

FEDERATION OF



MANUAL OF OPERATIONS

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INTRODUCTION

The Federation of Earth Orbit Stations (EOS) welcomes you to the exploration and development of the solar system.

You and up to three others have been chosen from among your fellow graduates to assume the roles of Space Directors. Your goal is to build space stations, conduct research, market products, and compete against each other in an effort to expand the wealth, technology, and knowledge of the human race. There are a number of specific missions we would like you to undertake, ranging from pure research to the search for life in the far reaches of the cosmos. The details are contained in this confidential briefing manual.

CHAPTER 1: GETTING STARTED

First, follow the instructions on the Command Summary Card to boot the game, configure your system, and create a mission disk.

SETUP

To familiarize yourself with the ways of EOS we suggest you quickly run through the menus and launch your first station. To view menus, select the corresponding icon on the screen. More detailed information on the available commands follows, while the Appendices give a breakdown of EOS components.

Now, select a mission from the menu. Appendix D describes each mission in order of length and complexity. We recommend you begin with the shortest mission -- Research.

Each Space Director takes actions during each fiscal quarter. All missions begin in Spring 1996. Some missions have a time limit; these run until the beginning of the specified final quarter. You won't have an opportunity to take any action in the final quarter itself.

Up to four Directors can play EOS. Assign a **New Player** to each person playing. Any of the remaining positions can be set to **Computer** or ignored. You may add additional human or computer opponents at any time by using the **Players** menu.

Each Director chooses the appropriate number from the **Players** menu to begin a turn. Turns may be taken in any order. A Director may make additional moves after other players have acted.

THE EOS SCREEN

The EOS screen is divided into 4 windows. The one-line window in the upper left gives access to the **Tools**, **Goodies**, and **View** menus. The upper right is the Information Window, which shows details about the current game situation. The Station Window in the lower left displays space stations and other important data. The Command Window on the lower right shows menus and commands.

TOOLS	GOODIES	VIEW	INFORMATION WINDOW
STATION WINDOW (STATIONS APPEAR HERE)			COMMAND WINDOW (MENU ITEMS APPEAR HERE)

PLAYING A TURN

The following checklist is provided to help you walk through your first couple of turns.

1. Examine your Income Summary. Note your profits from last quarter, your operating expenses, money in the bank, and total cash available.
2. Choose **View** and read the **EOS News**.
3. Select **Tools**, then **Commerce**, then **Activities** and read the market activity. This will help determine the most profitable ventures upon which to base the construction of your next station. Stations consist of Support Modules (Command, Logistics, Life, Galley & Gym, Connectors, and Power), Commerce/Research Modules, and Cargo or Specialized Modules.
4. If you already have a station with modules devoted to commerce, choose **Tools**, then **Commerce**, and examine each of those modules to determine their percentage use, the price you are charging, and the profit you received. Set new prices for next quarter - you will probably want to raise the price of any module enjoying a high percentage use, particularly if the market is on the rise, and lower the price on modules that are under-utilized.
5. This is a good time to decide what kinds of stations and modules you want to buy or build, and whether to change current module settings from Commerce to Research or vice-versa.
6. Select **Tools**, then **Stations**, then choose the station you wish to modify or build.
7. Choose **New Module** to bring up the modules menu. Select the module you want, and use **Rotate It** to turn the module so it will connect to an existing part of the station. New stations require the previously mentioned Support Modules before they can become fully operational. Select **Place Module** to buy the module, then place it in the station grid with the cursor. Repeat for all of your purchases. Note that once a module is placed it cannot be removed.
8. The use of any module can be changed by highlighting the module with the cursor and pressing the joystick button or Return key. Support modules can be set to Support or Inactive. Other modules can be set to Research, Commerce, or Inactive.
9. If you are devoting modules to research, you must set your Research Goals. From the Tools Menu, choose **Research**, then each type of module dedicated to research, then choose **Breakthrough** or **Enhancement**. Enhancements are more common, but raise your technology level more slowly than Breakthroughs.
10. If the Shuttle option in the Goodies Menu is On (see note on choosing options in Goodies Menu, later in this chapter), schedule new modules on shuttle missions. This is also a good time to launch unmanned probes in the Search For Life mission.
11. Select **Goodies**, then **EOS Bank**. Deposit your remaining funds into a savings account to collect interest. Pay off your loans when you're ready to build a new station.
12. When you're finished with your turn, select **Tools**, then **Players**, then the next player. When all players have completed their actions, select **Next Quarter**.

YOUR FIRST SPACE STATION

Your first station is the foundation of your entire space effort. You must make a profit from the beginning or you'll find yourself heading quickly into bankruptcy.

Stations can make money and/or develop new technology using Commerce/Research modules. These modules have three support requirements: life support points (Life), Galley and Gym capacity (GGym), and electric power points (Power). Appendix A gives a list of the modules and their requirements. A basic space station needs one each of the following support modules:

- | | |
|---|---------------------------|
| • Command module | • Life module |
| • Logistics module | • Galley & Gym module |
| • Station Power or Solar Collector module | • Long or Short Connector |

With these modules as a base you will have at least four excess Life, 24 excess GGym, and at least 15 excess Power to support commerce/research modules. As you expand your station, you will need to add more support modules to provide the proper resources for operation of the commerce/research modules. Build carefully, or you'll find your station with either excess support capacity or too many commerce/research modules -- with no power or crew to run them. Too many connectors result in wasted space. In all cases you will have wasted your hard-earned money. Money fuels expansion; don't be afraid to borrow some to buy additional modules. The EOS Bank offers you a line of credit based on your income. In the beginning, set all non-support modules to Commerce to make more money. Once you are earning a healthy income, change the status of some modules to research in order to raise your technology level enough to build advanced stations (covered in Chapter 2). There are advantages to building stations that qualify as special station types. Appendix B lists the requirements for such stations, while Appendix C lists their benefits.

MENUS

There are 10 command menus in EOS: **Players, Stations, Commerce, Research, Probes, Shuttles, Planets, Tools, Goodies, and View**. Most of these menus are available from the Tools menu. The menus will only list those options currently available.

TOOLS

The Tools menu is the backbone of the EOS menu structure. Seven of the command menus are invoked directly through the Tools menu: **Players, Stations, Commerce, Research, Probes, Shuttles, and Planets**. The remaining two command menus -- **Goodies and View** -- are chosen from the upper left window. When a space station is onscreen, the Tools menu includes three more commands: an icon of the current station, **Place Mod**, and **Life/Pwr**.

Select the current station icon to view station information such as class, size, crew statistics, orbit location, and the date construction began on the station. For advanced stations, this also includes arrival date, cargo needed to complete the station, ore needed to complete a colony, and fuel statistics.

Choose **Place Mod** to buy modules and place them in the station. Select **Life/Pwr** to view the current support capacity (Life, GGym, and Power) of the station.

PLAYERS

This is where new Space Directors are introduced, where they start their turns, and where each quarter is ended and the next quarter begins.

STATIONS

This menu permits Space Directors to choose which of up to 32 stations they will work on.

Once you've selected a station, you'll see a short menu of options for placing modules, including: **Place...**, **Rotate It**, **New Module**, and **Tools Menu**. All these options affect only the individual station onscreen.

New Module: Lets you examine a module. The module isn't purchased until you actually place it in your station. **New Module** only lists the modules you have the technology to build; as your tech level rises new modules become available. Upon choosing a module, you'll see its picture, its price, its support requirements and your Cash On Hand (COH). If the **Shuttles** option is on (See **Goodies Menu** below), only modules scheduled for delivery this quarter may be chosen.

Rotate It: Each module has connection points which must be joined to existing connection nodes on the station. This command permits you to rotate a module in 90-degree increments to facilitate connection to the station.

Place...: Places the module into the station grid.

After the first module has been placed, all remaining modules must be joined at the connection nodes. See Appendix F for drawings of the modules and their docking points. Note: *Once a module is attached to the station, it can't be removed.*

Once a module is attached, define its status. Support modules can be Inactive or Active. Other modules can be Inactive, engaged in Commerce, or in Research. Inactive modules have no support requirements – but produce no income or technology.

To change a module's status, highlight the module and choose a new status. To quickly change the status for all of your modules of the same type, highlight the new status and press the "G" key.

COMMERCE

This menu lists all the commerce/research modules currently available, an Activities sub-menu which details the quarter's market information, and an exit to the Tools Menu.

When devoting some of your resources to commerce, bear in mind that the economics of EOS revolve around three factors: supply and demand, pricing, and advertising. Once the number of modules devoted to a certain activity provide more products than the market needs, you will never attain 100% usage of your modules. Furthermore, if another Space Director is undercutting your price, you'll begin to lose business and see your usage drop. The effects of advertising are discussed below.

Selecting a module type shows your Percentage Use for that type in the last quarter, your current price, the number of modules you had in commerce, the amount of income you could expect at 100% utilization, the amount you actually received, the total operating costs, and the profit you made from these modules. This is also where you change the price you're charging for the modules set to commerce.

The Activities sub-menu lists the market activities, and a color code showing the demand. Select an individual activity to view the current demand index, and how much the index moved up or down last quarter. Each index starts at 200. The price you can reasonably charge for a module engaged in commerce is based on the index of the activities it affects. If Science and Materials both go to 400, you can probably double the asking price for Chemical Lab products. But, if Science and Materials fall to 100, you can probably only get half the base price. See Appendix A for which modules pertain to which activities.

Hint: If your Percentage Use is 100%, you can probably raise the price charged for the pertinent module products.

The Activities sub-menu also gives you access to advertising. Every 10 credits spent on advertising for a particular activity increases your Percentage Use by 1%, while decreasing your competition's Percentage Use by 1%. Advertising won't raise your Percentage Use (or lower your opponent's) by more than 50%. Furthermore, the effects of advertising can be countered through aggressive pricing policies. However, the money you spend on advertising does keep your ad running for the duration of the current mission.

RESEARCH

The Research Menu lists all of the modules you can buy at your tech level, offers access to an Activities sub-menu showing your tech level, and has an exit to the Tools Menu.

Select a module type to view the number of similar modules you have in research, the operating cost per module, the total operating cost, the number of enhancements and breakthroughs you developed last quarter, and icons that represent the total number of enhancements and breakthroughs you have achieved. Here, you can change the focus of your research from Enhancements (which are common and reliable) to Breakthroughs (which are worth more, but riskier). Breakthroughs are worth four times as many tech points as enhancements. Research done by a specific module type (e.g., Resource Platform) will earn tech points in a variety of Activity classes (e.g., Resources, Forestry, and Agriculture). The actual number of tech points earned in a particular Activity Class

depends on how many different types of modules can contribute to research in that class. The more resources you devote to Research, the faster your tech level increases. This results in access to new modules required in the construction of advanced stations.

The Activities sub-menu lists each research category and its current tech level. Select an individual activity to view the exact tech level of that activity, the number of tech points accumulated, the modules that affect that activity, and any research sponsors you may have garnered (if the Sponsors option in the Goodies menu has been selected. See below).

PROBES

This menu allows you to launch unmanned probes to gather information within our solar system. Probe data can provide discoveries in the Search for Life mission. Choose **Launch Probe**, then **New Planet** to view the Planets menu. Choose the probe's destination from the Planets menu.

You'll need a Communications Base to receive data from probes. The discoveries help you decide where to send manned explorations. They're also worth mission points, on which your success is based.

SHUTTLES

Shuttles are an option in all missions. The option may be activated at any time by selecting **Shuttles On** from the Goodies Menu (See below). If you're using shuttles, you must buy your modules in one quarter, schedule their launch on a shuttle or Shuttle Derived Heavy Lift Vehicle (SD/HLV) for a later quarter, and use the modules in the quarter they are delivered.

Select **Shuttles** to view the shuttle launch schedule, which includes the shuttle's name and mission number (Enterprise 100 is the 100th flight of the Enterprise), the shuttle's launch date, the shuttle's owner, and the cargo space available aboard each flight.

Choose a shuttle mission from the launch schedule. The shuttle's name, launch date, owner, and cargo space are listed in the bottom of the station window. Each available space holds one ton. Each module's mass is listed under the module's picture in the command window.

Select **New Module** and then the module you want to buy. Choose **Load Module** to buy the module and load it into the cargo bay of the shuttle listed in the bottom of the station window. Delivery occurs in the quarter listed under Launch.

Shuttles limit the modules you can **Place** to what is scheduled to arrive in the current quarter. Any modules not placed into a station in the quarter they are delivered are lost. However, unused modules delivered to orbit may be traded or sold to competitors.

PLANETS

This lists the planets and moons in the solar system. Use **Planets** to determine the destination for Probes, Jupiter Explorers, and Cargoliners. Also, use **Planets** to designate where you want to build an advanced station. Select **Planets** to view a list of the locations in the Earth/Moon system. Choose **New Planet** to view lists of other planets and moons in the solar system. Select the planet or moon you want from the list.

GOODIES

From Goodies you can use the following functions: the **EOS Bank**, **Trade** with competitors, **Save Game**, **Shift** your station onscreen, as well as toggle **Shuttles**, **Sponsors**, **Advertising**, and **Sound On and Off**.

EOS Bank: At the end of a quarter you may deposit any leftover funds in a savings account at 7% interest per quarter. You may also take out loans at 10% interest per quarter. Your loan limit is determined by your income. All loans must be repaid before The Federation will grant a license for a new station.

Trade Modules, Tech, Cash: Allows a Director to give modules, technology points, or cash to a competitor. EOS does not police the payment portion of trades. It's up to you to collect your payment. To trade Technology Points, choose an activity while in research (e.g., resource, energy, etc.), then go to **Trade Technology**. After selecting how much and to which player, you'll be able to choose a different activity. To trade Cash, select how much and with whom you want to trade. To trade modules, use **New Module** in the Stations menu to identify the module in question. Then select the **Goodies** menu and **Trade Modules**. Choose **Trade Now** and the recipient.

Note: To use the following toggle commands, select the desired condition. E.g., if you wish to turn shuttles ON, select it. If active, the menu choice will read the opposite of the existing state, i.e., "Shuttles Off".

Shuttles (On/Off): Allows you to manage cargo scheduling on shuttle missions. If this option is off, then cargo transportation and delivery is automatically scheduled and unrestricted.

Sponsors (On/Off): When activated, this option brings commercial sponsors into play. If your stations are responsible for more than 50% of the current research efforts in any space activity, a sponsor may pay the operating costs of all research modules engaged in that activity.

Ads (On/Off): Allows access to the advertising sub-menu. To use ads, choose Commerce, then Activities, then Advertising.

Sound (On/Off): Turns the sound on and off.

Save Game: Saves mission data on your mission disk. Each mission disk can only hold data for the current mission.

Station Up, Down, Left, Right: Shifts the station onscreen one square. You can't shift the station outside the station grid.

VIEW

This menu represents the library and information source for EOS (much of this information is also listed in the Appendices).

Mission Goal: Reviews the goals and general information for the mission you've chosen.

Class Library: Lists all the station classes, their functions, components, and requirements.

Orbit Library: Lists all planets and moons in our solar system.

Module Library: Gives a complete listing of all modules, with a brief description of functions and activities. Also gives information on life, power, and GGym requirements, and tech level prerequisites (if any).

Activity Library: Lists possible station activities, with a brief description of each. Also lists which modules relate to each activity, how many tech points the activity gives you per level attained, and tech levels needed (if any).

EOS News: Provides up-to-date reports and news items concerning the research and commerce aspects of space development.

Who Is Winning: Lists Tech Levels and Mission Points for all players.

Station Summary: Lists information on all your space stations -- the total number, and the number in each station class.

Module Summary: Lists all module types and four columns of information: the number of modules the player has in commerce, the amount being charged for that module, the number of modules the player has in research, and research goals.

Income Summary: A financial overview of the player's operation.

CHAPTER 2: ADVANCED STATIONS AND EXPLORATION

- Unlike the low-tech, multi-purpose stations built in the early stages of a Space Director's career, advanced stations are devoted to a single purpose and require higher technology levels before they can be constructed. They consist of special cargo modules that must be transported to their destination.
- For example, to buy Materials Plant modules you must have Materials Technology D00. Check Appendix A for the technology needed for advanced station construction. Appendix B details the cargo/module deliveries required for advanced stations.
- To build an advanced station, start with a freeform station. Choose **Tools** and then the station icon. Select **New Class**, then **Advanced**. Choose the class of station you want to build. Select **Tools** and then **Planets**. Choose **New Planet** to view lists of other planets in the solar system. Select where you want to build the station. The Planets menu defaults to the location where each class of station is normally built.
- Any station can be built anywhere. Stations are automatically placed in orbit, and settlements are placed on the surface. No decision about station class or destination is final until a module has been delivered. You can change class or destination until then.
- To complete the advanced station, deliver the required number of cargo modules to the station's location. For stations in Earth orbit, choose **New Module**, the proper module for your station, then **Deliver**.
- Stations outside of Earth orbit must have their cargo modules delivered by a special type of advanced station called a Cargoliner.

CARGOLINERS

- A Cargoliner is a station equipped with a propulsion unit, enabling it to travel to destinations other than Earth's orbit. You need to construct a Drydock before you can build a Cargoliner.
- Cargoliners use fuel when escaping the gravity wells of planets and moons. Average fuel cost is ten units per planet, and two per moon. Each Cargoliner is given 20 fuel units upon completion, and is refueled to 20 fuel units each time it returns to Earth orbit. A Cargoliner refuels away from Earth by staying at a world with a fuel settlement for one quarter.
- To build a Cargoliner, begin with a station that consists of support modules, a propulsion module, and open docking ports for cargo modules. Use **New Module** and **Place** to fill the Cargoliner with the requisite cargo modules. When the all of the cargo has been loaded, choose **Tools** and then the station icon. Select **New Class**, then **Advanced**, and then **Cargoliner**.
- To launch the Cargoliner, choose **Tools**, then **Planet**. Select **New Planet** and the Cargoliner's destination. After setting the destination, choose **Tools** and then the Cargoliner icon. The computer displays the Cargoliner's destination, fuel status, and flight time remaining. Once a destination has been designated, the Cargoliner has been launched -- you can't recall or modify it until its journey is completed.
- When the Cargoliner arrives at its destination, the cargo will automatically be directed to any station or settlement located at the destination. To deliver all cargo of any one type, highlight **Deliver** and press **G**. Relaunch the Cargoliner back to Earth if empty, otherwise, proceed to another location to deliver the remaining cargo.
- When the Cargoliner gets to Earth, load it with new cargo. To load new cargo, convert the Cargoliner back into a modular station; choose **Tools**, then **New Class**, then **Class 2**. Reload and launch just as before.

SPACE HOSPITAL

Space Hospitals generate revenue and research. Constructing a space hospital is the objective of the Mars Rescue mission.

DRY DOCK

Dry Docks are needed to facilitate the construction of Cargoliners and Jupiter Explorers. See Appendices A & B for the technology and cargo requirements to build Dry Docks.

SETTLEMENTS and FUEL DEPOTS

Settlements are advanced stations built on the surface of worlds. A settlement can be an end unto itself (in the Lunar Base mission), or a base for investigation (in the Search For Life mission). To build a settlement, convert a Freeform station into a settlement at the desired location. Then send a Cargoliner to the planet or moon with the proper cargo modules, and deliver them.

Fuel Depots refuel Cargoliners in outer space. See Appendix B for the necessary elements for construction of a Fuel Depot.

CATCHER, ORE MINES, MATERIALS PLANT, FABRICATION PLANT, SPACE COLONY

The Catcher, Materials Plant, and Fabrication Plant are the space-based components necessary to build a Space Colony. Ore Mines are the planetary component necessary to build a space colony in the Space Colony Mission. The Space Colony requires 100 units of processed ore (from a mining settlement), and 40 Space Colony cargo modules.

The ore for a Space Colony must first be mined by a Mining Settlement, then thrown into space and caught by the Catcher. The ore is then transferred to the Materials Plant and Fabrications Plant for final processing, and then to the Space Colony.

Each quarter a Mine produces one ore unit, a Catcher can catch and send one ore unit, and the Materials Plant and Fabrication Plant can each process 4 ore units. Once all of the pieces of the ore processing routine are completed (Mine to Catcher to Materials to Fabrication), ore delivery to the Space Colony is automatic.

JUPITER EXPLORER

The Jupiter Explorer is a scout ship built in Earth orbit and launched into the solar system to send back information. A dry dock is required to build a Jupiter Explorer. You also need a Communications Base in Earth orbit to receive information from locations between Mercury and Jupiter, and a Communications Base in the Jupiter system to receive information from Saturn and beyond. Jupiter Explorers travel twice as fast as Cargoliners or probes, and do not need to be refueled.

EXPLORATION

In the Search For Life mission, Space Directors must explore the solar system. More resources spent exploring an area result in more discoveries. A Probe makes the fewest discoveries. A Jupiter Explorer makes more. A Cargoliner that has enough laboratory modules to qualify as a Sci Lab, Life Sci, or Const Base makes even more. A settlement makes the most discoveries.

APPENDIX A: EOS Module Summary

MODULE TYPE	Cost* To Buy Tech Needed	Cost* To Op	Base Charge	Life	GGym	Power	Mass	Station Class	Activity Class
Command	25.0 None	5.0	---	0	0	0	2	All Mod	---
Logistics	15.0 None	3.0	---	0	0	0	2	All Mod	---
Station Power	10.0 None	2.0	---	0	0	+35	1	All Mod	---
Life A	10.0 None	2	---	+4	0	-5	1	All Mod	---
Life B	18.0 None	3.6	---	+8	0	-10	2	All Mod	---
Life LH2	12.0 Con A50	2.4	---	+16	0	-15	2	All Mod	---
Gally & Gym	25.0 None	5.0	---	0	+24	-10	2	All Mod	---
Short Connector	5.0 None	1.0	---	0	0	0	1	All Mod	---
Long Connector	8.0 None	1.6	---	0	0	0	2	All Mod	---
Solar Collector	60.0 None	2.0	20.0	0	0	+100	4	All Mod	Eng
Energy Platform	30.0 Eng A50	2.5	23.0	-1	-1	-20	2	Sci	Eng
Chemical Lab	26.0 None	2.5	18.0	-3	-3	-10	2	Sci	Sci, Mat
Computer Lab	40.0 None	4.0	31.0	-4	-4	-20	4	Sci	Inf
Communications	36.0 None	2.5	16.0	-1	-1	-20	2	Com	Inf, Com, Ent
Deep Space Relay	40.0 Com A50	3.0	30.0	-2	-2	-20	4	Com	Com
Space Telescope	37.0 None	4.0	27.0	-4	-4	-20	4	Sci	Sci, Phy
Weather Center	17.0 None	1.5	10.0	-2	-2	-5	1	Sci	Phy, Ag
Resource Platform	21.0 None	1.5	10.0	-1	-1	-10	2	Life	Res, For, Ag

Forestry Lab	14.0	1.0	10.0	-1	-1	-5	1	Life	Res, For
	For A50								
Agriculture Lab	56.0	6.5	40.0	-5	-5	-40	4	Life	Res, Ag
	Ag A50								
Biology Lab	36.0	2.5	26.0	-3	-3	-10	2	Life	Sci, Bio, Pha
	Sci A50								
Pharmaceutic Lab	32.0	2.5	20.0	-3	-3	-10	2	Life	Pha, Med
	None								
Shuttle Port	77.0	9.5	74.0	-5	-5	-70	4	Tra	Tra
	None								
Space Tug	23.0	1.5	19.0	-1	-1	-10	2	Tra	Tra
	Tra B00								
Space Alloys Lab	44.0	4.0	33.0	-4	-4	-20	4	Con	Mat
	Mat B00								
Fabrication Lab	41.0	4.0	29.0	-4	-4	-20	4	Con	Con, Fab
	Con B00								
Building Platform	34.0	2.5	26.0	-2	-2	-20	2	Con	Con
	None								
Space Hospital	60.0	50.0	100.0	+2	+2	+40	2	Spa Hos	Pha, Med
	Med B50								
Dry Dock	10.0	7.0	0	+2	+2	+20	2	Dry Doc	---
	Con B50								
Settlement Life	20.0	10.0	0	+4	+4	+10	2	Setl	---
	Fab C00								
Settlement Power	15.0	2.0	0	0	0	+20	2	Setl	---
	Eng C00								
Mine/Ore	35.0	14.0	0	-1	-1	-5	2	Setl	---
	Res C00								
Mass Driver	50.0	8.0	0	-1	-1	-15	2	Mass Dr	---
	Phy C00								
Catcher	25.0	15.0	0	+1	+1	+100	2	Cat	---
	Tra C50								
Materials Plant	35.0	25.0	0	+2	+2	+25	2	Mat	---
	Mat D00								
Fabrication Plant	30.0	21.0	0	+2	+2	+20	2	Fab	---
	Fab D00								
Space Colony	70.0	44.0	0	+25	+25	+100	2	Spa Col	---
	Con D00								
Jupiter Explorer	25.0	14.0	0	+1	+1	+30	2	Jup Exp	---
	Tra C00								
Propulsion Unit	55.0	20.0	0	0	0	-30	4	Car, Jup	---
	Tra B50								

* These costs can change during the game. Watch the news for current prices.

APPENDIX B: Station Building Requirements

MODULAR STATIONS

All Modular Space Stations consist of a minimum of a Command, a Logistics module and Connectors. See Appendix C for their effects.

Free Form: No installed modules.

Class 2: Command and Logistics modules. A Cargoliner is also a Class 1 or 2 station which requires advanced technology and a functioning Dry Dock, and consists of 1 Propulsion module.

Class 1: Enough modules to qualify for any two or more of the following station classes:

Sci Lab: 7 Science modules from among: Energy Platform, Chemical Lab, Computer Lab, Space Telescope, and Weather Center.

Com Base: 7 Communications modules from among: Communications and Deep Space Relay.

Life Sci: 7 Life Science modules from among: Resource Platform, Forestry Lab, Agriculture Lab, Biology Lab, and Pharmaceutical Lab.

Trans Base: 3 Shuttle Port or 7 Space Tug modules.

Const Base: 7 Construction modules from among: Space Alloys Lab, Fabrication Lab, and Building Platform.

ADVANCED STATIONS

Advanced stations consist of a number of cargo modules that have been delivered to the proper orbit. Modules can be delivered to Low Earth orbit automatically or with shuttles. A Cargoliner is required to deliver modules to other locations.

Space Hospital: 12 Space Hospital cargo modules delivered.

Dry Dock: 20 Dry Dock cargo modules delivered .

Settlement: 4 Settlement Life and 8 Settlement Power cargo modules delivered to any planet or moon.

Ore Mine: 4 Settlement Life, 8 Settlement Power, 8 Mine/Ore, and 16 Mass Driver cargo modules delivered to any planet or moon.

Fuel Depot: 4 Settlement Life, 8 Settlement Power, and 8 Mine/Ore cargo modules delivered to any planet or moon.

Catcher: 8 Catcher cargo modules delivered.

Materials Plant: 32 Materials Plant cargo modules delivered.

Fabrication Plant: 40 Fabrication Plant cargo modules delivered.

Space Colony: 100 Space Colony cargo modules and 40 tons of processed ore delivered.

Jupiter Explorer: 15 Jupiter Explorer cargo modules delivered to Low Earth orbit and a functioning Dry Dock.

APPENDIX C: Space Station Effects

MODULAR STATION EFFECTS

Sci Lab: Increases the chance for breakthroughs.

Com Base: Allows communications to 7 probes or 3 stations as far as Jupiter. A Com Base in the Jupiter system is necessary to communicate with probes and stations from Saturn and beyond.

Life Sci: Increases the use percentages for all modules engaged in commerce.

Trans Base: Each Trans Base allows you to begin one extra new station per quarter.

Const Base: Increases chance for breakthroughs in Technologies necessary for Advanced Stations: Materials, Fabrication, and Construction.

Cargoliner: Allows delivery of cargo and station modules beyond Low Earth Orbit.

ADVANCED STATION EFFECTS

Space Hospital: Generates research and revenue.

Dry Dock: Allows construction of Cargoliners and Jupiter Explorers.

Settlement: Generates discoveries in Search For Life.

Ore Mine: Produces 1 ore unit and sends it to the Catcher.

Fuel Depot: Produces fuel for Cargoliners operating outside of Low Earth orbit.

Catcher: Moves 1 ore unit from Mining Settlement to Materials Plant.

Materials Plant: Processes 4 ore units from Catcher for use by Fabrication Plant.

Fabrication Plant: Processes 4 ore units from Materials Plant for use in building Space Colony.

Space Colony: Wins the Space Colony mission.

Jupiter Explorer: Scouts far planets and moons, gets mission points, and makes important discoveries.

APPENDIX D: The Missions

All missions begin in the Spring of 1996 and proceed by fiscal quarters.

Research: You have two years to build a space station in earth orbit. After developing a steady income, engage in research for technology points. The Space Director with the most technology points by the beginning of the Spring 1998 is declared the winner.

Dry Dock: The first Space Director to build a Dry Dock in Low Earth Orbit wins. Focus your research efforts in Construction to attain the tech levels needed for Dry Dock cargo modules. In future missions, the Dry Dock serves as a base to build Cargoliners and Jupiter Explorers.

Shuttle: Use shuttles to deliver modules to your stations in Earth Orbit. Schedule modules on shuttles at least one turn in advance. The Space Director with the most technology points by the beginning of Spring 2000 is declared the winner.

Mars Rescue: An explosion at the Mars 1 Settlement has critically damaged their oxygen supply. There are many casualties. A space hospital must be built in Mars orbit by Fall 1999. Each Space Director has 1000 credits to help speed the rescue.

Lunar Base: The first to build a lunar settlement wins. Invest in research to attain tech levels for settlement cargo modules. Cargoliners deliver cargo to the settlement site on the moon. Greater mission points are awarded for fuel bases and ore mines.

Space Colony: The first to build an orbiting space colony wins. You must mount a massive research effort. Use Cargoliners to build Mining Settlements, Catchers, Materials Plants, and Fabrications Plants that deliver lunar ore to the colony.

Search For Life: Search for Life in the Solar System. Launch Probes to scout worlds, build Life Sciences/Cargoliner stations, Jupiter Explorers, and Research Colonies to investigate potentials. You have 10 years to report discoveries.

Here are some hints for the first five scenarios:

Research: Build a basic station and follow the market trends. Use commerce to grow as fast as possible for the first few quarters. At some point, put all modules into research. (The trick is: when?) Remember that the scenario only lasts 8 quarters, and that modules that affect several activities generate more technology points.

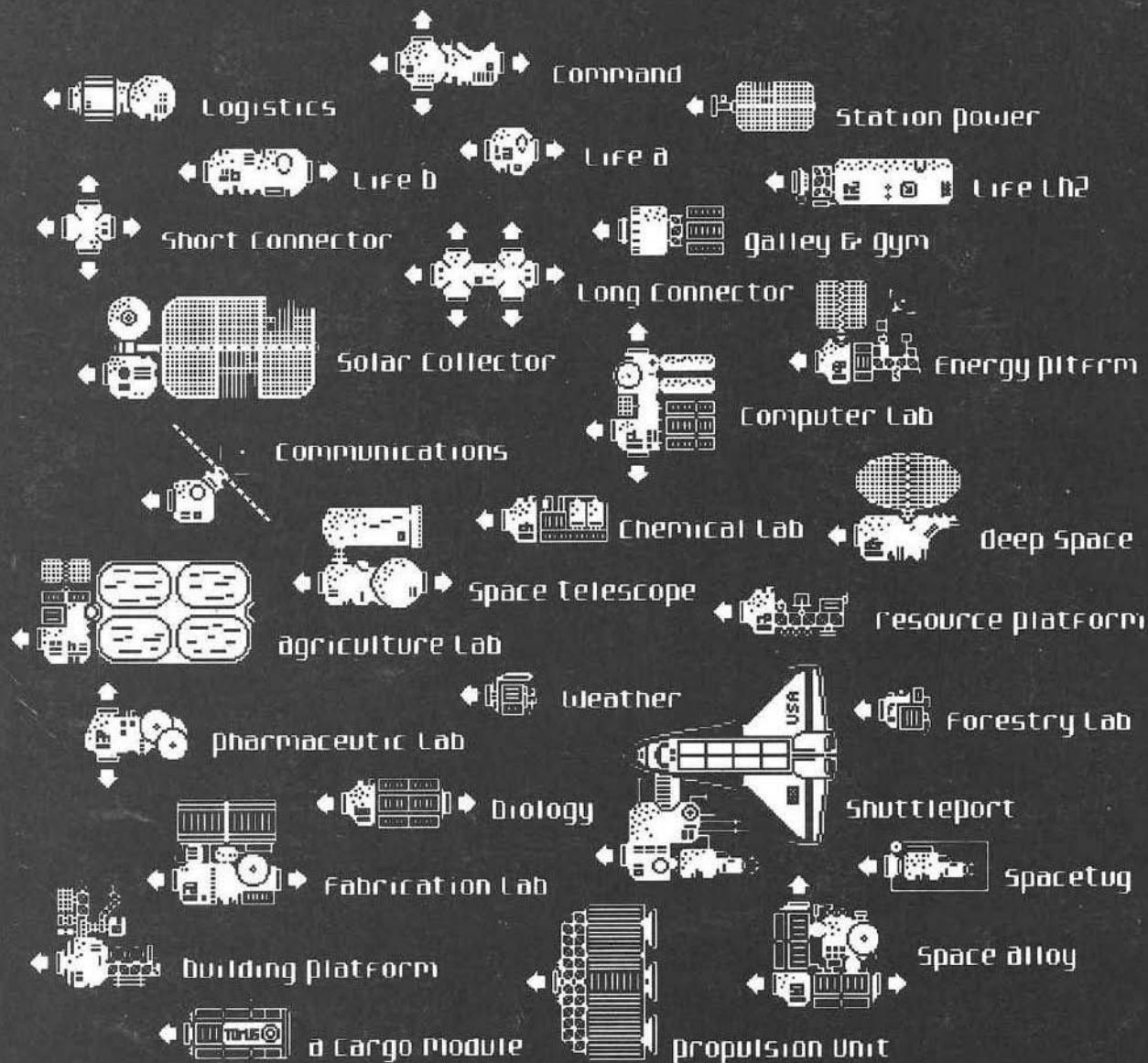
Dry Dock: Create a cash reserve by building a couple of Construction Stations with Building Platforms and applying them to Commerce. You'll have to put away at least 200 credits to build the Dry Dock. At some point, put all the modules into research and use your bank account to pay the operating costs. Try to have enough money left to build the Dry Dock once you have the requisite Construction technology. If you switch into research too soon you'll run out of money (paying operating costs) before you can buy the Dry Dock.

Shuttle!: This is the best multi-player scenario for players who have some experience with the game. It's like the research mission, but longer. The shuttle delivery section of the game often decides who wins. One tactic is to bring up more support (Life, GGym, Power, and connector) modules than you need for your own stations. You can then sell these support modules for outrageous prices to other directors who have misjudged their support requirements. However, if your competitors plan their own shuttle deliveries properly, you're stuck with a bunch of non-productive modules.

Mars Rescue: You'll need the technology for a Dry Dock, Propulsion Module, and Space Hospital. You'll also need at least 900 credits to build the Cargoliner and Space Hospital Modules. Invest in a Life Sciences Station with Pharmaceutical labs in order to make money and research the technology for the Space Hospital. Make a Construction Base with Building Platforms to make money and research the technology necessary to make the Dry Dock. Also, build a Transportation Base with Shuttle Ports to create the technology for the Propulsion Module. You'll need several Life Sciences Stations, Construction Bases, and Transportation Bases before you have the required technology in all three areas. As soon as you have the technology, build the Dry Dock, followed by a Cargoliner filled with Space Hospital Modules. Then race to Mars!

Lunar Base: Build a Construction base with Building Platforms to research the technology to create Fabrication Lab modules. Then make a Construction Base with the Fabrication Labs to research the technology to create Settlement Life cargo modules. At the same time, build a station with Solar Collectors to research the technology to create Energy Platforms. Use the Energy Platforms to build Science Stations and research the technology to create Settlement Power cargo modules. Also, build a Transportation Base with Shuttle Ports to research the technology for the Propulsion Module. You'll need several Construction, Science, and Transportation stations before you'll have the required technology in all areas. As soon as you have the required technology, and at least 300 credits, build a Cargoliner with the Settlement Life and Power cargo modules. Then it's off to the moon!

Appendix F: EDS Space Station Modules



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