GURPS® Traveller®

FIRST IN™

Exploration and Contact Among the Stars

BY JON F. ZEIGLER

STEVE JACKSON GAMES

Ancient explorers unveiled strange new lands guided by their pole stars; now those far-flung stars become your destination!

Explore the Infinite Expanses

The Imperial Interstellar Scout Service seeks out strange new worlds within and beyond the borders of the Third Imperium. A scout has to expect the unexpected, embrace the unknown, and master his craft – because the uncharted expanses swallow the foolhardy.

First In gives **GURPS Traveller** players the information they need on the Scouts' organization, equipment, missions, and starships, including deck plans for the:

- Express Boat
- *Donosev*-class Survey Scout
- *Khadumir*-class Fast Courier
- *Purcell*-class Express Boat Tender.

It also explores the process of exploration, from the initial sighting of a new star system to the integration of a world into the Imperium.

Building worlds, star systems, and civilizations becomes easier than ever with **First In**'s world-building sequence, which incorporates the most recent scientific discoveries! Game Masters can easily master an entire universe full of insights and wonders!
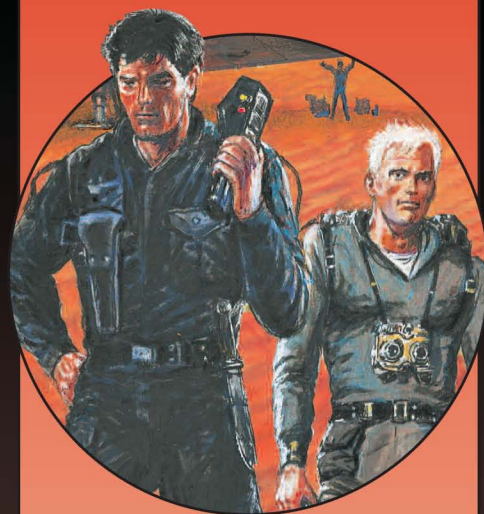
Though designed for **GURPS Traveller**, the system easily adapts to any science fiction roleplaying game.

Cross the frontier and don't look back!

The **GURPS Basic Set, GURPS Traveller,** and **GURPS Space** are required for full use of this book in a **GURPS** campaign. **Ultra-Tech** and **Ultra-Tech 2** are not required, but will be very useful. The background presented here will be of great value to any **Traveller** campaign, and will also serve as a source of inspiration for other SF games.

STEVE JACKSON GAMES
www.sjgames.com

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FIRST IN

Exploration and Contact Among the Stars

By **JON F. ZEIGLER**

Based on the award-winning Traveller science fiction universe by **MARC MILLER**

Edited by **SALVATORE FALCO**

Illustrated by **JESSE DEGRAFF, GLENN GRANT, JOHN GRIGNI, AND TOM PETERS**

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Scout Service Emblems by **MARK COOK**

Cover by **DOUG CHAFFEE**

Author's Dedication:
To Poul Anderson, with profound thanks.

STEVE JACKSON GAMES

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Introduction

In 1983, the *Scouts* book was published for *Classic Traveller.* The effect on the game was immediate. Until then, the game had seemed to be about traveling through space, meeting exotic people, and shooting them. Now there was a taste of exploring a new frontier, meeting exotic people, and possibly finding common ground with them. *Traveller* had tapped into the "sense of wonder" that underlies all the best science fiction. And there was a dose of scientific realism to give that sense of wonder solid ground to stand on.

Over the years, that little black book with the yellow stripe has held up surprisingly well. This volume can't claim to do more than add onto it and clean up a few dusty corners. I hope you can use it to bring rich detail to your favorite *Traveller* universe, or build a fresh world of your own.

About the Author

Jon F. Zeigler has been a science fiction fan since the cradle (literally). He became interested in world-building at the age of 10, and later latched onto *Classic Traveller* primarily for its simple but elegant world-design rules. In 1988 he discovered *GURPS* and hasn't looked back since, although he's thoroughly pleased to be able to combine his favorite game system with one of his favorite SF universes. He and his wife and son live in Maryland, where he works for the federal government as a mathematician. In his spare time he reads history and the occasional science fiction or fantasy novel. He is the author of *GURPS Greece* and has also done freelance work for FASA's *Shadowrun* and *Earthdawn* product lines.

About the Line Editor

Loren Wiseman was one of the founding partners of GDW, Inc., original publisher of *Traveller,* and spent over 20 years there as a game designer, developer, typesetter and editor. After GDW closed, Loren freelanced for a time, and then came to SJ Games, where he is the *Traveller* line editor and expert-in-residence.
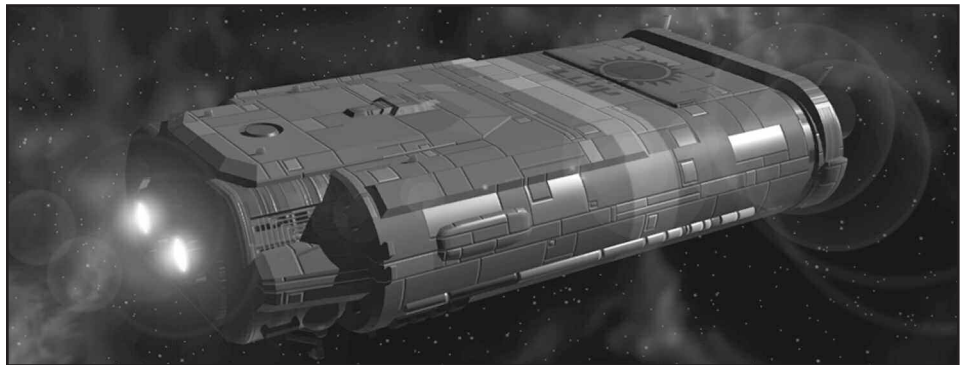
The Traveller News Service

For many years a feature of the *Journal of the Travellers' Aid Society*, *TNS* chronicled the ongoing life and times of the Imperium. Loren Wiseman is once again writing *TNS* as the alternate history of the Third Imperium develops. It is updated regularly; read it online at **www.sjgames.com/gurps/traveller/news.html**. "Back issues" of *TNS* are also online.

The SJ Games *Traveller* page has links to the *Traveller* Web Ring, and thus links to most of the major *Traveller*-oriented web sites that exist. For information on subscribing to the *Traveller* Mailing List, contact rwm@mpgn.com.

100-ton Express Boat (TL12)

The Imperial standard express boat is found in every system along the Xboat links. It is the most optimized ship design in Imperial service, well-fitted to its intended purpose but almost useless for any other application. It has a jump drive, but no maneuver drive. The express boat is dependent on its tender for fuel, maintenance and movement through normal space.

The ship's primary function is to carry extensive data storage banks and communications gear. The standard Xboat design can carry 150 *terabytes* of data, transmitting or receiving the entire load in just over an hour. In practice, the Xboat rarely runs at full capacity except in portions of the network which connect a number of high-population, high-technology worlds.

The ship has two staterooms, one for the pilot and one for a possible passenger. There is a small cargo hold for critical shipments. The ship's locker holds the pilot's vacc suit, a rescue ball, and the ship's only armament (a shotgun or submachine gun for repelling boarders).

Express boats do not officially have names. Each has an identifying number. When pilots and ships stay together for long periods, as sometimes happens in frontier areas, the pilot may have an unofficial name for his boat.

The IISS has occasionally experimented with variant designs, incorporating low-power maneuver drives or solar sails. None of these have seen full-scale production. Currently the Communications Office is experimenting with a jump-6 express boat of radically different design, but the technology is expensive and unreliable. Fast express boats may occasionally be found on some of the network's "backbone" routes, such as from Core to Terra or Vland, but there are no plans to implement a jump-6 network in the foreseeable future.

Crew: Pilot (Astrogation, Electronics Operation [Communications], Engineering, and Mechanic).

100-ton USL Hull, DR 100, Basic Bridge, 3 Communications, Engineering, 5 Jump, 40 Fuel, 2 Staterooms, Utility, 6.5 Cargo.

Statistics: EMass 537.9, LMass 570.4, Cost: MCr37.414, HP 15,000. Hull Size Modifier: +8.

Performance: Jump 4.

400-ton *Donosev*-Class Survey Scout

The *Donosev*-class is the workhorse of the Imperial Grand Survey. Its task is to continually re-survey star systems and worlds within Imperial space, updating maps and maintaining navigational beacons.

The heart of the ship is the survey module, which is usually manned by four survey specialists. The spacedock normally carries three air/rafts, a 50-ton modular cutter with lab module and a spare fuel-skimming module. Survey operations are carried out using a combination of on-board sensors, long-range probes, and cutter overflights. The ship is primarily designed to work from orbit, but some lab space is set aside to handle geological or biological samples. The survey scout is almost never armed, although in dangerous regions the ship can easily mount four turrets at the cost of four tons of cargo space.

Survey scouts are named after past senior members of the IISS Exploration and Survey Offices.

Crew: Pilot (Pilot [Spacecraft]), Navigator (Astrogation), Sensor Officer (Electronics Operation [Sensors]), Communications Officer (Electronics Operation [Communications]), Engineer (Engineering and Mechanic), Small Craft Pilot (Pilot [Small Craft]), and 4 survey specialists (Cartography and Electronics Operation [Sensors]).

400-ton USL Hull, DR 100, Basic Bridge, Engineering, 15 Maneuver, 16 Jump, 120 Fuel, 162 Spacedock, 10 Staterooms, 4 Lab, Probe, Survey, Utility, 2 Fuel Processor, 27.5 Cargo.

Statistics: EMass 412.3, LMass 728.7, Cost: MCr139.64, HP 37,500. Hull Size Modifier: +9.

Performance: Accel 2.1 Gs, Jump 3.

400-ton *Khadumir*-Class Fast Courier

Whenever messages or small cargoes must travel faster than an Xboat could carry them, or across routes not served by the Xboat network, the IISS uses the fast courier. Its jump-6 capability allows it to cross subsector distances in a relatively short time, and it is capable of wilderness refueling so as to cross space away from the main trade routes.

The fast courier carries much less data than an Xboat, but more than enough for high-priority Imperial traffic. It has a small cargo hold, and enough staterooms to carry several passengers if the crew use double occupancy. Fast couriers are generally armed well enough to defend against corsairs, although they cannot survive a sustained battle.

Fast couriers are named after famous messengers from history or myth. A nearly identical ship class is in Imperial Navy service as a fleet courier, and many private organizations have experimented with similar designs.

Crew: Pilot (Pilot [Spacecraft]), Navigator (Astrogation), Sensor Officer (Electronics Operation [Sensors]), Communications Officer (Electronics Operation [Communications]), Engineer (Engineering and Mechanic). Up to four gunners may be added to the crew as needed.

400-ton SL Hull, DR 200, 4 turrets (2 triple lasers, 2 triple missile racks), Command Bridge, Engineering, 12 Maneuver, 28 Jump, 240 Fuel, 5 Staterooms, Utility, 5 Fuel Processor, 2.5 Cargo.

Statistics: EMass 780.2, LMass 869.5, Cost: MCr157.087, HP 39,900. Hull Size Modifier: +9.

Performance: Accel 1.4 Gs, Jump 6.

Stars

Everything in this chapter (and in much of Chapter 5) is in the domain of *astrophysics.* A good undergraduate-level text on the subject will be useful for anyone who wants to understand the background to these rules. We suggest *An Introduction to Modern Astrophysics,* by Bradley W. Carroll and Dale A. Ostlie.

Short of a rigorous study of astrophysics, there are many good books on astronomy for the layman. The best is probably the three-volume *Burnham's Celestial Handbook,* by Robert Burnham, Jr. The *Handbook* is a comprehensive introduction to deep-sky astronomy. It's slightly dated, but even so it provides an extensive introduction to astronomical concepts, and is very rich in detail.

Another good source is *The Guide to the Galaxy,* by Nigel Henbest and Heather Couper. This book includes a review of the history of galactic astronomy, explaining all the major concepts, and including visually stunning maps of the Galaxy at several levels of detail.

Finally, the best source intended for science fiction writers (and GMs) is *Worldbuilding,* by Stephen L. Gillett. Gillett covers most of the concepts useful to a world-builder, without too much mathematical detail. His book was a major starting point for the rules systems here.

"The use of robots has considerably reduced the casualty rate in first contact situations, especially with unexpectedly xenophobic cultures – except, of course, among the contact robots."

– Twenty Years in the IISS, Janos Projaska

In *Traveller,* world-building begins on a grand scale. The Third Imperium (or your own *Traveller* universe) exists within the context of the whole Galaxy, a stage wide enough for almost any roleplaying game!

MAPPING THE GALAXY

Following *Traveller* and **GURPS Space,** we use the *parsec* as a standard unit of measurement for interstellar distances. One parsec is equal to about 3.26 light-years or 19 trillion miles.

Space is three-dimensional, but *Traveller* simplifies star-mapping by projecting the Galaxy onto a two-dimensional plane. Star maps are thus oriented with the *coreward* direction at the top, toward the center of the Galaxy. The opposite direction is *rimward.* The direction of galactic rotation is toward the left edge of a standard map, designating the *spinward* direction. To the right edge of a standard map is the *trailing* direction.

The map of Charted Space (see p. GT6) covers a region of the Local Arm, about 512 parsecs "wide" (spinward-to-trailing) and 320 parsecs "deep" (coreward-to-rimward). Charted Space is centered on the territory of the Third Imperium. This space is divided by Imperial astrographers into *sectors,* rectangular regions which are exactly 32 parsecs wide and 40 deep. Each sector contains roughly 400 to 500 stars. Each sector is divided further into 16 *subsectors,* which are 8 parsecs wide and 10 deep.

Mapping a Subsector

In the *Traveller* setting, space is mapped on a hexagonal grid, with each "hex" being one parsec across. Hence a sector is 32 by 40 hexes, a subsector 8 hexes by 10. Each subsector has a *system density,* indicating how likely it is for a star system to appear in each hex (see the System Presence Table). Most subsectors will be of Scattered or Standard density. For example, the entire Spinward Marches are of Scattered density. Very Dense subsectors do not occur, that density class only appearing inside very rich galactic clusters (see sidebar).

When mapping a subsector for the first time, choose a system density, then roll dice as indicated in the table for each hex in the subsector map. Place a star system in the hex if the target number or greater is rolled. Alternatively, the GM may simply place an appropriate number of star systems as he pleases (typical ranges of star system counts are given in the table).

System Presence Table

Subsector Density	Throw per Hex	Typical Number
Rift	12+ on 2d	2-3
Sparse	6+ on 1d	11-16
Scattered	5+ on 1d	21-32
Standard	4+ on 1d	32-48
Dense	3+ on 1d	43-64
Very Dense	2+ on 1d	53-80

Worlds

Tide-Locked Worlds

Many habitable worlds are tide-locked. One situation is the habitable moon of a gas giant planet, which will almost certainly be tide-locked to the planet. "Double planets," where a terrestrial planet and its moon are of comparable size, may lead to the two worlds being locked to each other. Another case is that of a planet in the life zone of a small type-M star. Since such stars are very common, explorers will often encounter such worlds in the course of their travels.

When a planet is tide-locked with respect to its primary star, the situation has a number of implications. There will probably not be much axial tilt. The "day face" will be unusually warm. The "night face" may be warmed by air circulation, but this process will be inefficient and most of the face will be very cold. If a tide-locked world doesn't retain enough atmosphere, air circulation will fail, and *all* of the planet's volatiles will freeze out on the night face.

Step 11: Apply a -10 modifier to the roll on the Axial Tilt Table. Tide-locked worlds will not rotate in the retrograde direction.

Step 12: When determining world type, compute the size parameter as usual, then divide it by 2. The world will (effectively) be of the size class indicated by the reduced size parameter. A world which becomes of Desert or Rockball type due to this process will have extensive caps of frozen volatiles on its night face.

Step 13: If the world is still of a type that has a substantial atmosphere after the correction to Step 12 is applied, then compute its atmospheric pressure as usual.

Step 14: When rolling to determine hydrographic coverage for the planet, apply a -4 modifier. Any oceans will tend to be in or near the "twilight zone" between the day and night faces.

We will sometimes use the generic term *world* to refer to any astronomical body that characters are likely to visit. This can be a planet, a moon, or even a single planetoid. This chapter includes rules and guidelines for developing single worlds as sites for adventure.

PHYSICAL DETAILS

In this section, we'll detail the physical characteristics of our world.

STEP 11: DYNAMIC PARAMETERS

Most planetary orbits are eccentric, but they don't deviate as far from a circular path as the orbits of stars in a multiple system. Highly eccentric orbits are not stable. Any planet in such an orbit will tend to fall into the primary star or be ejected from the system in a relatively short time.

In this step, we will compute the orbital and rotational periods for the planet and any of its moons. In effect, this will give us the length of the local "day," "month," and "year."

Orbital Eccentricity

Roll 3d on the Planetary Orbit Eccentricity Table and record the resulting value.
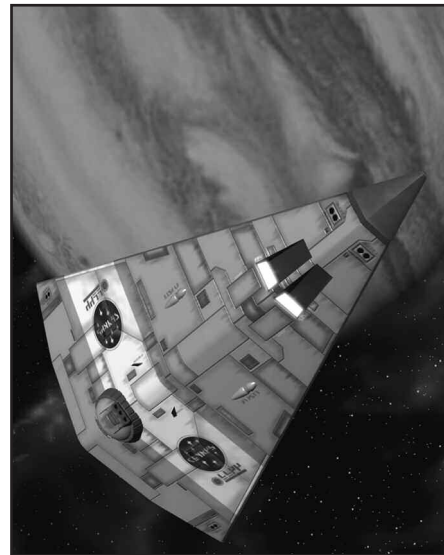
Planetary Orbit Eccentricity Table

Roll (3d)	Eccentricity
3-4	0.00
5-6	0.01
7-8	0.02
9-12	0.05
13-14	0.08
15	0.10
16	0.15
17	0.20
18	0.25 or more (assign value)

The minimum and maximum separation between the planet and its primary can be computed as for stars:

Minimum separation = (1 - E) × R

Maximum separation = (1 + E) × R

E is the eccentricity of the planet's orbit, and **R** is the orbital radius (which can be considered the *average* separation). It's possible for eccentric planetary orbits to overlap. If this happens, assume that the orbits are in sufficiently different planes so that the two planets never come dangerously close to one another.

Cultures

WORLD DATA

In this section, we will complete the world-design sequence by developing general information about a world's sentient population.

STEP 19: POPULATION

We will define the *population rating* or PR of a world as the "order of magnitude" of its sentient population. Increasing a world's PR by 1 increases its population by a factor of 10. PR 0 represents a population less than 10, PR 1 represents a population of 10-99, PR 2 a population of 100-999, and so on. We assume that no world may have a PR greater than 10.

The rules in the main text for Steps 20-24 assume that the "mainworld" of the system is being developed. The rules are different for other worlds in the same system (see sidebar). Before going on to the next steps, the mainworld of the system should be designated. This need not require that the entire system be generated in detail. If one world in the system is clearly more hospitable than any others, it can be designated the mainworld.

Procedure

Begin by computing the *maximum sustainable population rating* or MSPR. This represents the number of people the world can sustain without advanced technological support.

If the planet has no atmosphere, an Exotic or Corrosive atmosphere, or an atmosphere at Trace or Very Thin pressure, the MSPR is 0.

Otherwise, the MSPR begins at 9 and is modified if the world is inhospitable for various reasons. Modifiers: -1 for a world of diameter 2,000 - 4,000 miles, -2 for a world of less than 2,000 miles diameter, -1 for hydrograpic coverage of 1% to 30% or over 90%, -2 if there is no hydrographic coverage, -1 for a Thin or Very Dense atmosphere, -1 for a Polluted atmosphere, -1 if the world's climate type is Very Hot, Very Cold or Frozen, -2 if it is Uninhabitable (Torrid or Frigid).

Once the MSPR is known, roll 2d-2 to get the actual PR of the world. Modifiers: Add the Resource Abundance Modifier, -1 for every point the MSPR is *less* than 5. The final PR may be greater than the MSPR.

Traveller Note: The original *Traveller* world-design system simply assigned a PR to the mainworld of each star system by rolling 2d-2 with no modifiers for local conditions. If you prefer, use this system to generate PR for your mainworlds, but be aware that it will lead to apparently absurd results (such as unpopulated "garden" planets next door to vacuum worlds with populations in the billions). Of course, the exercise of explaining such odd PR levels may provide the GM with plot hooks. The procedure given in the current rules should be used for secondary worlds of the system.

Expansion From a Center

One possible theme for non-Imperial *Traveller* campaigns is an "age of exploration." Such a setting involves a homeworld sending out its first expeditions of interstellar exploration and colonization. Nearby worlds may be well-developed, but farther out is the frontier, and beyond that is uncharted space. To generate worlds for such a setting, modify Step 19 as follows.

When planning the campaign as a whole, the GM should choose an "average jump range." This should be the normal jump capacity for a typical commercial starship, the kind that would try to make a living on speculative trade or carry supplies for a new colony. Jump-2 is reasonable for most *Traveller* settings. Then decide on the "radius of development." This is expressed in terms of a number of average jumps, within which every world has been thoroughly explored and is being developed as quickly as possible.

When designing a new star system, count the number of "average jumps" it takes to get from the homeworld to the new system. The route chosen must hop from star system to star system, so that none of the "average jumps" ends in deep space. Use the best route possible (which may be rather indirect).

To Enlarge the Common Life

For every average jump in the route beyond the radius of development, apply a -2 modifier to the roll for PR for every world in the system. If the modified roll for a given world is -3 or less, then the world has yet to be thoroughly explored. If this is true for every major world in a star system, then the system as a whole is *uncharted* and must be surveyed and explored from scratch during the course of the campaign.