive in its recommendations, using interdiction to punish local governments or to hide its own mistakes.

Interdicted worlds are classified as red travel zone by the Travellers' Aid Society.

Ling-Standard Products: Originally a mining firm (and still very active in that field), LSP has branched out to a spectrum of ventures, including the manufacture of various electronic equipment, ground and air vehicles, starships and armaments, drive systems, power systems, computers and software, small arms, and a diversity of consumer goods, while involving itself to a small degree with banking, insurance, and stock brokerage. LSP operates mining and manufacturing facilities throughout the Imperium.

Megacorporation: Large scale stock company with activities spanning the entire Imperium, in contrast to most companies that rarely extend their markets beyond a single sector.

Naasirka: Vilani megacorporation of uncertain lineage. Tradition has it that Naasirka was one of several quasi-official bureaus within the First Imperium, controlling a monopoly of the electronics and software market. Other product lines for the corporation include small craft, electronics, computers, and anti-grav modules.

Naval Base: Port facility for the support, maintenance, repair, and refit of naval vessels. Planetary surface facilities are generally provided for ships of 1,000 tons or less; orbital facilities handle larger ships.

Rule of Man (-2204 to -1776): Upon the conquest of the Vilani Imperium by the Terran Confederation, the Terrans moved to establish government of the region. At first, conquered regions came under the administration of the navy, under martial law.

Much use was made of the existing bureaucracy and former Vilani administrators, with naval officers in scattered key posts. When the Confederation civilian government attempted to transfer control directly to Earth, the navy refused. From his headquarters on Dingir, the commander in chief of the fleet, Admiral Hiroshi Estigarribia, proclaimed himself Regent of the Vilani Imperium and Protector of Terra, with both states now united in the Rule of Man. Nearly all the fleet instantly sided with him—evidence of his careful preparation. The Confederation Secretariat dissolved in a bloodless capitulation. Estigarribia never actually assumed the crown, but after his death he was succeeded by his former chief of staff, who was crowned as Hiroshi II. Estibarribia is therefore known to history as the Emperor Hiroshi 1.

Ultimately, the task of ruling the vast expanses of the Rule of Man proved impossible. The Rule of Man continued to exist for four hundred years, constantly trying (and failing) to hold the decay of the First Imperium's rule.

The Rule of Man is also known as the Second Imperium or (disparagingly) as the Ramshackle Empire.

Scout Base: Port facility for the support and maintenance of Scout Service vessels.

Second Imperium: See Rule of Man.

Sector: A mapping unit in astrography, equal to sixteen subsectors (four wide and four deep). Sectors are broad measures of area, and are often used for rough representations of relative site between interstellar empires. Average density: 480 to 640 worlds. Sectors are also called marches or regions. The Spinward Marches are an example of a sector.

Solomani: One of three major human races within the known galaxy. The term Solomani has several possible derivations, including men of Sol, the only men, or the true men.

Solomani Hypothesis: A generally accepted theory that all Humaniti originated on Terra, and that all other native human races arise from stock transported there by the Ancients. The theory explains the large number of independent human races within the Imperium without requiring a farfetched concept of "parallel evolution."

Subsector: A mapping unit in astrography, consisting of a rectangular area ten parsecs by eight parsecs. Subsectors are also called districts, provinces, or clusters. Average density: 30 to 40 worlds.

Sylea (Core Subsector 0201, A586A98-C): Central world of the Imperium and seat of government since its founding. Situated in the center of the Imperium, Sylea's astrographical position has prime importance as a communications hub, a cultural center, and an industrial focus.

Third Imperium: Interstellar empire founded by Cleon I in the holiday year 0.

Vilani: One of three major human races within the known galaxy. Vilani originated on Vland and formed the First Imperium which dominated interstellar relations for several thousand years.

Zhodani: One of three major human races within the known galaxy. A major source of conflict with the Zhodani is their acceptance and practice of psionics; all Zhodani of noble birth (social standing A or greater) receive psionic training as a matter of course. The precise location of the Zhodani empire is not known.

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MARC MILLER'S TRAVELLER



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