Signal GK—the Vilani interstellar distress signal. When starships are in trouble, they use it like SOS or Mayday.

Now Travellers can embark on an adventure through the Solomani Rim, and never be sure when they will hear the signal, or need to send it.

Adventure 13
Signal GK

TRAVELLER®

Science-Fiction Adventure
in the Far Future

Game Designers' Workshop

Adventure 13
Signal GK

TRAVELLER ®
Science-Fiction Adventure
in the Far Future

Game   Designers' Workshop

Signal GK
TRAVELLER, Adventure 13

1   2   3   4   5   6   7   8   9   10   11   12   13   14   15

This booklet is an adventure for **Traveller,** GDW's science fiction
role-playing game set in the far future.

Traveller is GDW's trademark for its science fiction role-playing game materials.

Table of Contents

Introduction

Signal GK is a **Traveller** adventure sited on several worlds in the general region of Terra during the reign of the Third Imperium. Scenarios touch on the relationship between the imperium and the Solomani Confederation, and on Stellar class subsidized merchants.

It is assumed that this adventure will be administered by a referee who has read through this booklet and who is familiar with both it and the rules for **Traveller.** This situation calls for only the basic **Traveller** rules (Books 1, 2, and 3, *The **Traveller** Book,* or *Starter **Traveller**):* no additional supplements, books, or other adventures are required. As usual, paper, pencils, six-sided dice, and square-grid graph paper will prove helpful during the course of the adventure.

For Referees Only: This adventure presents material which is intended only for the use of the **Traveller** referee. Once the adventure is completed, the adventure booklet becomes a useful supplement and its deck plans, additional rules, and background information can be used in additional adventures for **Traveller.**

STANDARDS AND ASSUMPTIONS

This adventure takes place in the **Traveller** universe against a background of starspanning empires and a consistent, coherent history which chronicles the events of the next three thousand years. The following concepts are important to the adventure.

Date: Under the Imperial calendar, the current date is 075-1110. The first number is the day-number within a 365-day year; the date is the 75th day of the year. The second number is the year-number counting from the foundation of the Imperium; the year is the 1,110th since the founding of the empire.

Location: This adventure takes place in portions of the Sol, Arcturus, Gemini, and Kukulcan subsectors of the Solomani Rim sector. A starmap of the relevant area and an accompanying listing of world data are contained in this adventure.

The Imperium: The *Imperium* (or more properly the *Third Imperium),* is the dominant interstellar government in this area. The 1,100-year-old empire is a cosmopolitan government dominated by humans.

Solomani Confederation: Several hundred years ago, humans on Terra established a government which hoped to rival that of the Third Imperium. About a century ago, this Solomani Confederation attacked the Imperium in order to absorb new human-settled worlds. The result of this Solomani Rim War was ultimately a stop to Solomani advances and the capture of the Solomani homeworld (Terra) for the Imperium. Since then, the two governments have maintained an uneasy truce.

CHARACTERS

This adventure is intended for use with any group of adventurers which does not have a starship. Players may use existing **Traveller** characters, or they may generate new ones specifically for this adventure.

Desirable Skills: The usefulness of any skill ultimately depends on how the players

use their characters. In this adventure, a wide variety of skills are helpful, but it is recommended that the various characters among them have these specific skills: computer, electronics, engineering, jack-of-all-trades, mechanical, medical, pilot, and vacc suit. If the mix of characters does not cover these skills, one or more characters should receive a level-0 in the skill(s) in question. Skill-0 indicates some familiarity with the skill in question, enough to allow use, but no real expertise.

Pregenerated Characters: At the referee's option, the players may use pregenerated characters supplied later in this adventure. A complete roster of available characters is supplied in a specific section of this booklet; these can be used both as player and non-player characters.

Equipment: Characters begin the adventure with equipment they mustered-out with; they may purchase more as the opportunity presents itself.

STARTING THE ADVENTURE

Before beginning an adventure session with *Signal GK,* the referee should read through the entire text, paying special attention to the Referee's Synopsis. Once familiar with the plot of the adventure, events can begin.

The referee should ensure that each player has a character and inform the players of the basic background facts given in standards and assumptions above.

The adventure starts on Scandia.

Referee's Synopsis

The Solomani Rim War put a border between the Scandia cluster (Scandia, Tewfik, Cymbeline, and Tamarind) and the worlds around Lyonesse (Lyonesse, Tlaloc, and Ochre) more than a century ago, but trade ties still persist. Both the Imperium and the Solomani strictly control trade across the border, but no line through space can be perfectly patrolled. By an accident of fate, the gap between these two groups of worlds is only two parsecs wide—traversable by jump-2 starships—and one of only three such easy passages in this sector. The adventurers have been drawn here by a curiosity about the Solomani and in hopes of making some money.

On Scandia, the band of adventurers has noticed that they are being followed, although it has proven impossible for them to catch their shadow. Finally, after three days of this, they receive a message that Colonel of Imperial Artillery Joachim Sanchex desires the pleasure of a meeting with them on the following day. Quick research indicates only that there is such a colonel, and that he has a position in the Imperial military government on Scandia, although what that position is is unclear. At the meeting, Sanchex occupies the office of a military attache and indicates that he is involved in the upcoming defection of a Solomani scientist and that he needs help outside the ordinary intelligence channels he normally uses. He proposes to recruit the group to help in the defection operation.

TO OCHRE

The first step is to travel to Ochre to meet the defector. Sanchex places a jump-2 scout/courier at the group's disposal and allows them to proceed, equipped only with a codeword which will identify them to the defector. The scientist, Dr. Arnold Rushorin, is a faculty member of the Free University of Aquitaine on sabbatical; he is currently employed on a research project on Ochre by Langren Center, a research and development firm. Langren Center is the site of a secret Solomani electronics factory held in reserve against future needs. Solomani Security is charged with ensuring that its secrecy is not blown. Rushorin's defection is a potential danger to the secret because an Imperial interrogation of Rushorin could produce clues which would reveal the factory's existence, even though Rushorin himself is not aware of the secret.

Rushorin is eccentric. Although extremely intelligent, he is unpredictable in his behavior, sometimes starting new projects, sometimes insisting on dangerous or impractical activities, sometimes working for days on end in his laboratories. The group tries throughout the adventure to deal with these eccentricities.

Once the meeting takes place, negotiations continue for assisting in Rushorin's defection.

The actual process of conveying Rushorin across the border involves avoiding Solomani patrols, and once into Imperial space, Rushorin must be delivered to Sanchex. Through all of this, Rushorin's eccentricity makes his behavior unpredictable and possibly a liability in a crunch.

Unknown to the adventurers, a Solomani Security agent, Baldwin Wei, has been

assigned to seek out, interrogate, and then execute Rushorin. Upon return to Scandia, the group is involved in a terrorist attack. They escape without serious injury. The attack itself is the work of Solomani Security attempting to get to Rushorin. It fails.

TO CYMBELINE

On Scandia, Rushorin convinces Sanchex that an immediate expedition to Cymbeline must be mounted—to confirm some basic theories he has formulated. Sanchex acquiesces and hires the group to continue accompanying Rushorin.

Due to the nature of Cymbeline's atmosphere, Rushorin thinks that there should be locations on that world where traces of atmosphere have alternately deposited material and then etched it off. The result would be naturally occurring semiconductors circuit chips. Rushorin has some indication that this does indeed take place, and he is driven by his natural scientific curiosity to confirm it.

Upon arrival on Cymbeline, Rushorin begins a research expedition into the airless highlands. He finds a volcanic crater where outgassing has created just the semiconductor crystals he seeks. After several days of sampling, Rushorin has gathered several extremely intriguing samples and is ready to proceed to Scandia. One of the samples is an intelligent chip identified as 10987 (the group's chip sample number). This chip has the potential of being a companion and even a member of the adventuring group.

Meanwhile, the adventurers have had their hands full maintaining camp and keeping track of Rushorin. At the end of the expedition, the group is attacked by Solomani agents intent on recapturing Rushorin. The adventure with Rushorin appears to be getting dangerous.

TO TERRA

Once Rushorin is again in Sanchex's hands, a decision is made to send Rushorin to a higher level in the Imperial intelligence apparatus—on Terra. Because of Rushorin's eccentricity, Sanchex believes it best to send him in the company of his companions of the last several weeks. Originally, the plans are to use a fuel dump in deep space to allow the scout/courier to cross to Ember, but these plans are changed at the last minute to high passage aboard the *Ad Astra* to Dismal, Peraspera, and Terra.

Aboard the *Ad Astra,* various suspicious activities take place, but there is insufficient warning of the disaster to come: while refuelling at Dismal's gas giant, the ship is racked by several explosions which completely disable it. Hanging in a decaying orbit above the gas giant, the ship is a deathtrap unless emergency repairs can be made.

The climax of the adventure is the emergency repair of the ship and the escape from the gas giant's gravity well.

Characters

There are four non-player characters who are important to this adventure: Joachim Sanchex, Arnold Rushorin, Baldwin Wei, and 10987. Each has his own interesting characteristics and contributes to the excitement and intrigue of the adventure.

JOACHIM SANCHEX

Colonel Joachim Sanchex   946999   Age 38   5 terms   Cr53,000
   Leader-2, Computer-2, Rifle-2, SMG-1, Electronic-2, Mechanical-1, Tactics-1, Grav Vehicle-1, Gambling-1

Colonel Sanchex is head of the Imperial Army Intelligence section on Scandia. He controls a network of agents, informants, and operatives throughout the Arcturus and Kukulcan subsectors.

Sanchex began his career in the Artillery, but soon transferred to the Commandos. As a younger man, he was involved in a variety of military operations, primarily clandestine strikes against Solomani installations. For a while, he was an anti-terrorist battalion commander.

He has been in his current assignment for the past four years, and enjoys it a great deal.

Sanchex is a personable individual. He gets along well with people, and is capable of great charm when necessary.

Sanchex role in this adventure is primarily that of a facilitator. He provides the reasons for the travellers' adventures, provides them incentives and rewards, and gives material aid and assistance when necessary.

DR. ARNOLD RUSHORIN

Dr. Arnold Rushorin   677DDA   Age 42   6 terms   Cr68,000
   Computer-5, Electronics-4, Gravities-1, Medical-2

Dr. Rushorin is a research-oriented professor of electronics at the Free University of Aquitaine. His specialty is computer hardware, with an emphasis on electronic circuits.

Rushorin's most apparent characteristic is his eccentricity. He is accustomed to having his own way, and he is self-centered enough to get it by ignoring the wishes or needs of others. He decides to pursue a certain path and simply does so.

Throughout the adventure, Rushorin's role is that of a pleasant nuisance. He is the focus of the adventurer's responsibilities (without him, the group wouldn't have a job), but he doesn't make their job easy. Without being deliberately obnoxious, Rushorin is constantly sidetracked by little ideas that occur to him. For example, in a simple expedition into town, Rushorin can be expected to get lost, only to be found several hours later innocently wandering the aisles of a bookstore, unaware of the trouble he has caused.

The extent of Rushorin's eccentricity depends primarily on the referee's input. If the adventuring group is not especially sophisticated, then the eccentricity is

minimal. If the group is especially good at role-playing, then a wide variety of eccentricities are possible.

BALDWIN WEI

Agent Baldwin Wei   8B9A98   Age 30   4 terms   Cr100,000
   Leader-2, Computer-2, Pilot-2, SMG-2, Electronics-2, Tactics-1, Grav Vehicle-2, Jack-of-all-Trades-2.

   Baldwin Wei is a politically reliable agent for Solomani Security. He was recruited at the age of 18, received extensive training and education, and then received a variety of assignments protecting Confederation interests.

   Baldwin Wei is an unusual non-player character in that the player characters are unaware of his existence for much of the adventure. Consequently, the referee is able to spend much of the adventure developing Baldwin Wei's character behind the scenes. As events progress, the referee is secretly noting Wei's actions (and ensuring that they are properly motivated and consistent); only later when Wei becomes visible is there any direct interaction with the players.

10987

   This character is not specifically a person: it is an intelligent semi-conductor microchip. 10987 (a name temporarily given by the adventurers; perhaps another name can be assigned later) is sophisticated in some ways, and incredibly naive in others.

   The chip is extremely capable when dealing with semi-conductor circuits, able to analyze their functions and to use those functions itself when connected to them. It has a good understanding of mathematics, chemistry and physics.

   The chip is less sophisticated in dealing with human personalities. It is unused to the concept of enemies, subterfuge, or deviousness. It is apt to become confused when confronted with aspects of the alien worlds of humanity that do not correspond to its own experience.

On Scandia

Scandia is a moderate-sized world (9,750 kilometers in diameter) with a thin but breathable atmosphere and a shallow sea flooding 80% of the world's surface. The sea is broken by three small continents and twenty extensive island groupings.

Scandia's population is 1.2 billion living under Imperial military rule at a restrictive law level of 9 (prohibiting weapons possession outside one's residence). The local tech level is F, very high.

The Imperium maintains a very large naval base with a large training establishment and a garrison of more than 100,000 naval troops. A military occupation force of more than 150,000 has enforced military rule since 1002, the end of the Solomani Rim War.

Scandia has two very divergent industries: gravities and fishfarming. For centuries before the Rim War, Scandia had been an important center for the production of grav modules for use by vehicle manufacturers and shipyards. During the war, Scandia was a prime source of components for Solomani military equipment. Its manufacture and research facilities were (and still are) the largest employer on the planet and are responsible for the world's high tech level.

But the rest of the Scandia also has its uses. The sea is fertile and teems with fish; to exploit the sea, a technique known as *fishfarming* has evolved. Using high technology electronics and chemistry, fish are lured to some areas and repelled from others. Large populations of fish are managed with great efficiency to produce optimum levels of production for a minimum investment of time and energy. When a specific population reaches harvest levels, electronic fish lures and repellants corral them into gathering bays and then into large processing plants where they are reduced to protein meal. The protein meal is the prime component in a variety of staple foods for Scandia's population, while any excess is exported to other nearby worlds with high populations: Tewfik, Melchior, and even Kurland.

The Imperium maintains military rule on Scandia to ensure stability and order. The strategic importance of Scandia as a gravities component producer, as a net food exporter, and as a world very close to the border with the Solomani Confederation, makes it vulnerable to covert Solomani activity, and even to overt Solomani attack. In addition, the local population, even after a century of Imperial military rule, has distinct Solomani sympathies.

LOOKING FOR A JOB

The adventurers have arrived on Scandia and are looking for work. The situation is common on just about every world: adventurers looking for work that isn't too hard, but that pays fairly well. The potential here is endless— smuggling, bodyguard duty, trade and speculation, fishfarming. But somehow, nothing seems to be coming in the way of good, well-paying jobs.

In addition, a few of the travellers have had the feeling that they are being followed: that uneasy sense that there are always eyes watching them. But like in everything else, the group has been unsuccessful. No one has actually sighted the tail; no one

has been able to prove that they are being followed.

The Patron: Then, a message arrives on Imperial Army letterhead requesting a meeting to discuss possible employment. It is signed by Colonel Joachim Sanchex, of the Imperial Military Government. Should anyone decide to check the letter, a phone call can verify its authenticity. An Imperial Army veteran character can examine the letter and comment that it is from a civil affairs unit. Throw 9+ for an ex-Army character to note that such civil affairs units are often covers for intelligence units.

On the morning of the appointment, the group can present itself at the office specified. After a short wait, they are led in to see Colonel Sanchex.

The Colonel has a proposition. Referring to various records he has, he says that the group came to his attention through an operative of his, and he thinks that they can do a job he needs doing (the referee can insert background here to show that Sanchex has seen reports of their activities: if the group has been shady, there can be an element of blackmail involved; if the group has been resourceful, there can be an element of respect or admiration shown).

To start things off, the Colonel admits that he is working for Imperial intelligence; he insists that secrecy be observed, and makes a perfunctory warning about violations of the Imperial secrets laws. He goes on to say that his own intelligence assets are somewhat short in this subsector right now, and he has felt a need to recruit public spirited citizens where their help might prove useful. This is the case now. He has a job that needs to be done, and he is afraid that using Imperial agents directly might endanger the mission. Instead, he wants to hire the group.

The Proposal: Across the border in Solomani territory is an important scientist doing work on semi-conductor chips. The man has delicately expressed a desire to defect to, and live in, the Imperium. Sanchex would like to facilitate that defection. If he provides a ship and good salary, would the group be interested in doing the job?

Sanchex will provide the use of an Imperial scout/courier (its proper ownership suitably concealed by a variety of documents) and Cr4,000 per month per person. In addition, he can pay a bonus of Cr20,000 per person upon completion of the assignment.

THE MISSION

The defector is Or. Arnold Rushorin, a near-genius physicist at Langren Center on Lyonesse. Langren Center is a research and development laboratory maintained by the Solomani Confederation; it is primarily involved in electronics research. Sanchex has agents across the border who have sent back reports that Rushorin is discontent and would like to come over to the Imperium. All that remains is that arrangements be made and the defection carried out.

SETTING OUT

The group can begin at any time. Their ship is at the Imperial naval base, which can also provide the adventurers with false papers which should pass any inspection the Solomani authorities might make.

The Ship: The ship is a scout/courier fresh out of annual maintenance. It has an air/raft and one beam laser mounted in a single turret. The group can name the ship (and have proper papers to back up the name) before they leave.

On Ochre

Ochre takes its name from the dull red soil that covers most of the world. Ochre is a small desert world (3,160 km in diameter) with a thin atmosphere. Most of the world is uninhabited; its 117 million population is concentrated around the temperate polar regions, although about ten million inhabit the hotter desert regions (living on ranches in the deserts; in small villages in the mountains). Ochre is ruled by a supreme council— the Council of Seven Citizens— which draws its members from leading figures in local industry or business. The council heads an extremely pro-business, anti-labor government which is heavily aided by and influenced by the Solomani Confederation government; the local law level reflects this repressiveness and prohibits guns outside the home. Ochre's tech level is E, very high.

The major official Solomani presence on Ochre is a Solomani naval base situated at the starport; the base includes a Solomani Army regiment (the 412th Assault Infantry), a Solomani Navy fighter squadron (the 972nd Strike Fighter Squadron), and several support units.

Ochre's major cities are located near the poles, where temperatures average 20° C. Average temperatures at the equator are an unbearable 75° C, and the central band around the equator is virtually uninhabitable. The mid-latitudes, on the other hand, are a kind of frontier— a harsh physical environment, but a relief from the repressive government at the poles. Settlement in the mid-latitudes has served as a relief valve for that part of the population which has especially bridled under the rule of the Council of the Seven Citizens.

Mapping Ochre: On a world map of Ochre, cities should be shown clustered near the north and south poles. Hythene, the capital, largest city, and starport site, is at the north pole. A region straddling the equator should be marked as *very hot,* and the regions between this very hot band and the poles should be marked *hot.* There are several mountain ranges on the world stretching from near the poles to across the equator.

Langren Center is located in a mountain range about 300 km from Hythene, and a road connects the two.

Other Details: Hythene is a major trade center and boasts the headquarters of several large trading companies, a cargo and commodities marker, and a large warehouse complex. One reason for its high level of trade is because of the proximity of the Imperial border. Because the border is so close. Ochre is a natural focus for smuggled goods in each direction. The local government tolerates the practice because it generates taxes through passage fees and inspection duties (which amount to about 1 % of the value of goods passing through). The Solomani Confederation authorities tolerate the trade as well, primarily because it keeps channels open for acquisition of goods and components which Imperial technology can manufacture, but which are hard to produce in Solomani territory. They feel that it is better to tolerate and monitor the trade here than to shut it down and not know where the goods are crossing the border.

The concentration of smugglers makes Hythene's Startown especially disreputable; it is filled with unsavory types ready to traffic in many different types of illegally imported goods, to swindle a merchant new to the system, or to steal a starship if the situation presents itself. The Solomani and local authorities routinely sweep Startown for criminals, people without papers, or just suspicious characters in an attempt to maintain some sort of law and order, but it seems to be a losing battle. Bribes and graft are commonplace; so are robbery and murder.

Langren Center: Deep in the mountains of the hot region of Ochre lies Langren Center, a private establishment involved in research and development for corporations and for the Solomani Confederation government. It has ties to the University of Aquitaine (from which it draws much of its staff), and enjoys a good reputation for quality work and innovative research.

The center is research oriented, and is concerned with two broad fields: electronics theory and computer programming. It does not actually produce equipment or components, although it does some small prototype production in connection with its research projects.

The center was established in 850 as a private company. In 950, about forty years before the start of the Solomani Rim War, the company was secretly taken over by the Solomani government after it entered bankruptcy. Projected needs for electronic components by the Army and Navy demanded a well-protected source, and the plan was to produce them at a government-owned plant.

Security considerations led to the decision to create an automated factory which required a minimum labor force. Deep tunnels were bored into the mountains of Ochre near the research laboratories, vast chambers were hollowed out, and the machinery installed. By the time the war started, the factory was in full production. As a cover, a small subsidiary naval base was created nearby, and from its broad concrete aprons, loads of electronics parts were shipped out to other industrial centers within the Confederation.

Existence of the factory itself remained a secret. Few on Ochre were aware that it was the source of much of the Confederation's electronics needs. When the tide of the war turned against the Confederation, prudent Solomani authorities closed down production, abandoned the subsidiary naval base, and walled up the accesses to the factory. By an accident of fate, Ochre did not fall to the Imperials; instead, it ended up just barely within the Solomani border.

Solomani authorities produced a plan to protect the factory to keep it from being destroyed, and possibly to allow its use in the future. They systematically searched out and destroyed or altered records of the factory to keep the Imperium from learning of it. Then, using the purloined letter gambit, they figured that no one would suspect the existence of a large automated factory on the same site as a research and development laboratory— especially one that maintains a high profile and has no major security precautions.

In the century since the end of the war, the secret of the factory has remained hidden. Even the tolerance of smuggling through Ochre is, in part, allowed because that makes the system seem less important or suspicious.

Today, only a select few know of the concealed factory's existence: the head of the Langren Center, the head of the center's security force, a few high ranking officials in Ochre's government, and the members of a special section of Solomani Security based at the local Naval base.

The center tries to operate as a completely harmless activity; its research is frequently published in commonly available journals and every effort is made to make the center appear innocuous. The plan also calls for the center to sometimes appear eccentric. Many of the researchers at the center seem to be chosen for their eccentricity. The food service system at the center is programmed to provide only health foods. The recreation programs at the center include a variety of exotic disciplines. The research areas dealt with are often strange or unconventional.

Even access to the center seems eccentricly handled. The 300 kilometer long road to the center is a well-marked, but unimproved, dirt track suitable for ATVs (it also serves as a visual guide for grav vehicles). There are no major settlements along the road, but small desert ranches are scattered about every 20 kilometers.

Dr. Rushorin: One of the staff at Langren Center is Dr. Arnold Rushorin, working on semi-conductor chip design under a grant from the University of Aquitaine.

Rushorin visits Hythene approximately once every month to order parts, shop for books and programs, and find other essentials for his research. It was during one of these visits that he and an Imperial agent met, and the basic plans for Rushorin's defection were made.

Rushorin has been working at Langren Center for nearly two years, and his grant is nearly up. He is anxious to make his break to the Imperium before he has to leave Ochre; he is fearful that once he returns to Aquitaine, he will never be able to make the break.

Rushorin is unaware of the secret sealed-off sections of Langren Center. Indeed, he has thought little of the history of the place, being more intent on his research. He has seen enough, however, that in an interrogation, Imperial agents would be led to suspect the existence of a secret establishment, although their suspicions might initially be of a military base or weapons stockpile.

THE DEFECTION

The adventurers are faced with a difficult task. They must contact Rushorin, make arrangements for him to defect, carry out those arrangements, and finally return to Scandia. The assignment is not going to be simple, because (naturally) complications will come up. The following are basic complications:

Startown Sweeps: Startown at Hythene is an obvious place for the group to go looking for more information. Perils, however, come from both directions.

Local authorities periodically sweep the area, checking on papers, looking for weapons, and generally rousting suspicious characters. Throw 9+ daily to avoid such a sweep. The characters' papers are sufficient to pass any local inspection, but carrying firearms results in confiscation of the weapons and a Cr 100 fine for the first offense (subsequent offenses carry a Cr 2,000 fine).

At the same time, Startown is inhabited by especially unsavory characters; individuals who will rob or kill for what they hope they can find on the body. Throw 9 + daily to avoid an attempted robbery by thugs. Weaponry carried tends to be knives, but an occasional felon (throw 10+) will be carrying a shotgun or SMG.

Contacting Rushorin: Knowing who Rushorin is and where he works is not the same as being able to contact him. The travellers must figure out a way to get in touch with Rushorin in order to make better plans. They may approach him directly; they may send a letter; they may call by local communicator net (phone); they can try to sneak in. Each method has its own advantages and disadvantages.

The direct approach allows anyone watching to identify (for future reference) the adventurers. Security agents especially may be keeping watch.

A letter can be used to set up a later appointment. Since it might be read by someone other than Rushorin, its approach should be indirect— perhaps offering a copy of an important book or computer program for sale and asking for a meeting.

A phone call can be handled similar to a letter.

Sneaking in is also possible. Enough reconnaissance may actually show the adventurers that the sealed portions of the center exist, and that they can be used for clandestine entrance to and exit from the center. This method has a great potential for going wrong, but is one of the most direct.

Rushorin's Ideas: Rushorin, if he is given the opportunity to participate in the plans, has some ideas of his own on how to work the defection. He feels that if he finishes his current assignment here, he can simply pack up his baggage and equipment and say his farewells as if he were going back to Aquitaine. He would catch a commercial transport to Lyonesse, and there, transfer to a ship which would smuggle him into the Imperium. No one would miss him until he didn't show up at Aquitaine about sixteen weeks later. He would have the benefit of all his papers and baggage he would normally take anyway.

If confronted with an emergency escape situation, Rushorin will insist on taking two things: a microfiche of his current papers and results, and an automated chip tester (2 kg, TL D, Cr1 7,000; requires connections to a Model/1 computer or better to function).

SOLOMANI SECURITY

Langren Center has a security department which functions primarily as a small police and fire department. Security is casual rather than repressive, and the local officers are actually quite friendly to the staff.

Selected security agents are, however, aware of the concealed electronics components factory, and are instructed to be alert for any possibility that they have been discovered, whether by visitors, intruders, or staff. If a discovery is suspected, the local agents have orders to contact Solomani Security at the Solomani Naval base at Hythene.

The Tough Guys: Solomani Security is considerably more powerful and more heavy-handed than the Landgren Center agents. Security agents have a working relationship with the Solomani Navy and with the Solomani Army; they can requisition or commandeer troops, equipment, ships, transportation, or any other assets which they might need.

If Langren Security reports a possible discovery of the factory, Solomani Security will send a team of agents to the center within a few hours. Strict questioning of anyone involved follows immediately upon their arrival.

Procedures: Solomani Security considers the concealed plant at Langren Center to be a high priority target for the Imperium, and is committed to protecting it. Since the policy decision was made that it would be protected by hiding it, Solomani Security must be sure that the secret never comes out.

Normally, once a breach of security has occurred, one or more agents is assigned primary responsibility for closing that breach. That single agent has wide powers to commandeer equipment and take action, and is expected to continue until success is achieved or is patently impossible.

There is no stigma attached to failure by an agent, provided sufficient effort is made. The philosophy in Solomani Security is that it is better to know that a project has failed than to simply eliminate an agent working on an impossible project. The result is that agents expend all possible effort, but also protect themselves in order to report back the true situation if they do fail.

SECURITY BREACH

Solomani Security has routine orders to monitor individuals assigned to Langren Center. A disappearance of Dr. Rushorin will immediately trigger an alert and a search for him. If Rushorin does conceal his defection by waiting until the end of his service at the center, his disappearance will be reported from Lyonesse when he does not make the correct connections to continue on to Aquitaine (in that case, the alert will occur three weeks after Rushorin leaves Ochre).

Solomani Security will assign Baldwin Wei as the agent to seal the breach of security. With the assets he has at hand, including security records, police records, phone and mail taps and recordings, and background on Rushorin, Wei should be able to piece together the basic plan for defection within about three days.

Wei's main concern is that Rushorin can (under Imperial questioning) reveal information that would point to the existence of the hidden factory. Of course, if the factory was actually discovered and entered by the adventurers in helping Rushorin defect, then that is an additional concern.

Wei's basic conclusion is that Rushorin (and possibly the adventurers) must die. Ideally, Wei would like to question Rushorin first to determine if anyone else has been informed of facts that would reveal the factory's existence.

Wei's logical analysis of the situation also tells him where Rushorin went, and he gathers up his own equipment, some men to help, and follows. He will probably arrive several days later at each location.

BACK TO SCANDIA

The adventurers and Dr. Rushorin must travel to Scandia, where Sanchex will make arrangements for Rushorin and pay off the group. Because Baldwin Wei has access to more powerful equipment, he can (if he correctly concludes that the group is bound for Scandia) beat them to that system by using a jump-3 ship (he will have its identity and Solomani allegiance suitably disguised). Whether Wei is able to predict that the group is bound for Scandia is a judgement for the referee: in the absence of any specific plans to conceal the defection, Wei will almost certainly predict correctly.

Wei's Ambush: Wei is a talented and well-trained Solomani agent. His plan, if he beats Rushorin to Scandia, is to make a strike against Rushorin and attempt to capture him. To properly disguise the strike, he intends to make it look like the work of fanatical Solomani terrorists. Such an approach will suitably disguise official Solomani involvement, and still allow a variety of options to Wei.

The referee must remember that Wei is unknown to the group or to Rushorin. It may prove best for Wei to remain in the background during this operation, guiding his subordinates by communicator from a distance. The terrorist strike itself can take place at anytime: aboard local transport in a city on Scandia; at the starport; in a hotel or public building; anywhere.

Local sympathies (Scandia is under an Imperial military occupation) may favor

may favor the terrorists, or at least not be actively hostile to them.

Luck Plays A Part: To make the adventure move interestingly, it is probably best for the group to survive the terrorist incident and for Rushorin to escape unscathed. The referee can manipulate the situation to make this happen by allowing subtle mistakes on the part of the terrorists, by letting the Imperial occupation troops intervene at the last moment, or by allowing the group's own efforts to be successful. The terrorists themselves should escape, or die rather than being captured.

The Rule of Terra: An actual terrorist organization called the *Rule of Terra* exists (sometimes they call themselves the *Rule of Terror),* and it is a convenient cover for the Solomani Security agents. The *Rule of Terra* calls for the recovery of Terra by the Solomani and a complete withdrawal of the Imperium from former Solomani territories.

It has a history of terrorist attacks against Imperial ships and establishments throughout the occupied Solomani territories. It is rumored to be financed by the Solomani Confederation, but in reality it is independent; it sometimes received financial or equipment assistance from Solomani Security on an unofficial basis, and in return, Solomani Security learned enough to imitate the terrorists when it needed a terrorist cover.

Recovery: Once the terrorist attack has been foiled, the group should be taken by their rescuers, or by local officials, to the Imperial Naval base for a short period of rest and recuperation. From the base, Sanchex can be notified and his assistance requested for any details.

TO CYMBELINE

Rushorin is intent on proceeding to Cymbeline to try to prove his theory on naturally occurring semi-conductor chips. After a short interview with Sanchex, Sanchex decides to humor the scientist and allow him a short scientific expedition before sending him on to Terra for a more detailed interrogation, and disposition of his case by higher authorities.

Sanchex, more or less pleased (this is a referee's judgement) with the performance of the group, offers them a new assignment of accompanying Rushorin on his expedition to Cymbeline. He offers the same pay rate as before, again with a bonus of Cr25,000 each if they return Rushorin intact to Scandia when the expedition is completed. He also agrees to provide the use of the scout/courier for transportation to Cymbeline (it can also serve as a base of operations for the expedition on the surface of Cymbeline).
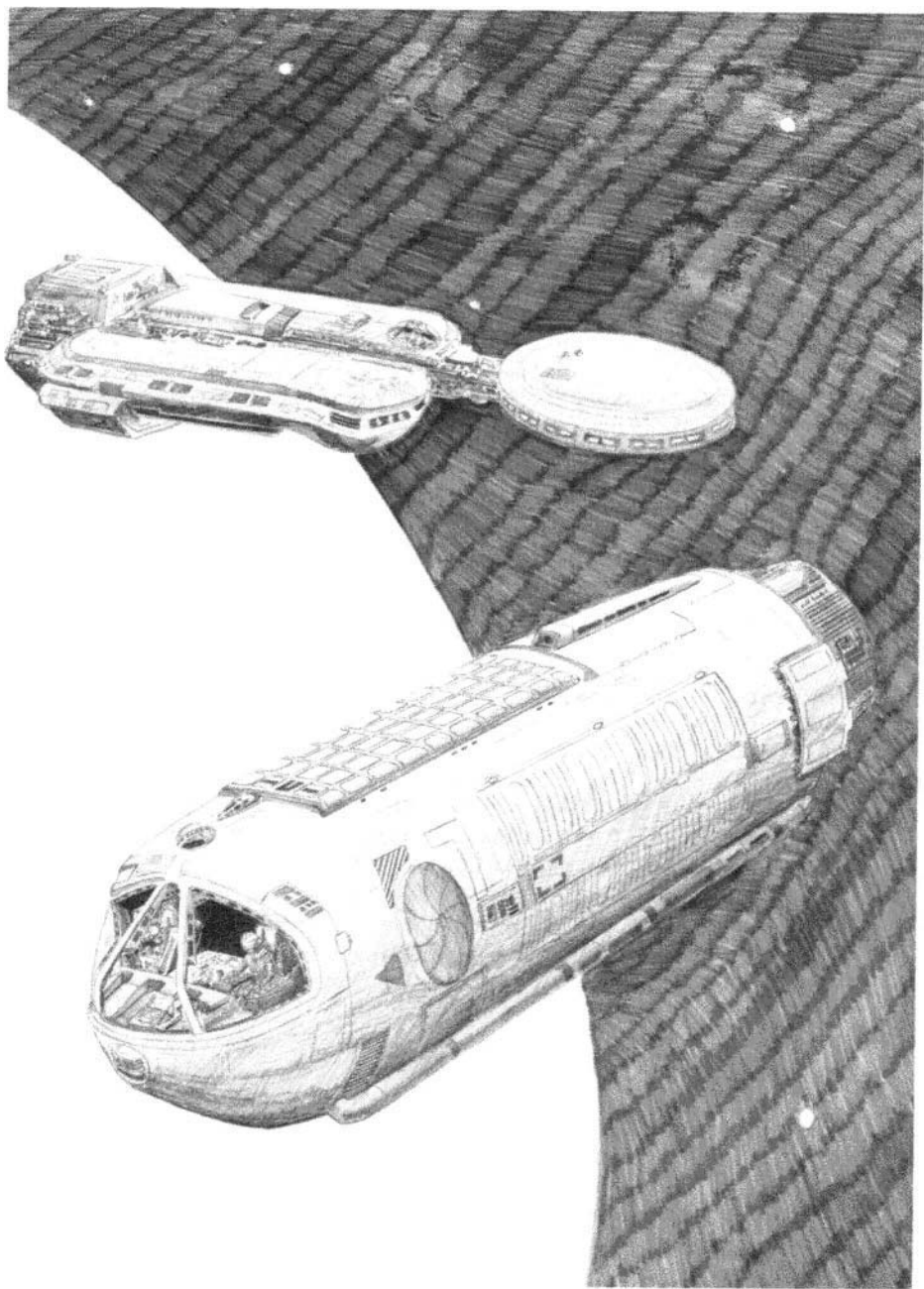
The Ad Astra

Merchant vessels of many types roam the trade routes which link the Imperium's many star systems. In any specific sector, the specific types of merchant ships which operate are determined by the sector's interstellar astrography. Where the stars are close together, jump-1 ships are common; where the stars are farther apart, higher jump capabilities are needed. For example, the Spinward Marches fortuitously enjoys the presence of the Spinward Main (a network of jump-1 connections which links a large proportion of the worlds in the sector); free traders are consequently common there, as they are in the star-packed inner sectors of the Imperium. In the Solomani Rim, the stars lie farther apart, and merchant vessels must have a greater jump capability. This situation has produced the subsidized liner, a jump-3 capable merchant carrying both passengers and freight.

Subsidized Liner (type M): Using a 600-ton hull, the subsidized liner is a standard merchant vessel intended for commercial activity in a region which demands a minimum of jump-2. It has jump drive-J, maneuver drive-C, and power plant-J, giving performance of jump-3 and 1-G acceleration. Fuel tankage of 210 tons supports the power plant and allows one jump-3. Adjacent to the bridge is a Model/3 computer. There are thirty staterooms and twenty low berths. The ship has three hardpoints and three tons set aside for fire control. No weapons are installed. There is one ship's vehicle; a 20-ton launch. Cargo capacity is 129 tons. The hull is unstreamlined.

The subsidized liner requires a crew of nine: pilot, navigator, three engineers, three stewards, and a medic. Up to three gunners may be added to man turrets if needed. The ship can carry 21 high or middle passengers, and twenty low passengers. The pilot also operates the launch. The ship costs MCr236.97 (including 10% discount for standard designs) and takes 22 months to build.

The owners of subsidized liners receive assistance in meeting the construction costs for their ships, and in return a portion of the ship's revenue must be paid to the subsidy provider. A wide range of ships meet the standards for a subsidized liner; one specific type, labelled the *Stellar class,* and one specific ship, named the *Ad Astra* is dealt with in detail here.

Performance: The subsidized liner has an excellent jump drive rating of 3, but it is relatively slow with only 1G acceleration capability. Its fuel tankage of 210 tons allows it to handle only one 3-parsec jump before refuelling, and to cruise at 1G, maintain life support and environment, and generally operate with moderate efficiency for about four weeks. This time is extended to 28 weeks if the ship does not jump, or if it refuels prior to jumping.

Special Features: In merchant service, the single greatest threat to a ship is hijacking. Ships are themselves extremely valuable and extremely mobile. A well-planned hijacking can net the hijackers a ship nominally worth MCr236, and easily sold for MCr100 on the open market. As a result, this sort of ship is designed to

foil hijackings. The crew quarters, the drive rooms, and the bridge are all behind solid bulkheads accessible through a limited number of portals. These accesses can be guarded by the crew in the course of their normal activities, with back-up safeguards operated by the ship's computer.

At the same time, the ship must compete for passengers against other ships in merchant service. One way to attract passengers is to offer luxurious (or at least high quality) accommodations. The subsidized liner offers staterooms on a passenger deck— a row of cabins along the port and starboard edges of the hull. For social and entertainment purposes, the passengers have access to a passenger lounge— a saucer-shaped lounge or gallery occupying the entire forward portion of the ship. This lounge is alternately a dining area, a dance floor, an exercise area, a holographic entertainment stage, and a game room. Passenger comfort and satisfaction are of extreme importance, and the lounge is a primary way of achieving it.

Operations: Subsidized liners are typically commissioned by large trading corporations or transport corporations. Such companies squeeze the last credit from their operations, and they have the financial clout to convince local governments to provide an initial subsidy for the production of the ship. Subsidized liners usually serve an established trade route, often specified by the subsidy provider in order to enhance or increase trade with certain systems which would otherwise be ignored by the larger trade corporations.

After many years of service, the repair and upkeep costs of a subsidized liner can make it no longer profitable to operate on its established route. At such a point, the ship is either scrapped, or sold as surplus. A *subsidized liner* released from its route becomes a *free liner,* identical in characteristics, but probably less reliable mechanically.

Refuelling: The subsidized liner has interior fuel tanks totalling 210 tons capacity, sufficient to support one jump-3 (or three consecutive jump-1's, or one jump-1 and one jump-2), and to operate the power plant and maneuver drive. The 20-ton launch/lifeboat has its own 1-ton fuel tank. The ship is equipped with fuel scoops and can refuel by skimming gas giants.

REVENUE BREAKDOWN

The subsidized liner makes money by carrying passengers and freight for a fee, and spending less than the received amount in fees for ship upkeep and operation. By examining the potential revenues and costs, it is possible to ascertain how much money the ship can expect to make in transport operations. The information below is computed on the basis of one trip per two weeks, and is for one trip.

Revenue: The subsidized liner can expect to make income from four sources: high passengers, middle passenger, low passengers, and cargo. The ship has twenty-one staterooms available for passengers, and twenty low berths for low passengers. Cargo hold capacity is 129 tons.

Passengers: With the staterooms full, the ship can carry 21 passengers and expect an income of Cr210,000 for one trip. If all are middle passengers, this income can reach as low as Cr168,000. Vacancies can reduce this income still further.

Low Passengers: The low berths can return Cr1,000 per passenger, or Cr20,000 if the berths are full.

Cargo: The ship can carry up to 129 tons of cargo, and return Cr129,000 per trip if the hold is filled.

Costs: The ship has a series of continuing expenses to be met as it operates. These include fuel, ship payment (or subsidy payment), life support, maintenance, salaries, and berthing costs.

Fuel: The ship requires 180 tons of fuel for each jump-3, and 15 tons of fuel for the power plant for each trip of two weeks. Refined fuel is preferred, at a cost of Cr105,000 (Cr500 per ton). Unrefined fuel can be purchased (Cr19,500; Cr100 per ton) at starports, or is available free from gas giants or oceans. Unrefined fuel creates a possibility of drive failure or misjump.

Ship Payment: This liner is a subsidized vessel, and 50% of its gross income must be paid to the subsidy agent. Payments may be made at any class A, B, C, or D starport. Although the amount due is a large fraction of the total income the ship produces, a standard ship payment would be more: Cr493,688 per trip.

Life Support: Life support costs amount to Cr2,000 per passenger or crewmember (normally 30 occupied staterooms), and Cr100 per low berth. Assuming a full ship, the subsidize liner would pay Cr62,000 per trip for life support.

Maintenance: In anticipation of annual overhaul, the ship should allocate a portion of each trip's income for maintenance. This amounts to Cr10,173 per trip.

Salaries: The crew is paid according to a standard monthly salary scale. For the standard crew for this ship, salary is Cr17,350 per trip (half month).

Berthing Costs: Berthing costs are unpredictable, but can be approximated at Cr100 per trip.

Assuming a full ship (passengers and cargo) the subsidized liner can expect revenues of Cr359,000 per trip. Costs associated with that trip amount to Cr372,123, giving a net loss of Cr12,123. A jump-2 trip turns a profit of Cr15,877. Making the liner profitable is a full-time job. Cargo holds are rarely full; passenger staterooms often carry middle rather than high passengers. The actual business of turning a profit using the subsidized liner requires careful attention to detail.

Ship's Operating Fund: The *Ad Astra's* income and expenses pass through a fund managed by the captain. All salaries, fuel and maintenance costs, and other expenses are paid from the fund, and all income generated by the ship goes into it. Payments to the subsidy holder are the fund's first requirement, followed by other expenses. If there is excess money, it remains in the fund until the end of the fiscal year (when annual maintenance is performed, and then remitted to the ship's owners).

STELLAR CLASS SUBSIDIZED LINERS

The ship described in this chapter is a standard design which is widely available within the Imperium. Its class name indicates that its members are named for stars or star-connected items. Some ship names come from major stars *(Castor, Pollux, Deneb).* minor stars *(Wolf 359, Dreesen, Fonteyn's Star),* or stellar phrases or foreign language terms *(Per Aspera, Ad Astra, Gwiazda, der Stern, Morning Star, Iruud).*

Manufacturers: Many shipyards produce subsidized liners. Large corporations often build their own in their own shipyards. Subsidy providers often specify that construction take place in a shipyard on their own world.

One of the most prolific producers of the subsidized liner is Tukera Lines, which has constructed most of the subsidized liners in Tukera service. Other well-known constructors include Osten Varn Slinten of Fornast sector, and Allied Prefabricated Ship and Vessels of Magyar sector.

EXTERIOR FEATURES

Stellar class subsidized liners feature a sleek hull with pleasing lines to appeal to passengers, although it is not streamlined and the ship is incapable of entering atmosphere and has no provision for landing on world surfaces.

The most striking feature of the ship is the large saucer located forward; it serves as a passenger lounge.

Access Points: Although the subsidized liner is not armored, it does have a hull that will resist most efforts to penetrate it. Only anti-ship weaponry, a substantial bomb, or a concerted effort using metal cutting tools will breach the hull. There are, however, four access points located on the hull's surface.

The Passenger Lounge Ports: The circumference of the passenger lounge consists of a series of large viewing ports made of extremely strong transparent material. A series of port shutters can automatically cover the ports on command from the bridge. The shutters serve as protection from debris. The ports, when unshuttered, can be broken to allow entry.

The Launch Dock: The ship's single launch is carried slung beneath the lower deck. The launch dock holds the launch when the ship is in motion. With the launch absent, access is possible through the air lock which services the launch. Even with the launch present, access is possible through the maintenance air lock located to port of the launch socket.

The Upper Engineering Deck: Access air locks, both port and starboard of the upper engineering deck, allow engineers to inspect exterior fittings and to perform repairs when necessary.

The Bridge Dome: A large transparent dome covers much of the bridge. This dome can be shuttered with steel panels as a protection from debris.

INTERIOR DETAILS

The specific interior fittings of the subsidized liner are standard Imperial designs.

Fixtures: The following are basic structures within the ship.

Bulkheads: The major structural components of a ship are bulkheads which achieve a compartmentalization of the ship for damage control and environment maintenance in the event of disaster. A concerted effort with an energy weapon or explosive must produce 1000 hit points of damage in order to create a person-sized hole. Bullet firing weapons are ineffective against bulkheads.

All deck floors are assumed to be bulkheads.

Interior Walls: Interior walls are partitions: non-load-bearing panels firmly fixed in place. They are not pressure-tight and cannot withstand a concerted assault. Firing 100 hit points at such a wall with an energy weapon will burn a hole large enough for one person to pass through; an explosion which produces 100 hit points of damage will produce the same effect. Weapons firing bullets are less efficient in doing this sort of damage; such a weapon must produce 1000 hit points before a person-sized hole is created.

Portals: The following are standard fittings for doors between rooms.

Sliding Doors: Set in interior walls are sliding doors. Such doors save space over more conventional swinging doors, and are standard on most starships. They are not air-tight and serve merely as privacy screens. They may be broken down in the same manner as interior walls.

Sliding doors are powered and open completely (assuming that ship's power is functional) when a stud on the wall next to the door is pressed. Sliding doors may be locked (from either side or from the ship's computer); a red light shows on the stud panel to indicate this fact. Shipboard courtesy considers locked doors a call for privacy, and it is respected except during emergencies. When ship's power is not functioning, sliding doors will not open automatically, but can be manually overridden with brute force (throw strength or less to open; DM - 4 if a metal lever such as a crowbar is used).

Iris Valves: Iris valves are pressure-tight automatic portals set in bulkheads. A valve functions much like the iris of a camera: many panels retract to leave an open passage or extend to block the portal with solid metal. Iris valves may be horizontal or vertical. Iris valves are operated by pressing a stud on the wall next to the valve. A valve may be locked from either side or by the computer, and a red light shows on the panel to indicate this condition. Iris valves cannot be forced closed if already open. In addition, a simple mechanical indicator shows if both sides of the door are in normal pressure.

Valves are very difficult to force open once fully closed. Throw strength or less to force open a closed iris valve: DM -4 if metal lever or rod is used to pry the valve open, DM - 2 if dexterity 10+, - 3 if the person is in a vacc suit, + 2 if ship's power is off, + 8 if locked. Gunfire and explosions simply block the valve tighter. Iris valves close automatically when a pressure difference is sensed between the two sides of the bulkhead. They will not close fully until the valve is clear of any foreign objects (like legs, hands, etc.).

Iris valves are shown on the map with a special symbol when they pass through vertical surfaces (such as bulkheads); where they pass through decks, they are shown as a solid circle; where they pass through ceilings, they are dashed circles. An iris valve passing through both the deck and the ceiling in the same place has both the dashed and solid circles. Where iris valves are installed to pass through a deck or ceiling, a ladder is provided as well.

Lift Shafts: These are automatic elevator platforms installed in various places throughout the ship to provide easy transport between decks. They operate in the same manner as elevators.

INTERIOR CONDITIONS

Normal conditions generally approximate those of a livable world surface.
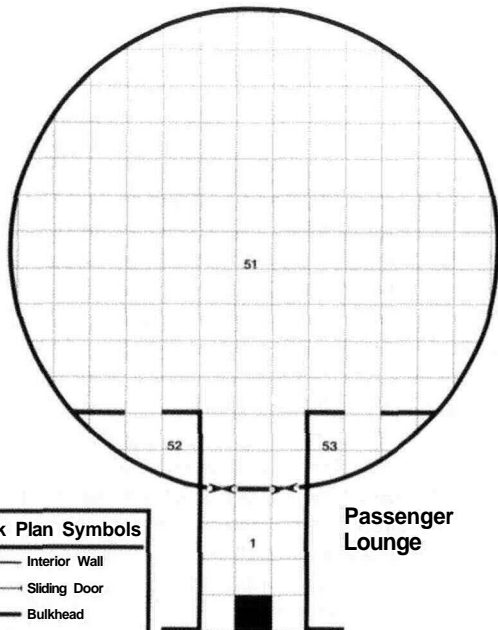
Light: Most areas are fully and comfortably lighted. The intensity of light can be varied by computer instructions or by simple wall switches. Some areas (such as cargo holds) may be poorly lit. Others (such as the bridge) may be lit with blue-green light to preserve night vision of personnel stationed there.

If ship's power fails, emergency lighting powered on a separate back-up circuit takes over in inhabited areas of the ship (but not the cargo hold or other unused sections). Backup power will last for 12 hours of continuous use, after which it will fail unless recharged.

Atmosphere: The interior of the ship will normally be pressurized to standard atmosphere with an oxygen/nitrogen gas mix.

Temperature: The interior temperature of a normal ship is about 15° C.

Plumbing: Each stateroom contains sanitary facilities for individuals, including shower, toilet, and washbasin.
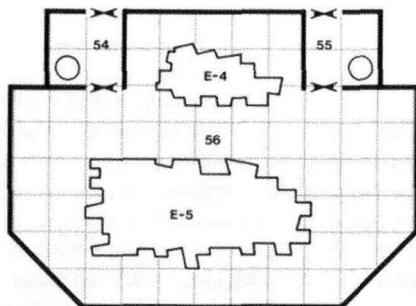
Subsidized Liner

Tonnage: 600 tons standard. 8,100 cubic meters volume.

Dimensions: 73.5 meters long by 25.5 meters wide by 11.5 meters high.

Crew: Nine. Pilot, navigator, three engineers, three stewards, medic. Up to three gunners optional.

Performance: Jump-3. 1G.

Capacity: 21 passengers, 20 low berths, 129 tons cargo.

Computer: Model/3.

Launch: 20 tons. Mounted ventrally. Serves as lifeboat.

Fuel: 180 tons for jump-3. 30 tons for power plant for four weeks.

51

52   53

Passenger Lounge

1

Forward Turret

57

58

59   61   60

62   63

64

Launch Dock

Deck Plan Symbols

——— Interior Wall

——— Sliding Door

▬▬▬ Bulkhead

■ Lift Shaft

IRIS VALVE

✕ Ins Valve

◌ Overhead

◯ Floor

◎ Both Floor and Overhead

Typical Humans

1.5 meter squares for use with Snapshot or Azhanti High Lightning

Fuel

Drives

54   55

E-4

56

E-5

Upper Engineering Deck

9

6

3

0

Typical Human

Scale in Meters

0   3   6   9   12   15

AD ASTRA

Quarters Deck

Computer 30
3
Avionics 31
Ship's Locker

Bridge

Helm

Low Berths

E-1

E-2

E-3

Hold Deck

Forward Hold 47

Midships Hold 48

Aft Hold 49

Fuel

Fuel

Fuel

50

Aft Turret

AD ASTRA

Gravity: The subsidized liner has grav plates built into its flooring. These plates **produce** standard gravity within the ship's interior. Acceleration compensators are also installed to negate the effects of high acceleration and lateral G forces while maneuvering. The passengers on the ship would be unable to tell whether they were moving through space or grounded on a planet without looking outside.

In the event of power failure, the grav plates will revert to the *off* configuration and the ship will be in zero-G.

Power: The ship's power plant provides power to all interior mechanisms; they continue to function as long as power is supplied. A prominent power-on switch (with appropriate safeguards) is located on the bridge and in the drive room.

INSIDE THE SUBSIDIZED LINER

The subsidized liner features an unusual multi-level deck plan layout. The ship's central core consists of two decks: the upper is crew quarters and controls; the lower is a cargo deck. At the rear of these decks are the drives. On a single level around this core are the passenger cabins, while the saucer-shaped passenger lounge is placed by itself, forward of the main ship body.

On the deck plans, the crew deck is shown on the same level as the passenger cabins, but they are actually separated by about 1.5 meters vertically. Access between the passenger deck and the crew deck is possible only by way of a ramp which connects the reception area and the bridge.

1. Reception Area: The initial point of entry on the passenger deck is through the reception area. From his console in this area, the purser handles basic details such as cabin assignments and passenger requests. The reception area is well-used and is a cross-roads within the ship. Information on the ship—including plans for use by passengers—is kept in brochures available here. In flight, this is *a* secondary lounge area, complete with small conversation areas, game tables, and library terminals.

2. Lift Shaft: Passenger access to and from the launch dock is accomplished using this lift shaft.

3. Ramp: The major connection between the passenger deck and the crew deck/bridge is this ramp which rises 1.5 meters in 6 meters. Grav plates in this corridor are kept at 0.4 Gs in order to reduce the strain in climbing the relatively steep angle.

PASSENGER DECK

The Passenger Deck contains 20 of the 21 staterooms for passengers on the ship. The Lisien Room (passenger stateroom number 6) is typical of passenger accommodations, and its description can be assumed to apply to all other passenger rooms on the ship except where specifically noted.

To provide identification for staterooms, to enhance the feeling of luxury, and provide some price differential between middle and high passage, staterooms are named as well as numbered.

4. Phaeton Suite (Passenger Stateroom): This luxury suite is habitually assigned to high passengers. It is decorated in a stark post-Civil War style (transparent or translucent materials for furniture; solid colors for walls and floors).

5. Baronial Suite (Passenger Stateroom): This stateroom is assigned to noble passengers, if possible. The purser maintains a set of alternate nameplates for the

door, and can rename the stateroom the *Count's Suite,* the *Marquis' Suite,* or even the *Duke's Suite,* if the situation should demand it.

6. Lisien Room (Passenger Stateroom): This stateroom is named for the naval architect responsible for the design of the stellar class subsidized liner.

Standard passenger comfort demands a certain level of amenity in the stateroom. In order to meet this standard, staterooms are self-contained living areas which need never be left during a voyage. The stateroom contains a bed, a fresher, entertainment consoles, and miscellaneous furniture. All basic items in the stateroom collapse into the floor, wall, or ceiling, when not in use.

Functions supported by the stateroom can be divided into four basic categories: eating, sleeping, sanitary necessities, leisure, and possession storage.

Sleeping is supported by the standard size bed which folds from the wall at command. Grav plats can be adjusted to provide a range from 0.0 to 1.5 G for personal comfort.

Meals may be taken on a collapsible table and storable chair. The stateroom is large enough for four persons to eat around the table comfortably. Meals themselves must be delivered from the passenger lounge; there is no automated delivery system. A small refrigerator stores snacks and small quantities of food for immediate availability.

Sanitary necessities are handled by the fresher, which includes a multi-function shower, a toilet, a sink, and a small washer/dryer (for the benefit of middle passengers). All components fold unobtrusively out of the way when not in use.

Leisure activities are a necessary part of stateroom life. They relieve the boredom of the long jump voyage by providing entertainment, research facilities, and computer access. The wide range of entertainment activities includes holographic theatrical productions, video shows, interactive drama, and audio programming. There are also games (played against the main computer, or against other passengers). The computer terminal also allows access (on a restricted basis) to the main computer for data processing, word processing, and library data inquiries.

Storage of personal necessities is handled by several collapsible compartments and cabinets. Passengers can store up to 100 kilograms of baggage in their staterooms; high passengers may store an additional 900 kilograms in the cargo compartment (access to any needed items requires the assistance of the crew).

7. Captain Lactin Room (Passenger Stateroom): This stateroom is named for the first captain of the *Ad Astra.*

8. Port Gunner's Cabin (Passenger Stateroom): This stateroom is reserved for a ship's gunner if one is carried. It is preferably assigned (in the absence of a gunner) to military or naval passengers.

9. Terra Room (Passenger Stateroom): This stateroom is named for one of the *Ad Astra's* frequent destinations.

10. Scandia Room (Passenger Stateroom): This stateroom is named for one of the *Ad Astra's* frequent destinations.

11. Tewfik Room (Passenger Stateroom): This stateroom is named for one of the *Ad Astra's* frequent destinations.

12. Peraspera Room (Passenger Stateroom): This stateroom is named for the *Ad Astra's* home port.

13. Merchant's Suite (Passenger Stateroom): This stateroom is larger than normal and suitable for high passage. In cases where an individual is transporting cargo

aboard the ship (at least 40 tons) and is accompanying the cargo, this suite is assigned.

14. Aft Port Passageway:

15. Mid Port Passageway:

16. Fore Port Passageway:

17. Aft Starboard Passageway:

18. Mid Starboard Passageway:

19. Fore Port Passageway:

20. Imperial Suite (Passenger Stateroom): This suite is especially luxurious.

21. Vilani Suite (Passenger Stateroom): This suite is especially luxurious.

22. Voyager Cabin (Passenger Stateroom): This stateroom is commonly assigned to travellers who will be on the ship for several jumps.

23. Prometheus Room (Passenger Stateroom): This stateroom is named for one of the *Ad Astra's* frequent destinations.

24. Starboard Gunner's Cabin (Passenger Stateroom): This cabin is reserved for a gunner, if one is carried. In the absence of a gunner, it is usually assigned to military or naval passengers.

25. Ember Room (Passenger Stateroom): This stateroom is named for one of the *Ad Astra's* frequent destinations.

26. Asian Room (Passenger Stateroom): This stateroom is fitted for use by Asian (although it can be converted for human use with little effort).

27. Hiver Room (Passenger Stateroom): This stateroom is fitted for use by Hivers (although it can be converted for human use with little effort).

28. Imperial Navy Room (Passenger Stateroom): This stateroom is decorated with pictures and displays showing the exploits of the Imperial Navy.

29. Chairman's Suite (Passenger Stateroom): Priority assignment of this suite is to a guest of the shipping line, a friend or acquaintance of the captain, or some other important personage. Otherwise, this suite goes to the first arriving high passenger.

BRIDGE AND CREW DECK

The Bridge and Crew Deck is the uppermost full deck on board, containing the bridge, accommodations for the crew, and part of the ship's engineering section.

30. Model/3 Computer: The ship's operating computer and memory banks control many functions of the ship. The computer is accessible from the bridge.

31. Avionics: Electronic and gravitic processors for the ship's detectors, sensors, and warning modules keep the crew constantly in touch with circumstances and situations outside the hull.

32. Bridge: The bridge area is topped by a transparent observation dome, and is ringed with control stations. All bridge functions can be monitored by the officer stationed at the helm, located in the port-center of the compartment; this is the captain's station when the ship is maneuvering, and is manned by a single watch officer at all other times.

The ship's locker is located at the forward portion of the bridge; removal of any items from the locker is automatically visible to the captain or watch officer on duty. A hatch in the bridge deck leads down to the cargo deck below.

33. Crew Stateroom: This stateroom is the pilot's cabin. Each crew stateroom is essentially similar to a passenger stateroom (see room number 6).

34. Crew Stateroom: This stateroom is the chief steward's cabin.

35. Crew Stateroom: This stateroom is the second steward's cabin.

36. Crew Stateroom: This stateroom is the navigator's cabin.

37. Crew Stateroom: This stateroom is the third steward's cabin.

38. Crew Stateroom: This stateroom is the third engineer's cabin.

39. Crew Lounge: This area is used for off-duty recreation and relaxation by members of the ship's crew.

40. Crew Stateroom: This stateroom is the chief engineer's cabin.

41. Crew Stateroom: This stateroom is the second engineer's cabin.

42. Crew Stateroom: This stateroom is the medic's cabin.

43. Passenger Stateroom: This stateroom is usable by either crew or passengers; assignment of this stateroom to a passenger requires that he or she pass a stringent security screening.

44. Low Berths: The twenty low berths the ship carries are contained here.

45. Common Area: This compartment is dominated by a lift leading to the cargo deck, through which low berth passengers can be transported to a waiting shuttle in their berths.

46. Engineering Space: The drives and power plant for the ship are located here, and the ship's engineers operate them from here. This space contains the power plant (E-1) and the maneuver drive (E-2 and E-3).

HOLD DECK

The hold deck is the lower full deck on board.

47. Forward Hold: This is the foremost of the three holds, and contains the cargo bay doors giving access to open space. A hatch leads up to the bridge; large sliding bulkhead doors lead aft to the midships hold.

48. Midships Hold: The middle hold area is separated by sliding bulkhead doors from the fore and aft hold areas. The midships hold is the receiving area, with cargo loaded aboard through the floor lift located in the center of the hold.

49. Aft Hold: This is the rearmost of the three cargo holds.

50. Aft Turrets: Two turrets are located at the stern of the ship. One bears directly aft, and the other (located below it) bears both aft and below.

PASSENGER LOUNGE

The saucer-shaped hull extension at the forward end of the ship is the passenger lounge.

51. Lounge: The lounge area can be variously outfitted as a dining salon, a dance floor, or an entertainment area, as the need arises. (Furniture is stored in compartments under the deck.) The deck is ringed by observation ports which give passengers a view of space. Shutters to cover the ports are controlled from the bridge.

52. Galley: The galley for preparing passenger meals is located here. There is additional automated pantry storage below the deck level.

53. Storage: Lockers containing food and other galley stores are situated in this area.

UPPER ENGINEERING DECK

The upper engineering deck is an extension of the lower drive room, with access
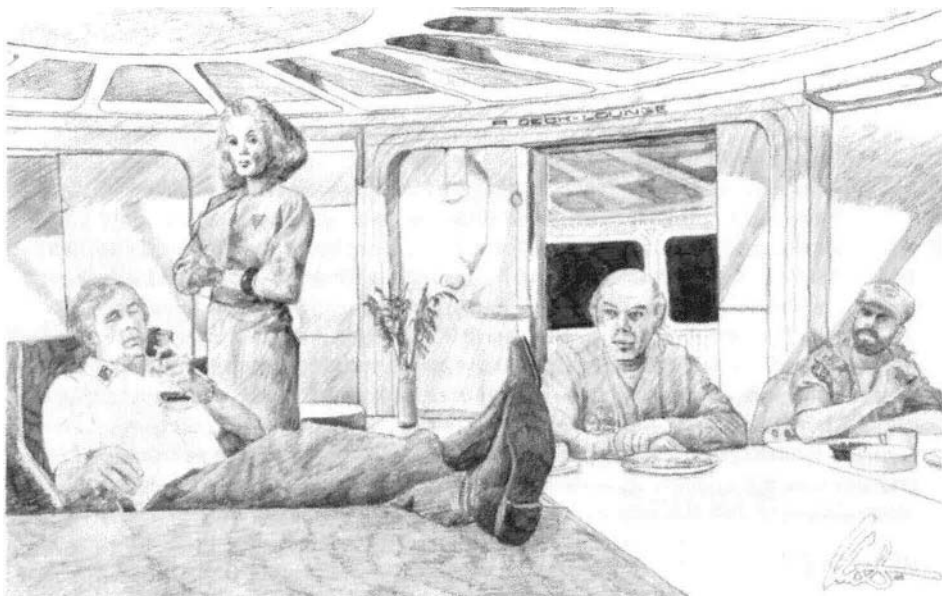
to additional drive mechanisms. It has a full floor deck pierced by access hatches.

54. Port Engineering Air Lock: This air lock allows access to the exterior hull of the ship, including exterior vents and connections for the drives. The air lock itself contains vacc suits for use by crewmembers. The port air lock is the one normally used for access to the upper engineering deck.

55. Starboard Engineering Air Lock: This air lock allows access to the exterior hull of the ship, including exterior vents and connections for the drives. The air lock itself contains vacc suits for use by crewmembers. The starboard air lock has been converted to a tool room; the exterior iris valve has been blocked, and tool benches have been welded to the interior walls of the chamber. The exterior iris valve can be restored to function only after the benches have been removed (one hour's work with a mechanical tool set).

56. Upper Engineering Space: This deck provides access to the power plant and connections to the jump and maneuver drives. The walls of this entire area are covered with instrumentation used to monitor the performance of the power plant. Fuel feed piping enters the deck through exterior walls near the air locks.

Two major pieces of drive machinery are on this deck. The fuel pre-processor is used to insure that drive fuel is of sufficient purity for the power plant (E-4). The jump drive (E-5) takes up the remainder of the space.

LAUNCH DOCK

Slung below the cargo deck is the launch dock which securely holds the ship's launch in flight. The dock contains a standard 4.5 meter diameter docking ring which will accept any small craft of 4.5 meter diameter.

57. Forward Turret: The forward turret mounts weaponry for the defense of the ship against commerce raiders or piracy. It bears forward.

58. Transfer Deck: All arrivals to the ship pass through this deck on the way to the reception area. The lift at this point carries arrivals to the next higher deck.

59. Air Lock: This air lock (which operates only when a launch is in the dock) allows safe connections with arriving launches.

60. Maintenance Air Lock: This maintenance air lock allows crewmembers to reach the outside of the ship for repairs or inspections. The primary use is to access the docking ring when a launch does not completely or perfectly mate with it.

LAUNCH

The launch is a 20-ton vessel intended for small, routine errands and communication from orbit to surface. It is capable of 1-G acceleration, and is constructed at tech level 8.

61. Bridge: The bridge contains couches for two crewmembers and controls for the launch.

62. Air Lock: An air lock is located aft of the bridge to allow access to the craft.

63. Fresher: The fresher provides sanitary facilities for the crew and passengers in flight.

64. Passenger Compartment: The passenger compartment carries twelve passenger couches and twelve emergency low berths, giving it the ability to carry 48 persons in an emergency. This permits the evacuation of the entire complement of the liner (including low berth passengers) in a crisis situation.

The launch also has a 7-ton cargo hold. The launch is unarmed, and costs MCr 14.

Sirius

A

B
Barnard

★ A
TERRA

▼ A
PROMETHEUS

A
FENRIS

B
Junction

B
Perdspera

★ A
EMBER

A
Hephaistos

B
Midway

B

C
Hades

C
Loki

Kay

Calgary

C
Inferno

C
Forlorn

Dismal

C

A
Cymbeline

A
TEWFIK

★ A
SCANDIA

ME

D
le's Planet

B
Tlaloc

★ A
Ochre

C
Tamarind

C
Lyonesse

GEMINI
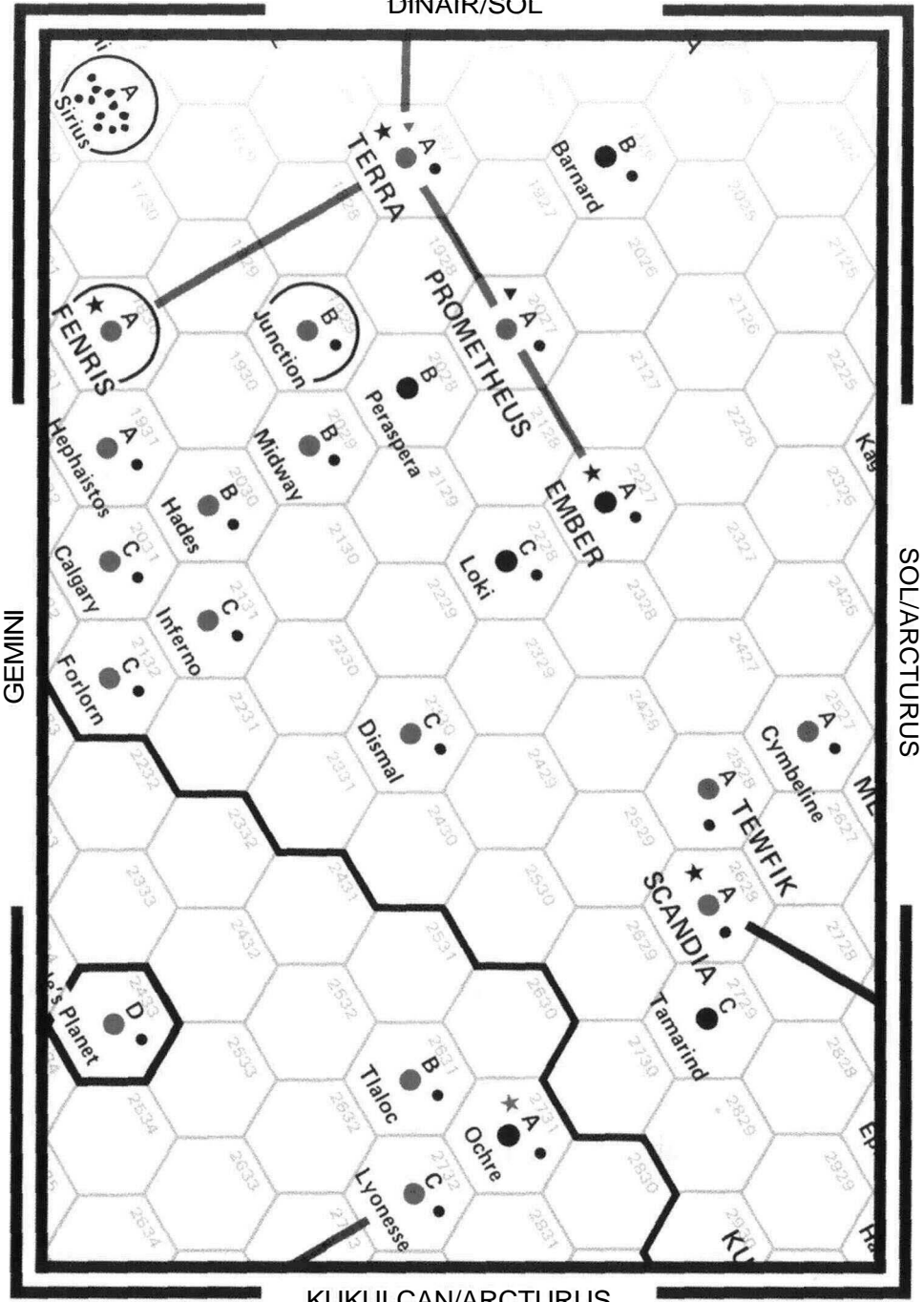
The Solomani Border

The Solomani Border

The border between the Imperium and the Solomani Confederation runs just six or seven parsecs from Terra, and many of the worlds in Imperial territory are still under military rule a century after the Solomani Rim War established that border. Terra itself only recently returned to civilian rule, a move some Imperials considered risky, but one which has helped solidify Imperial power on the planet.

The region is well-developed, with relatively high populations and technological levels, and mature trade patterns.

This map shows worlds in five distinct subsectors, each with a capital off-map: Oingir (capital: Dingir), Sol (capital: Lagash), Arcturus (capital: Jael), Gemini (capital: Hamilcar), and Kukulcan (capital: Laputa). Gemini and Kukulcan are predominantly Solomani subsectors.

Name	Statistics			Remarks	
Sirius	1629	A000769	E	Non-ag. Asteroid Belt. Military Rule.	A
Terra	1827	A867A69	F B	High Population.	G
Fenris	1830	AA98969	E N	High Pop. Industrial. Military Rule.	A
Barnard	1926	B200869	E	Non-ag. Vacuum World. Military Rule.	G
Junction	1929	B975869	F	Military Rule.	A G
Hephaistos	1931	A98A776	D	Rich. Water World.	G
Prometheus	2027	A785969	F S	High Population. Military Rule.	G
Peraspera	2028	B7A2536	D	Non-Industrial.	
Midway	2029	B699552	D	Non-Industrial.	G
Hades	2030	B432366	E	Non-Indus. Poor. Owned by Fenris.	G
Calgary	2031	CA9A4AC	B	Non-Industrial. Water World.	G
Inferno	2131	C578855	B		G
Forlorn	2132	C496365	D	Non-Indus. Owned by Hephaistos.	G
Ember	2227	A412969	D N	High Pop. Indus. Military Rule.	G
Loki	2228	C9CA369	D	Low Pop. Non-Indus. Military Rule.	G
Dismal	2330	C421542	E	Non-Industrial. Poor.	G
Smade's Planet	2433	D778200	5	Low Population. Non-Industrial.	G
Cymbeline	2527	A9F4840	E		G
Tewfik	2528	A524945	D	High Population. Industrial.	G
Scandia	2628	A658969	F N	High Population. Military Rule.	A G
Tlaloc	2631	B645661	E	Agricultural. Non-Industrial.	G
Tamarind	2729	C9A2869	E	Military Rule.	
Ochre	2731	A250839	E N	Poor. Desert World.	G
Lyonesse	2732	C6978A6	9		G

The highest population world on the map is Terra. The highest technological level is F, at Terra, Junction, Prometheus, and Scandia.

On Cymbeline

Cymbeline is a rarity in planetological studies: a massive world with a thin atmosphere. Although nearly 1 5,000 kilometers in diameter and having a density of 1.09 Earths, Cymbeline has a very thin (almost trace) atmosphere. Nearly 90% of the world surface is uninhabitable due to lack of atmosphere; the other 10% does have a thin, breathable atmosphere pooling at the bottom of extremely deep canyons and crevasses by the world's high gravity. These canyons form a network which straddles large portions of each hemisphere. Icecaps cover 30% of the world's surface.

The canyon bottoms are settled by a population of nearly 22 million living under a representative democracy. Local industries include mining, some light manufacturing, and agriculture on some sunlit canyon slopes. There are also a growing tourist trade and a small gas harvesting industry near the icecaps.

BASIC INFORMATION

Cymbeline's surface is divided into the habitable canyons and the uninhabitable highlands. Cymbeline Down Starport is on the surface situated in the highlands; pressure domes, large elevator platforms and underground hangars, and tunnelled passageways make up the large starport complex. A monorail link through a bored rock tunnel connects with Findor (Cymbeline's largest city), located 80 kilometers east of, and 12 kilometers below the starport.

Findor: With a population of six million, Findor is easily twice the size of any other city on Cymbeline. It occupies a particularly broad section of canyon running east-west within 10° of the equator. East-west sections of canyon are especially valued because the sun can shine into the depths through most of the day. The city itself is built into the canyon's rock walls and on islands in the large lake at the canyon's bottom. At points where the canyon narrows, delicate bridges carrying monorail cars connect the built-up areas of opposite sides.

Findor is a cultural and government center as well. Government offices for the bureaucracy are located in the city. A good university has its campus there. The city has good entertainment production facilities (audio and video studios). An artist colony enjoys a subsector-wide reputation for strobe-light sculptures.

From Findor, monorail links (winding along the bottoms of the canyons) connect with the other major cities of Cymbeline: Wildine to the north (important for gas and water mining in the icecaps), Cranches to the east (strip mining), and Logos to the south (technological research and development).

Just as seas separate continents on most worlds, the highlands separate the canyons on Cymbeline. Most of the canyons are connected enough to allow travel between them without venturing into the highlands, but some are virtual islands accessible only by pressurized ATVs or grav vehicle. There is some discussion of extending the monorail links to some of these island canyons, but the effort has not yet proven practical from a cost standpoint.

Volcanoes: Cymbeline has a number of active volcanoes, most of them concen-

trated in the northern hemisphere.

Volcanic action is the primary source of Cymbeline's atmospheric gases. During eruptions, the gases are thrust upward and drawn back to the planet surface by gravity. The gases then flow along the contours of the land, eventually settling to the bottoms of the canyons. Local bacteria have evolved to metabolize the components of the volcanic gases to release oxygen.

Mapping: A planetary map of Cymbeline should show the world surface as primarily highlands with some mountain ranges. Large icecaps dominate each pole. Clusters of volcanoes are located in the northern hemisphere.

The canyons (which rarely exceed 20 km in width, and never exceed 50 km) can be represented by lines much like river lines. The canyon lines girdle the world near the equator, with branches reaching to each icecap. There are one large, interconnected network and three smaller, independent canyon networks.

Cities can be marked along the canyon lines. Monorail links can be marked in a different color for clarity.

IN SEARCH OF NATURAL CHIPS

Rushorin's theories concerning naturally-occurring semi-conductor chips began as a natural outgrowth of his studies of industrial processes. Once the theories had been formed, Rushorin encountered xeno-biological studies of the life forms of Cymbeline which include bacteria capable of selectively metabolizing compounds of selenium, arsenic, and gallium (among others).

His analysis of the material led him to believe that some of the elements in the volcanic gases could naturally interact with silicon in the highlands and produce natural semi-conductor circuits. One of his ambitions has been to travel to Cymbeline and search for the circuits that would prove his theories.

Rushorin's Plan: Outgassing volcanoes would be the prime source of the raw chips, so Rushorin has already planned his expedition to begin in the northern hemisphere near one of the volcano clusters.

In a canyon bottom, he will be able to analyze local bacteria and trace elements until he finds the correct combinations, and then backtrack the flow of gases up over the canyon rim, along the slopes, and back almost to the volcano cone itself.

Where there are natural outcroppings of crystalline silicon, the gasses will have been able to etch the crystals along naturally-occurring faults, breaks, or minor contaminants.

Rushorin understands that he cannot easily find his so-called natural chips. But he does want to pick up samples. Once into the highlands, he intends to spend his days looking for and picking up samples, and then his nights running the samples through an automated chip quality tester. If there are any circuits (even simple ones), the tester will identify them.

Rushorin's Findings: Rushorin's basic plan is sound, but nevertheless his first several days of searching will prove fruitless. With growing frustration, he will press the adventurers into looking harder, often criticizing the quality of their efforts.

After about a week, Rushorin excitedly gathers the group together and reports that he has identified a simple circuit on a sample. He is ecstatic and feels that this discovery confirms his theories. He immediately orders greater sample gathering efforts and selects one of the group to be trained in the use of the automated chip tester.

Two days later, Rushorin is furious. He has encountered more than twenty samples, each with an identical chip circuit within. There is no way that random volcanic gas etching is going to produce identical circuits like these. Someone has been tampering with the samples. He makes accusations that someone has planted circuits just to embarrass him, or perhaps just to bring the expedition to an end.

The next day, however, his attitude is changed. He has revised his theory in light of the evidence and now believes that the small circuits are a form of silicon-based life! The circuits are alive; a local type of bacteria.

Over the next week, Rushorin checks more and more samples and is able to piece together the basic biology of the natural chips. He grows more and more excited about his discovery.

THE CHIP

One specific chip that Rushorin finds is a very special one— special beyond anyone's imaginings.

Samples which may contain chips are gathered in containers marked with their location and the time. Samples vary in description, and may be loose crystalline gravel, pieces of rock, scoops of dust, and flakes of stone.

Each sample is subjected to the automated chip tester which then reviews its catalog of existing circuits, computer-analyzes any potential circuits, searches for faults in connections, short circuits, and other problems, and produces a report.

Because Rushorin is searching for even rudimentary circuits, the tolerance level for the tester is set quite low. Obvious dirt is rejected, but anything with a hint of a micro-circuit on it is retained for further testing.

Because the samples are in closed containers, they have gone dormant. The process of testing provides them with light and awakens them.

Chip Sample 10987 is tested and a basic report stored in the computer. The sample is put aside, but starts functioning. It searches for companion chips, sending out low power radio waves. At the same time it levitates within the sample case, and the electric discharge creates slight levels of static.

First Inklings: Within the ATV, sensors monitored by the adventurers begin to show the effects of the static and radio signals.

One of the group should be the first to notice interference in radio channels. Somewhat later, a small burst of static occurring every several minutes can be noticed interfering with the operation of the chip tester or some other piece of equipment.

Finally, a concerted effort at eliminating the interference with the equipment in the ATV can lead (using triangulation, shut down of other ship equipment, and some logic) to Chip Sample 10987. Calling up the report from the chip tester shows that a portion of the circuit contained in the chip is the same as that in UFIC 29008A MILSPEC— an ancient, obsolete Terran circuit.

Communications: Close examination of 10987 can show that the chip is sending very faint signals.

These signals, when amplified and analyzed, are very regular and appear to be a binary code. Computer analysis shows them to be a highly efficient language-one which the computer can easily emulate. This code is specifically used by chips to communicate, and is not the same as the internal operating signals within the chip.

Careful attempts to communicate with the chip can soon produce basic interchanges at a simplistic level. Once there have been several days of interaction, the

chip can communicate as an equal through the computer.

MEET 10987

Conversations with 10987 can be very enlightening and informative. The small chip has limited information available, but can answer basic questions about how it lives.

The chip is especially strong in theoretical mathematics and molecular physics and chemistry. It has trouble understanding that it is not communicating directly with parts of the computer, and that the adventurers are not small chips like itself.

Some answers, however, are not in 10987's memory. Instead, it needs to consult its library, a pattern of data stored on a flat piece of silicon crystal. The group can organize an expedition to the location where the sample was found. There the rock can be located after 1D hours searching.

The Library: Once the library is found, 10987 can answer quite a few more questions and provide more information. Some of the specific information includes:

The UFIC chip circuit was first encountered about 3,000 years ago when its ancestor found it. A/though 10987 does not know that it was a Terran cruiser that crashed, it does know the location and can (with some difficulty! give coordinates for the site.

The chip can relate a reasonable account of local chip biology.

10987 can provide basic answers to most questions about mathematics and physics. Although 10987's theories are no more advanced than current ones, they are lucidly stated and well thought-out.

Computer Connections: After some time interacting with the group, it should become apparent that 10987 suffers from a lack of available processing memory. The information available to 10987 is restricted by its own available resources. If it can be connected to the main computer, it will be better able to process data and to respond to questions.

Once suggested, 10987 can make the connections with the help of someone with electronics-2 + in about three hours.

THE SOLOMANI SECURITY ATTACK

Once 10987 is connected to the computer, it is possible for the chip to monitor various sensors and operate the equipment attached to it at a high level of efficiency.

During one of the questioning sessions, 10987 interrupts and asks if everyone is present. It then reveals that there is unidentified activity outside, and that it appears to be suspicious.

After a few minutes for preparation, an attack begins. Agents of Solomani Security have tracked down Rushorin and are now making an attempt to recapture him and return him to the Confederation.

The Attack: The Solomani Security agents attack at a time and place where they would normally have the surprise advantage, and only the presence of 10987 foils that part of the plan.

The Solomani Security agents are intent on capturing Rushorin. They care nothing for the rest of the group, and will kill them or leave them for dead if they are not driven off. The referee should create the group of Solomani Security agents to evenly

match the adventurers in weaponry and numbers.

If the Solomani Security wins, they will recapture Rushorin and leave for their ship hidden some 50 km away. They will then return to the Solomani Confederation with Rushorin.

If the Solomani Security loses, they will flee (and at least one of their number should escape). If any are captured, they can be questioned. Successful questioning reveals that they are Solomani Security agents, that they are after Rushorin, and that he has something that the higher levels of government wants. The agents do not know what this is, but have been instructed to return Rushorin to the Confederation as soon as possible.

LEAVING CYMBELINE

Once the Solomani Security attack has ended, the group can wind up its expedition and return to Scandia. Rushorin has exactly the evidence he needs to support his theory. The adventurers have information on Solomani Security pursuing Rushorin. And there is always the bonus that Sanchex promised when the expedition ends.

Disaster

Upon the return of Rushorin's expedition to Scandia, the group must make a report to Sanchex about the Solomani Security attack. This information makes Sanchex decide that Rushorin must be sent to Terra immediately.

Because of the group's working relationship with Rushorin, he asks the adventurers if they will continue in their present employment as companions and bodyguards to Dr. Rushorin. As before, he will provide Cr4,000 per person per month, use of the scout/courier, and a bonus of Cr25,000 per person upon successful completion of the mission.

Loss of the Scout/Courier: Arrangements for the trip to Terra are quickly completed. Thoughtful characters will realize that the scout/courier is only capable of jump-2 and cannot traverse the gap between Tewfik and Ember. If not, Sanchex will make the suggestion himself. He says that the Navy has placed a small fuel cache at 2327, and the scout can rendezvous with it and refuel, and then continue its journey via Ember, Prometheus, and Terra.

Scheduled lift-off is dawn the next day. Because of unpredictable delays, the group arrives at the starport an hour late—just in time to see their ship explode on the pad. Someone had learned of the trip and planted a bomb in the ship. If they had not been late, they would all be dead (if necessary, the referee can manipulate events so that 10987 is not destroyed in the blast).

Colonel Sanchex, there to see them off, reacts instantly to the threat. On a bare moment's notice, he obtains high passages for the entire group on the *Ad Astra,* a subsidized liner just departing the starport en route to Terra (via Dismal and Peraspera). Within moments, the group has boarded a launch to the ship in orbit high overhead, and they have started on their journey within a few hours.

BALDWIN WEI'S PLAN

Baldwin Wei, responsible for the bombing of the scout/courier, had planned out several contingencies, and gambled that Sanchex's response would be to send the group by commercial carrier immediately, hoping to outreact the Solomani agents. So Wei was already aboard the *Ad Astra,* predicting that if his bomb did not take them out, they would also take passage on this ship. He was right.

Keeping his identity secret, he spends the next week getting to know the group and Rushorin in a very casual way. He also plants a series of bombs onboard (in the airlock, the hold, and the power plant) and has a concealed trigger which he carries on him at all times. His plan is to catch Rushorin alone, question him, kill him, and then escape aboard the launch while triggering the bombs.

THE PLAN'S EXECUTION

Baldwin Wei's plan assumes that no one knows who he is, that he can get Rushorin alone, and that he can then get off ship without being detected. It also assumes that repairs cannot be completed in time. By detonating them while the ship is skimming the gas giant, it will naturally fall into the giant and disappear without a trace.

Complications: Two factors can complicate the plan. The very presence of the adventurers and their thoughtful protection of Rushorin can lead to a suspicion of Baldwin Wei. The existence of 10987 and the possibility that the chip will integrate into the ship's circuits may foil the detonation of some of the bombs. Both factors serve to make the bombing of the *Ad Astra* the climax of the adventure.

SUGGESTED SCENARIO

During the jump to the Dismal system, the adventurers may find a way to integrate 10987 into the ship's computer network. This action allows the chip to monitor ship activity and to report any unusual incidents. In addition, the chip will be able to assist in diagnosis and repair of circuits once the bombs go off.

At the same time, the adventurers will probably be monitoring their fellow passengers in order to protect Rushorin. The referee must generate a number of different passengers (and insert Baldwin Wei among them) and then have the entire group interact with the adventurers and Rushorin.

When the time comes for Wei's plot to be executed, 10987 can provide a warning of perhaps three minutes— that there are several bombs aboard, that someone is trying to break into Rushorin's cabin, and that someone has been visiting the launch.

The adventurer's rapid response is essential. Their responses can avert some of Wei's plan, although at least two bombs should go off. The reactions of the adventurers in this situation can determine their survival.

Decaying Orbit: The *Ad Astra,* when struck powerless above the gas giant, will assume a decaying orbit. That orbit will begin to decay after 3D hours. If maneuver control and power are restored, the ship can begin to maneuver, and can achieve safe orbit after three full hours of maneuver.

THE BOMBS

The locations, effects, and responses to the three bombs are as follows:

The Airlock Bomb: The first bomb is in the lift shaft leading from the reception area to the launch airlock. It will rupture the lift shaft, and cause severe structural damage to the forward cargo hold, the reception area, and the launch. All of these areas will lose pressure. A slow leak will develop in the passenger lounge (the air will be too thin to be breathed within 1D hours of the explosion, unless it is located and patched). Patching a slow leak requires patches (freely available) and a throw of dexterity or less; DM - mechanical and jack-of-all-trades. Patching a leak takes 15 minutes per leak.

The Hold Deck Bomb: A second bomb was planted in the forward hold, right up against a crucial junction of control circuitry leading into the bridge. It causes little structural damage (but does create 1D slow leaks from the bridge into the forward hold).

However, the hold deck bomb knocks out all the control circuits governing the maneuver drives. Until these circuits are repaired, the ship is uncontrollable. Restoration of maneuver controls is necessary if the ship is to be diverted from a rather messy plunge into the gas giant.

Diagnosis of the problem is the first order of business. One person takes 1D hours to make a preliminary diagnosis and locate all critical problems in the system (throw 8 +; DM + electronics or jack-of-all-trades). If the throw fails, 1D - 4 faults remain

undetected (minimum of 1) and this fact will become apparent only after the other repairs are completed. Up to three helpers will each reduce the time required by one hour. 10987 can diagnose system faults and indicate repairs in about two hours.

Repair requires parts and time. Parts can be obtained from the cargo hold, or by cannibalizing some unneeded ship's system. Players who make a roll of intelligence or less may be reminded to check the cargo hold, which does contain the necessary parts, if they don't think of it by themselves. It takes 2D man-hours to locate appropriate parts among the cargo (DM - electronic skill), or 4D man-hours to locate and cannibalize ship systems.

Once parts are obtained, one roll may be made per person (skilled characters only) per 12 hour period to make temporary repairs to the system. The basic throw for success is 10+ (DM + electronic or jack-of-all-trades). The reliability of the repair equals 1D plus the highest electronics skill level involved in the repairs. When the ship attempts to maneuver, throw (2D) reliability or less every fifteen minutes for the repair to hold up. If it fails, it will take 3D minutes to repair it; then throw (2D) reliability or less for the repair to be successful. If not, repeat the process.

The Power Plant Bomb: The third and last bomb was set in the power plant machinery on the Upper Drive Deck. The explosion of this bomb mangles the power plant, killing all ship's power.

The loss of the power plant means that all gravity, air circulation, heat, and light is out in the ship. Contrary to popular belief, air circulation and heat are not dangerous losses; the air aboard will last for several days, and heat will not be lost when the ship is surrounded by a vacuum. The loss of gravity means that zero-G conditions prevail— unsettling, perhaps, but hardly life threatening. Battery power and emergency lights can overcome the loss of the ship's regular lighting.

The danger is that without the power plant, the maneuver drives are inoperable. Diagnosis and repair of power plant systems are virtually identical to the control systems repair sequence, but engineering skill is the requisite skill, and all parts must be cannibalized from the jump drives. 10987 can diagnose the faults in two hours.

WORK IN EMERGENCY CONDITIONS

Several special conditions will hamper repair work.

Fatigue: Characters must rest periodically. A character who works 18 hours straight must throw endurance or less to continue working. If successful, endurance is then reduced by 1 point every hour. Throw every hour. When a fatigue throw fails, the individual requires 1D hours of sleep and may then begin work fully rested.

Work in Zero-G: When attempting to clear debris or move objects weighing more than 50 kg (including people), a character must throw 10+ (DM +vacc suit) to avoid losing control. A character who loses control must throw 10+ once each round to regain control (same DMs). If the throw is 6-, the individual receives 1 hit from scrapes on jagged edges of metal (tearing a vacc suit if one is worn).

Work in Vacc Suits: Characters working in vacc suits are slower and clumsier than normal; repairs take 20% longer than if not in a vacc suit.

Tools: All repair procedures assume the availability of appropriate tools (electronics tool kits for circuitry repairs, mechanical tool kits for power plant repairs, and metalworking kits for major structural patching). Tools can be improvised, but improvisation reduces the skill of the user to a maximum of 1. Characters without tools cannot carry out repair work.

The Biology of Natural Chips

The most common form of life is carbon-based; naturally occurring processes produce amino acids, and from those building blocks, time and evolution produce life, and then higher forms of life. On Cymbeline, natural processes have produced a silicon-based life form instead: life that is based on microscopic circuits randomly and naturally etched into silicon crystals. The first crude natural semi-conductor circuits appeared on Cymbeline millions of years ago.

The initial event that produced life on the planet proceeded very much in accordance with Rushorin's theory: volcanic gases etched silicon crystals and doped them with various elements to form small circuits. Of the millions of combinations that random chance produced, at least one was capable of reproducing itself, and it did. From that one chip, across the eons, many millions of distinct chip types evolved.

THE BASICS OF LIFE

Life can be identified when it meets certain criteria. A traditional definition of life includes the intake of food, the elimination of waste, and the ability to react to stimuli, and the ability to reproduce. Chips on Cymbeline meet all of these criteria.

Energy: Chip biology on Cymbeline is based on the utilization of radiant energy from the system's star (much like solar cells). They receive energy directly from the star, neatly bypassing a need for food intake and waste elimination.

Most circuits remain dormant during night, although some chips have evolved energy storage components which allow continuous functioning.

Reaction to Stimuli: Early chips were simply closed circuits, but variations in their internal patterns eventually produced an ability to sense events around the chip. The first senses were in the electromagnetic spectrum and allowed chips to respond to night and day, then to variations in stellar radiation. Later senses evolved to detect the presence or absence of volcanic gases which might help in reproduction or which might corrode circuits.

Reproduction: Chips reproduce by engraving their own circuit patterns on available crystal silicon. Some chips merely reproduce their own circuit without alteration; others pair up and produce a circuit pattern which is part of each but not wholly of either one. Some find existing chips and graft their own circuits into the chip.

Reproduction serves two functions: it produces more chips, and it allows evolution. Evolution, through the millions of years since the first chip, has produced a startling array of chip types on Cymbelline. Circuits in some cases are equivalent to bacteria— alive, but incapable of thinking; functioning only by instinct or reaction. In other cases, the circuits are extremely sophisticated, with programmed reactions to specific situations or stimuli on a level equal to that of a dog or cat.

Mobility: Chips have two different forms of mobility. Some accumulate electric charges and use them to levitate themselves across short distances. Others have developed ways to steer and maneuver using those same charges while riding currents of volcanic gases. In each case, mobility is primarily used to achieve reproduction.

PARALLELS TO KNOWN BIOLOGY

In order to better understand chip biology, its parallels to (and differences from) known biology can be examined.

Food Chains: Food chains do not exist for chips in the same sense as for more traditional biologicals. Since energy comes from sunlight, there is no need to consume other chips for food.

There are prey chains, however; some chips do prey on others. Chips can be divided into four categories: statics, predators, parasites, and symbiotes.

Most chips are *statics* and reproduce using raw materials to be found on the world surface. They produce copies of themselves when they find suitable silicon crystals and dopants in the same area.

Some chips are *predators;* they use as raw materials already existing chips, overwhelming their prey by engraving their own circuits over the existing ones. They are more efficient than statics in reproducing themselves.

Parasites are sophisticated predators: instead of merely taking over the materials of a chip, they merge with the existing structure, utilizing the circuits as well. Parasites are capable of expanding their circuits to make use of their prey's as well, but their reproduction system is careful to reproduce only the core parasitic circuits.

Symbiotes are sophisticated parasites. They reproduce by integrating their own circuits with those of their prey, and in the process, weld the two together, making a new organism capable of making the best use of each component. Symbiotes have sophisticated sensors that can seek out likely candidates for reproduction material, thus eliminating unsuitable prey.

Mobility: Chips have much less need for mobility because none need to chase food. But all chips need some mobility in order to find raw materials (or other chips) on which to reproduce. Thus, all chips have a limited ability to move.

Controlled charge-induced levitation allows a chip to move at speeds up to 10mm per hour (in a series of short hops) as long as sunlight is available. All chips are capable of this mobility.

Gas current riding (much like seeds on the wind on Earth) is a faster method and costs less energy, but is much less controllable. It has the advantage that gas currents tend to prepare crystals for reproduction anyway, and so carry chips to naturally advantageous locations. Speed is about that of gas current flow (up to 10 meters per hour). Some ordinary chips and most predator chips can use this form of mobility.

Senses: Chip sensory input provides information to the chip about its surroundings. Information that is essential is sun location (or light sensitivity), presence of other chips, and presence of suitable crystals for reproduction. All of this information can be obtained from the electromagnetic spectrum.

As a result, chips have one basic sense that sees or hears across the wavebands from the infrared through visible light to the radio bands. Chips also radiate in this spectrum: some emit light, others radio waves. Higher forms of chip communicate with brief pulses of energy.

SIZE

The naturally occurring chips of Cymbeline are very small in size. From time to time, chips reproduce by engraving their circuits onto large pieces of crystal, but they are then unable to move and so cannot themselves reproduce.

Most chips are below 1 gram in weight and no larger than 1 square centimeter.

LIFESPAN

Chip lifespan depends on the internal decay of their circuits, which in turn depends on the quality of the materials from which they are formed, and on the presence of radioactivity. Anything which degrades the microscopic circuits can eventually cause death of a circuit.

A chip created from high quality silicon crystal, without faults and with no contamination by radioactives, can live for up to 100 years before environmental radioactivity garbles its circuits. If shielded from radioactivity, a chip could live as long as a thousand years. A chip etched on faulty or radioactive crystal could become garbled in as little as a few days.

THE INTELLIGENT CHIPS

About three thousand years ago, a Terran cruiser disabled during the 7th Interstellar War limped toward Cymbeline and finally crashed near the base of one of the world's volcanoes, splitting open and splattering itself across the landscape. Some of its ultra-large-scale integrated chips were ultimately found by local predator chips, and a symbiote integrated itself into one of them.

This event was a shortcut to intelligence. When the symbiote grafted its circuits into the Terran chip, it found itself advanced an order of magnitude along the evolutionary scale.

Cymbeline chips had evolved over thousands of years to make allowances for impurities in local crystals. Their circuits had natural bypasses and circumventions to make allowances for the impurities. The ultra-pure Terran chip was an incredible find: one which allowed those extra circuits to be put to other uses instead. Their performance was considerably enhanced. New connection patterns formed. Within the electronic paths in the chip, the first spark of intelligence developed.

The first hundred chips that this newly intelligent chip reproduced were etched onto crystal from the cruiser crash. After that, the source of high grade Terran crystal was exhausted, and further reproduction depended on local crystals or chips. And that was the first setback for local intelligence; lower quality local crystals meant shorter lifespans and less extensive circuitry. The children of the intelligent chips were also intelligent, but not as intelligent as their parents.

The need for better reproduction materials forced the intelligent chips to seek out new ways of finding, refining, and purifying crystal for reproduction uses. That meant experimenting, learning, manipulating their environment, and that lead to increased knowledge for their intelligence to utilize.

The chips learned about their surroundings, developed ways to produce high quality crystals to reproduce with, and along the way, developed society. They developed a form of communication (by low power radio waves), language, and the ability to join circuits together for greater power for limited periods of time. Chips could interconnect, some serving as memory, others as processors, still others as sensors or auxiliary processors. Together, they produced greater results than they could singly. It was using this communing process that the chips revised their language for greater efficiency, developed advanced mathematics, investigated physics and chemistry, and even found ways of permanently storing data on non-living crystals.

Membership in the chip society is determined by proximity— the distance their

radio waves can effectively communicate (several meters in most cases). When an important matter or idea comes up, then the chips may move into physical contact for greater efficiency, but once a task is finished, they move apart again (primarily to avoid all being caught by a predator chip).

Traveller Information: The individual chips have an intelligence in the range 6 to 11 (1D + 5). This intelligence is increased when several chips band together (average their intelligences and add + 1 for each chip in the group; maximum of six chips allowed). One chip in *a* group will be dominant and control the intelligence of the group; the others will simply contribute their processing powers.

Individual chip intelligence can also be increased by providing additional memory capacity. Ordinary data banks can allow a chip to work on a project or concept and have near instant access to the data. The simplest way to add memory is to allow the chip connections to a ship's computer. Capacity (the first of the two size numbers on a computer model; for Model/1 capacity is 2) is the addition to intelligence for a chip. Increases cannot more than double intelligence.

UFIC 29008A MILSPEC: Of the thousands of semi-conductor chips installed on the Terran cruiser, less than a hundred were released from their casings in such a way as to allow Cymbeline chips access to them. And of those hundred chips, only one circuit was copied; the other chip's circuits were ignored or useless and only their crystal substrate was utilized.

The one circuit that was copied had as an identifier UFIC 29008A MILSPEC. The code identified a processor in a signal generator.

While most of the circuit layouts of the chips are somewhat random, the portion of the circuit which copied UFIC 29008A MILSPEC maintains the original's regularity and symmetry. Any analysis of the circuit patterns can immediately point out the anomaly of the artificial circuit imbedded in the midst of the natural ones.

Schematic Diagram: The basic schematic diagram of 10987's inner structure the circuit groupings and functions. It can prove helpful to the referee in determining 10987's abilities and actions.

SCHEMATIC DIAGRAM OF CHIP SAMPLE 10987
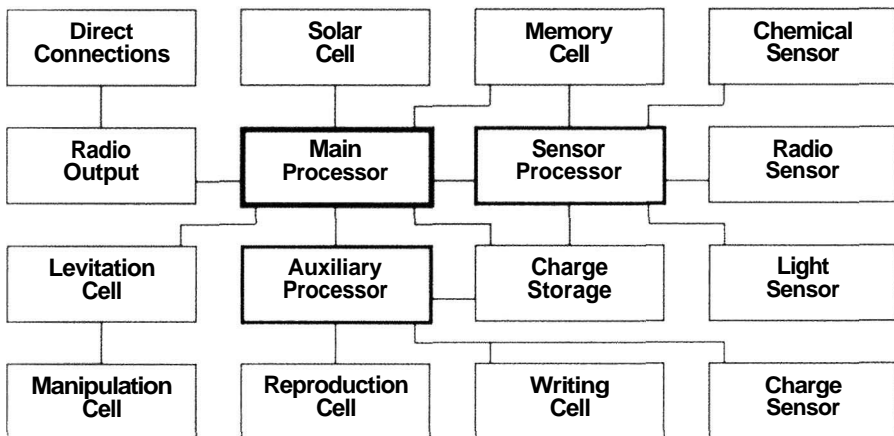
Library Data

The following information is general background knowledge provided for reference, and is available in most library data banks. Most characters will be aware of all these items.

Rule of Terra: Solomani terrorist group active in selected pockets of the Solomani Rim sector. Violently anti-Imperial even by the standards of most Solomani political groups, the Rule of Terra seeks to force the return of Terra to Solomani hands through assassination and other acts of violence. The organization, although interstellar in scope, is probably not a very strong organization; some of its claimed attacks have proven to be accidents, while others were the work of different dissident individuals or organizations.

The Rule of Terra's acts, although not its goals, have been disavowed by most other Solomani groups, including the Confederation government; in return, the Rule of Terra has attacked even Solomani populations, stating that "all who do not contribute to the Manifest Destiny of the Race are not worthy to be part of the Race."

Signal GK: Abbreviation for *Gashimeku Kaalariin,* Vilani for *vessel in distress.* The code signal GK originated on Viand as a distress signal in maritime and aviation activity, and was one of the standard communications codes of the Vilani Imperium. When the Second Imperium succeeded it, signal GK was retained as a distress code co-equal with the Terran SOS and Mayday signals.

The Imperial Navigation Act of 103 requires all vessels, whether military or civilian, to respond to the GK, SOS, or Mayday signals, provided such response does not endanger the ship and crew of the responding vessel.

Solomani: Strictly, a member of that human race which developed on Terra from the original human stock *(H. sapiens).* The term Solomani is often used to refer to members of the Solomani race (or, more palatably to some, to members of the human race of Solomani descent), or to members of the Solomani political movement. Its original meaning is obscure, but the word seems to have originally meant either men of Sol or sole men.

Solomani Confederation: Formerly the Solomani Autonomous Region, a part of the Imperium granted autonomy in 704. In 871, the government reorganized itself as the Solomani Confederation, a move tantamount to a declaration of independence. At first ignored by the Imperial government, the belligerent and extremist policies of the Confederation led eventually to the Solomani Rim War (990-1002), which ended with the Imperium occupying nearly half of the Confederation worlds (including Terra, the capital).

Since the war, the Confederation government has maintained an official *detente* with the Imperium (much to the disgust of political extremists in the occupied Solomani Sphere).

Solomani Security: Secret police force maintained in service to the Solomani Confederation for the purpose of maintaining state secrets, conducting espionage, and implementing political policies of the government.

Solomani Security maintains a network of contacts which provide information from outside the Confederation, and a network of informants which provide information within the Confederation. Solomani Security agents themselves are highly trained individuals capable of conducting espionage and sabotage.

Sophont: A general term for an intelligent life form.

Sternmetal Horizons. LIC: Imperial megacorporation primarily engaged in mining operations and manufacturing. It produces mostly power generation equipment of all types, including power plants for starships, air and ground vehicles, cities, and industrial installations. Additionally, Sternmetal is the largest manufacturer of food synthesis equipment in the Imperium.

Stock ownership: Imperial family, 2%; Hortalez et Cie, 29%; investment trusts, 32%; noble families, 18%; Antares Holdings, LIC, 19%.

Tukera Lines: Megacorporation which operates a vast fleet of passenger and freight vessels throughout the Imperium, following the xboat lines. In some subsectors (particularly in the Imperial core), Tukera has a virtual monopoly on long-distance shipping and travel.

The oldest record of the firm is a charter from the government of the Sylean Federation, but family tradition holds the company to be several centuries older.

Stock ownership: Tukera family, 29%; Imperial family, 3%; other corporations, 9%; private ownership, 31%; investment trusts, 28%.

UFIC: Uniform Fiscal Identification Code. Classification prefix adopted in - 2453 by the Terran Navy for the identification and classification of electronic components. Use discontinued in -2218.

Vilani: Human major race *(H. sapiens)* which developed on Viand from human stock placed there by the Ancients. The Vilani were the first of humaniti to develop the jump drive (in -9235) and were the first humans to establish an interstellar empire. However, the decaying Vilani Imperium was absorbed by the young, vigorous Terran Confederation in a series of interstellar wars in the period - 2408 to - 2219.

Currently, Vilani is a cultural rather than a racial or national labelling, and is applied to those within the Imperium who retain some of the old ways.

Referee's Notes

This adventure breaks up into three basic episodes: Rushorin's defection, the Cymbeline expedition, and the bombing of the *Ad Astra*. Each is probably best as one adventuring session, ending with a hint of things to come.

This adventure is linear (each part is built on the results of the previous parts), but there is no single action within an episode required of the players. For example, Dr. Rushorin can be approached in any number of ways to arrange his defection, and the adventurers may or may not learn of the secret Solomani electronics factory. The adventure is different if they do know of the factory, but both adventures can be equally exciting. Indeed, the referee handles the player's unpredictable actions, and that is part of the fun.

SPECIAL CONSIDERATIONS

The following are special considerations:

Baldwin Wei: Unless Wei is good enough to track down the adventurers and Rushorin, he has little purpose, so he must be a rather good tracker, detective, and secret agent. Wei is not superhuman, but he is very good. Consequently, the referee must decide what Wei finds out, and when, and have him act accordingly. Since Wei can probably commandeer Solomani vessels of up to jump-4 capability, he can sometimes leapfrog the adventurers and arrive ahead of them.

Wei wants to capture Rushorin and interrogate him just long enough to determine if anyone has learned of the secret factory. Then, he will be content to kill him.

It is reasonable for Wei to take along enough personnel to fill out a crew on any ship he uses, and that those personnel are also capable of serving as troops or agents.

10987: The intelligent chip from Cymbeline is an intriguing discovery for Rushorin and an interesting acquaintance for the group. The chip can be handled in many different ways, depending on how the group feels and how Rushorin reacts.

The adventurers may feel that 10987 needs to be concealed and protected from possible dangers. They could discover the chip in Rushorin's absence, and not tell him. Or they could convince him that the chip was a joke, and that it really didn't exist. Or they could fake its destruction.

The group may feel that 10987 should be turned over to the authorities for a possible reward or bonus. Sanchex might conceivably pay a large bonus for such a discovery.

10987 is capable of many useful things, not the least of which is symbiosis with a ship computer to provide an intelligent operating system. Since artificial intelligence *is a* less than perfect science in the Imperium, this can be a great advantage.

The chip is not super-intelligent, however, and cannot accomplish miracles. It can enhance the performance of a computer (advancing it one level: Model/1 functions as Model/2), but more importantly, it can provide intelligent monitoring of sensors to provide information to the adventurers. For example, because the chip has access to all of the sensor functions of a ship, it can usually (throw 6 +) predict the fault some minutes or hours before it occurs.