LIGHTSPEED™

INTERSTELLAR ACTION AND ADVENTURE

QUICK REFERENCE CARD

MAIN COCKPIT

Colony Status	C
Engine Room	E
Navigation Starmap	N
Launch Probe	P
Spindrive	S
Go to Next Cockpit	Space Bar

ENGINE ROOM

Select Component	Return, Joystick Button One, Left Mouse Button
Exit Engine Room	Escape

NAVIGATION STARMAP

Information	I
Select Next Star System	>, Joystick Button One, Left Mouse Button
Select Previous System	<, Joystick Button Two, Right Mouse Button
Zoom (starmap]	Z
Unzoom (starmap]	X
Rotate Starmap	Arrow Keys, Joystick, Mouse
Exit to Main Cockpit	Escape

INFORMATION

Select Planet	Arrow Keys, Joystick, Mouse
Mine Planet	M
Exit to Navigation Starmap	Escape

TRADE AND COMMERCE

Select	Return, Joystick Button One, Left Mouse Button
Selector Toggle	Space Bar, Joystick Button Two

FLIGHT CONTROLS

increase Speed	+
Decrease Speed	
Maximum Speed	Shift/+
Stop	Shift/-
Match Target Speed	M
Return Chassis *[in fighter or kamikaze)*	R
Roll *[combine with left or right turn)*	Shift, Joystick Button Two, Right Mouse Button

WEAPONS AND DEFENSES

Fire Main Gun	Return, Joystick Button One, Left Mouse Button
Fire Blasters *(in fighter or b/aster turret]*	Return, Joystick Button One, Left Mouse Button
Launch Fighter	F
Launch Kamikaze	K
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Change Targets	T
Emergency Spindrive	Alt/S
Jettison Cargo *[in combat)*	J
Escape Pod	Shift/Escape

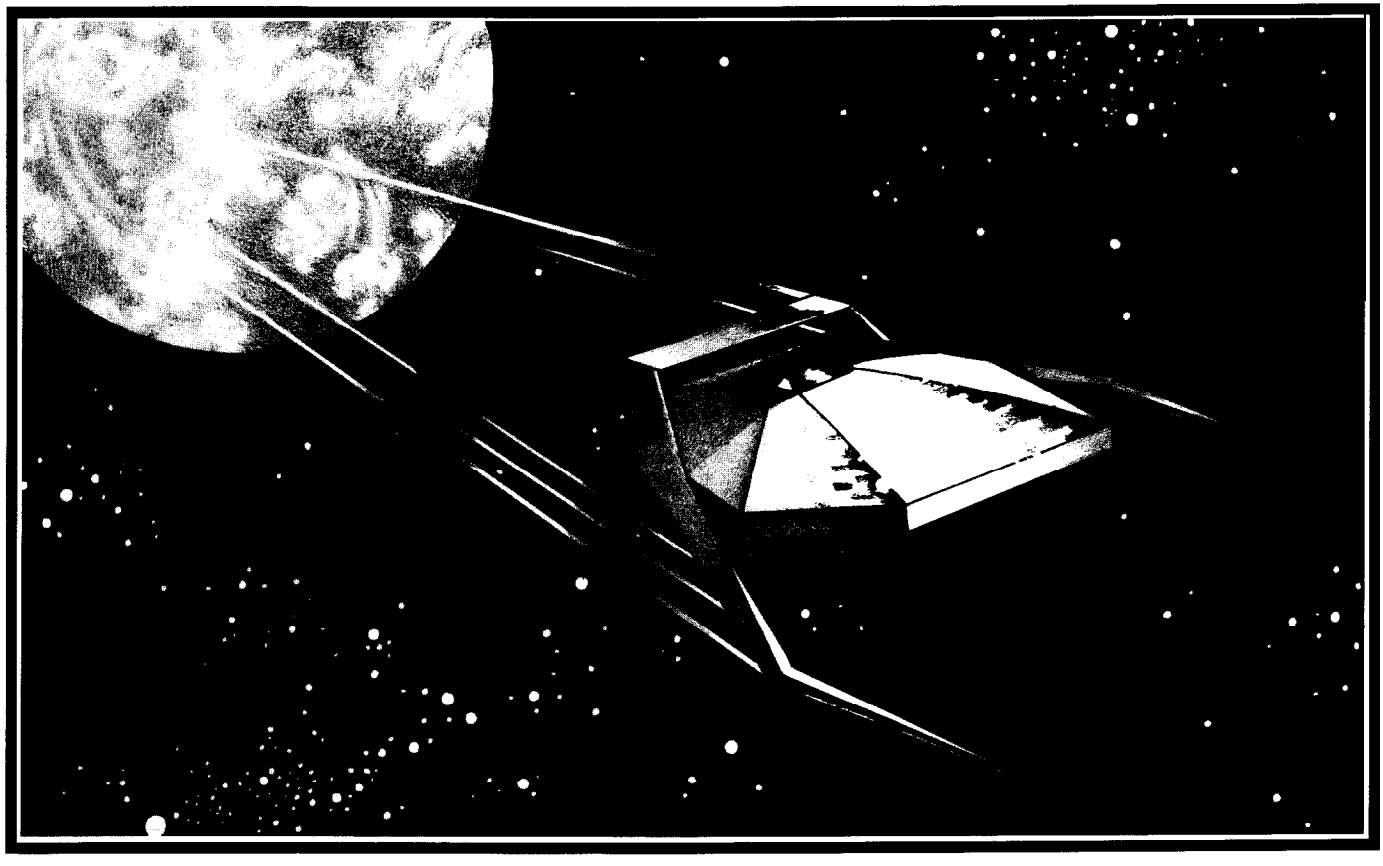
SIMULATION CONTROLS

Airplane-Type Controls *[togg/es]*	Alt/A
Detail Adjust	Alt/D
Joystick Re-center	Alt/J
Save Game	Alt/G
Load Game	Alt/L
Quit Game	Alt/Q
Volume Adjust *[toggled*	Alt/V

MICROPROSE™ SIMULATION • SOFTWARE

LIGHTSPEED™

INTERSTELLAR ACTION AND ADVENTURE



MICROPROSE™

SIMULATION • SOFTWARE

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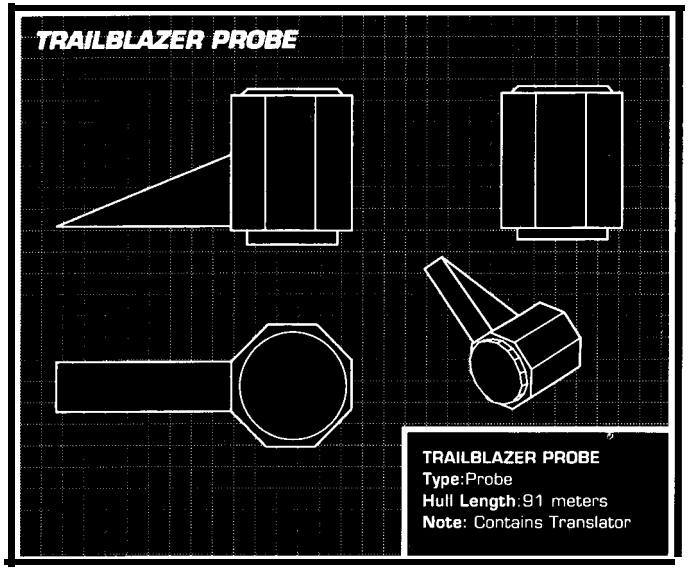
1. INTRODUCTION

1.1. YOUR MISSION [THE PURPOSE OF THE GAME]

The situation: Earth is an ecological wasteland. Nuclear meltdowns, climate alteration, species extinction; all have taken their toll. Humanity must evacuate its mother world, to give Earth time to recover from the devastation wrought by past civilizations.

The solution: The human species has left Earth in immense transport ships of the ***Conestoga*** series. Each ship carries over 10,000,000 men, women, children, and babies. Each ***Conestoga*** transport vessel must find a habitable planet to colonize or every family aboard will die, lost forever in space.



Your mission: save ***Homo sapiens.***

You are the pilot of a ***Trailblazer*** series dreadnought. Your ship has been sent ahead of a ***Conestoga*** transport to prepare an alien star cluster for human colonization. A robot base station is already there, prepared to assist you. First, you must find a planet suitable for humanity and obtain the raw materials the fledgling colony requires to survive. Second, you must make the cluster as safe as possible for human families by making friends and eliminating enemies.

Worlds habitable by humans are quite rare. It is often helpful to question aliens about such habitable worlds.

The new colony requires resources to thrive. You must obtain these resources by mining them from unclaimed worlds or through interplanetary commerce with friendly aliens. If you take too long to finish your task, the colonists aboard the grossly overcrowded ***Conestoga*** transport will begin to die. Eventually, they will all die. Their only hope is you and your ***Trailblazer.***

1.2. EXPLORING A STAR CLUSTER

1.2.1. NAVIGATION

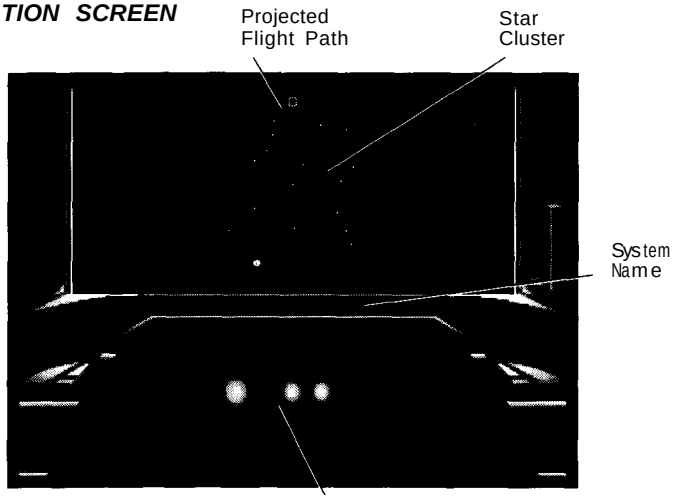
Before you can claim a world for humanity or set up mining colonies, you must find suitable worlds. From the cockpit, press the ***Navigate*** key to go to the Navigation Starmap.

The Navigation Starmap shows the entire cluster spinning slowly in space. You can use the ***Zoom*** and ***Unzoom*** keys to move the view in and out on it, plus you can use the arrow keys or joystick to change the direction in which it is spinning. The system in which you are currently located has a box around it. When you press the ***Select Solar System*** keys a linear flight path [in 3 dimensions) is projected from your current system to other systems. As you select through these other systems, a simple diagram of each system will appear in your Main Cockpit's video monitor [just below the Navigation Starmap]. If you wish extra information about a particular system, ***you*** can press the ***information*** key for more data [this only works, however, if you have already visited the system and probed it). See section 1.2.2. for more data on the ***Information*** function.

When on the Navigation starmap, a fuel usage display will show you both how much fuel you are carrying, and how much fuel it will cost to travel to a particular system.

Press the ***Spindrive*** key to travel to the selected system. You can press this key at any time, whether or not you are currently at the Starmap. If you are not at the Starmap, you will travel to the last system you selected.

NAVIGATION SCREEN



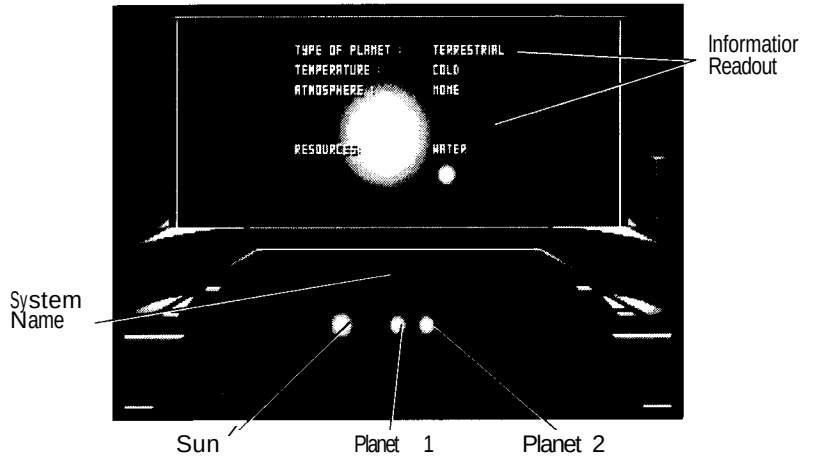
1.2.2. INFORMATION

Once you have been to a system and probed it, future examination of your Starmap will reveal the fact that already-visited systems are displayed in a different color. In addition, when you select a system, and then press the ***information*** key, the Starmap will be replaced by detailed information on that system's sun. By using the arrow keys or joystick, you can select the planets in that system as well, and gain detailed information about them.

1.2.3. SPINDRIVE TRAVEL

Normally, travel via Spindrive is uneventful. You simply zip through space to the selected system, expending fuel as needed.

INFORMATION SCREEN



If another shio is nearbv while vou are traveling, their Spindrive may interfkre with your Spindrive.

A hostile ship can pop you out of Spindrive and launch an attack. Turnabout is fair play, and sometimes you will encounter a ship which you may choose to attack. Your ship's computer will display a message when you have this opportunity, and tell you how to attack it should you so choose. If you do not wish to attack, do nothing, and after a few seconds, the opportunity will vanish. While the attack opportunity is present, you will see the target ship appear in your Holographic Viewer. If you have a peace treaty with a particular alien race, your computer will not bother to alert you to their ships' presence. In effect, you will cease encountering them in deep space.

When you are traveling near a particular alien's world, encountering that alien becomes much more likely.

After an encounter, you may return to the Starmap. Note that your ship is shown partway along the route that it was taking. You can change your destination at this time (for instance, to go somewhere to replace components lost in battle], or you can simply strike the Spindrive key to continue to your destination.

7.2.4.

PROBES & MINING

When you arrive at an uninhabited system, you will find yourself floating in space, not far from that system. [If the system is inhabited, see section 1.3.2. for options.] By striking the ***Probe*** key, you can launch a probe which explores the system and discovers where resources exist. When you probe an uninhabited system, your computer displays the Information screen (see 1.2.2. above). You can then select a likely world and hit the Mine ***Planet*** key to send robot miners down to excavate that planet's raw materials.

Although you can call up the Information screen to check out systems at which you are not present, you cannot mine such systems. You must be physically at a system to mine its worlds.

Your ship carries only three mining complexes, so you may have to return to your home base and gather more complexes to completely exploit a particularly rich system. Once a planet is claimed, its resources are automatically added to your holdings, and you can use it to trade with aliens for other resources.

7.3. MAKE THE CLUSTER SAFE

The new colony will not be able to prosper unless humanity possesses allies in the star cluster. To do this, you must befriend some of the aliens native to that cluster. The only way to assure their friendship is to sign peace treaties. The more peace treaties you possess in a cluster, the safer humanity will be in future years.

Some aliens are not amenable to peace. Others may not be willing to sign a treaty if you have already signed with one of their enemies. If there is an alien whom you believe will be actively harmful to the human colony if left in the cluster, you must rid the cluster of this alien or at least weaken said alien as much as possible. For instance, if you encounter an alien species that eats planets like popcorn, you should clearly get rid of them, for they would be extremely unsafe to leave in the same cluster as a world full of human families.

7.3.7. NEVER BREAK A PEACE TREATY

You have an almost entirely free hand to do whatever you please in the name of Humankind. You can sign peace treaties, engage in acts of war, make trade arrangements, etc. If you sign a peace treaty with an alien species, you may not thereafter attack that alien's ships or bases. You need not obey any other provisions of the peace treaty.

If, however, the alien species attacks you, thus violating its own treaty, you are free to battle them thenceforth. But you are not allowed to be the first to break a treaty.

Be aware of this restriction, though you will not be able to violate it -the circuitry of your ship itself will sense any attempt to circumvent this rule, and prevent you from doing so.

7.3.2. MEETING PROTOCOL (ARRIVING AT ALIEN BASE)

When you emerge from Spindrive at an inhabited system, you will see the alien starbase dead ahead, usually accompanied by one or more defensive vessels. If you have arrived at an uninhabited system, see 1.2.4. above for your options.

Do: launch a probe to start communications (i.e., hit the *Probe* key]. Even the most hostile aliens are usually willing to accept a probe.

Don't: fire any weapon (including a fighter), for the aliens will recognize this as a hostile act and attack.

Don't: move forward, or the aliens will have to assume that you are maneuvering to attack. The alien communication network will deliver a warning the instant you begin to move. If you have not ceased all movement within a few seconds after you are warned, the aliens will attack.

It cannot be stressed strongly enough that attacking a starbase is an extremely difficult act. Do not attempt it unless your ship's quality has been significantly raised from its initial configuration, and you have a supply of spare components for repairs.

If you do attack a starbase, and succeed in destroying it, that system becomes unoccupied. Until and unless another alien subsequently occupies it, it is abandoned, and you can mine the planets in that system for their resources.

1.3.3.

THE TRANSLATOR

When you launch a probe, it will travel down to the aliens' planet or spaceship, and you will be able to see and'communicate with the alien. In the lower right foreground'of the displayed image, you will see the translator device, on which the alien's speech patterns are displayed. 'tour possible responses, each preceded by a button, are listed just underneath the alien's remarks.

To communicate with the alien, click on the button matching the desired response. This will engender a new remark from the alien, which in turn generates an entirely new set of buttons.

The buttons that are segregated by themselves on the far right side of the screen are special. If one of these says "Fight", pressing it returns your consciousness to your space ship, and opens hostilities with the alien in question. Press this button with extreme caution, since you will be commencing battle with an enemy *star-base!* If one of the buttons says "Leave", pressing it returns you to your ship, without opening hostilities. The "Leave" button, in fact, is the only way you can return to your vessel after opening remarks with an alien. If one of these right-side buttons says "Next" or "Prev." or "Exit", or anything else, it simply moves you back to another dialogue screen.

The up- and down-arrow buttons to the left of the alien's remarks enable you to scroll its information up and down. Sometimes it has more to say than will fit in the Translator's message box.

Watch the alien carefully. Quite often its movements and expressions will give you clues as to its opinion toward you or toward the statement it is now making. For instance, if it is giving you information about a particular alien, and it looks frightened, it is probably afraid of that particular alien. On the other hand, if it is asking you to do something, and it looks angry, it might be threatening you. A few aliens, of course, are expressionless, but most are highly animated in expressing themselves.

Do not click through the responses too swiftly. Though the alien's answers to your responses are instant, it usually takes several seconds for the impact of what you have just said to sink in, and their movements and expressions may not change immediately. If you rocket through your responses, you may miss subtleties of interaction which could prove important in future dealings.

TRANSLATOR SCREEN

1.4. ECONOMICS

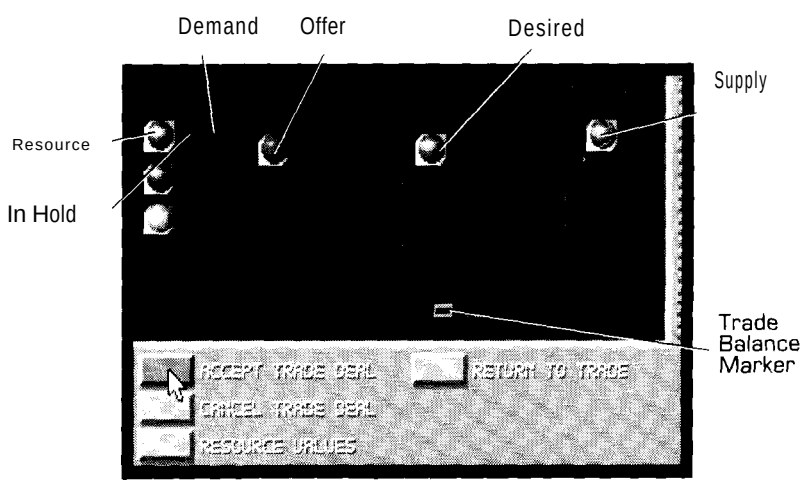
To repair your ship, you must replace burned-out components. Thus, to maintain or enhance your ship, you must trade with aliens to gain new components or destroy enemy ships in combat [to salvage their parts). When communicating with an alien, your translator device may indicate that trade is possible. If this is the case, you need merely select the appropriate button on the translator to open trading.

Some aliens, for services rendered or just because they are philanthropic, will give you free fuel. This is generally made available under the name of "Refuel".

You can only engage in trade by flying to a friendly alien starbase, opening communication, and selecting the trade option once contact IS made. Experience indicates that certain alien species will not engage in trade unless they are friendly to you. Others simply never trade with anybody, while others may make demands upon you before they will agree to trade.

You will also need planet resources for the new colony. The importance of obtaining such resources cannot be overstated. Your mission's success or failure is largely determined by how well you manage to get the resources for the colony.

COMMERCE SCREEN



7.4.7.

PIRACY

After any space combat in which you did not flee, your ship automatically scavenges debris by means of invisible tractor beams. Any and all intact components found amidst the wreckage of destroyed ships are recovered by your vessel and added to your hold. If you are skillful and choose your combats wisely, you may be able to gather a good supply of components by doing this.

Be warned, however, that most aliens object to this sort of piracy, and they will become significantly more hostile to you in future encounters. Also, unless you choose your targets wisely, you may find that you lose more components in battle than you gain in the aftermath.

In general, the larger the size of the alien ship[s] you have destroyed, the more components you will be able to recover after the fight, Destroying an alien starbase

generally garners the most salvage, In addition, because starbases always carry fuel, destroying a starbase always recovers enough fuel to fill your tanks.

1.4.2.

UNIVERSAL EXCHANGE INTERFACE

The Universal Exchange Interface is used to implement trade between you and an alien. This is an automated function of your translator device, which taps, with permission, into the alien species' mercantile databanks and beams an image of the Universal Exchange Interface to the *Trailblazer.*

At the bottom of the screen is a group of buttons. These buttons at the bottom produce the following results:

Accept Trade Deal: Enacts the trade deal currently on the screen just above. If there is no trade deal present, or if the current deal is unbalanced in your favor, the alien will not agree to trade, and this button will have no effect.

Cancel Trade Deal: If you decide against a trade deal you have just created, or you have made an error, use this button to cancel the deal.

Planet Commerce: Go to the Commerce screen [see 1.4.3. below]. Some aliens never deal in planetary commerce, and this button is absent when you are trading with them.

View Engine Room: Go to your ship's engine room. There you can see what you need for your ship, utilize components newly added to your hold through trade, or cannibalize your ship's systems, adding their components to the hold so you can use them for trade.

Component Values: Brings up a window in the middle of the Trade screen. See 1.4.5. below for full details on its use.

Exit Trade: Returns you to the alien dialogue.

1.4.3.

COMMERCE

You will be unable to get enough resources to complete your mission by mining alone. At some point, you will be forced to engage in commerce with friendly aliens to accumulate the raw materials your colony will need. Four types of raw materials are available: Metal, Organics, Radioactives, and Water. Depending on the cluster you have entered, your colony world will require a certain amount of each of these for survival.

You enter the commerce screen from the trade screen. Any alien that will trade with you will also deal in commerce — if it has any raw materials available. A few aliens do not store or mine resources, and so cannot deal in commerce.

If an alien supplies a particular resource, it will not accept that resource in a trade deal. Thus, an alien that sells Radioactives will not accept them from you. Four buttons are visible at the bottom of the Commerce screen. These buttons produce the following results:

Accept Trade Deal: Enacts the deal currently on the screen just above. If there is no trade deal present, or if the current deal is unbalanced in your favor, the alien will not agree to exchange resources, and this button will have no effect.

Cancel Trade Deal: If you decide against a deal you have just created, or you have made an error, use this button to cancel the deal.

Resource Values: Brings up a window in the middle of the Trade screen. See 1.4.5. below for full details on its use.

Return to Trade: Returns you to the Trade screen.

1.4.4.

THE MECHANICS OF TRADE AND COMMERCE

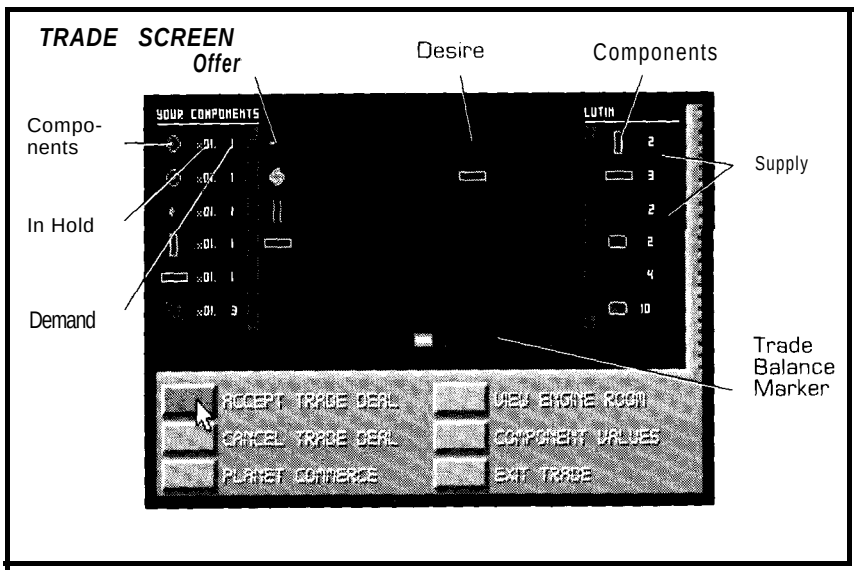
The following material describes the Trade screen. All these rules also apply to the Commerce screen, except that where the Trade screen utilizes components, the Commerce screen utilizes resources.

On the left side of the screen is a column of icons; representing all the components currently in your ship's hold, Next to each component are two numbers. The first is the **IN HOLD** number. The second is the **DEMAND** [see below] value. On the right side of the screen is another column of icons, this one representing the components that the alien has made available for trade. Next to these components **is** the **SUPPLY** value. These three numbers are described below. Your mission will be greatly affected by the skill you display in your understanding and use of these values.

IN **HOLD:** This is displayed in the form "x[number]", and simply gives the number of such components that you currently have in your hold. For instance, if you have three radiators in your hold, next to the image of the radiator would appear "x03". If you had six radiators, it would read "x06", and so forth.

If no image of a particular component appears, that component is not in your hold. However, it may be present in your engine room. If you wish to trade that component, you must go to your engine room, move the designated component out of its slot and into your hold, then return to trade.

DEMAND: This number ranges from 1 to 4, and gives the value which the alien places upon that item. The higher the number, the more the item is in demand for this alien, and the more components the alien is willing to offer in exchange for it.



SUPPLY: On the right side of the screen is a complete list of all the components which that alien manufactures for trade. [In theory, the alien manufactures other components as well, but these other items cannot be converted for use in your ship, so they are not displayed here.) Next to each component is the Supply value, which ranges from 1 to 4. The magnitude of the Supply value shows how much the aliens value that particular component. The higher the value, the more components the alien will demand in exchange for it.

All aliens sell Fuel, and the price for Fuel is always the same: 1 component. This "tops off" your fuel supply, so you can only purchase it once per visit. After that, you need not buy any more fuel until you have burnt some up by travel.

How to Trade

To trade with an alien, select one of the components on your side of the screen [or the alien's, it is not important]. When you do so, note that the Trade Balance marker in the middle of the screen slides towards one side or the other. If the Trade Balance marker is tilted in your favor [that is, it is over toward the alien's side of the screen], then the alien will not agree to make the trade. To get the trade accomplished, you will need to add in more items from your hold to even things up. If the marker is slanted in the alien's favor [it is over toward your side of the screen], the alien will agree to the trade, but it may not be in your best interests to do so.

Once the Trade Balance is exactly in the middle [or tilted towards your side of the screen], you may click on the Accept Trade Deal button on the screen's lower half to make the deal. When you do this, you will notice that your In Hold totals change. However, purchasing something from the alien does not decrease the alien's available components, since you are dealing with an entire planet, and he can produce as many of said component as you can pay for.

Components with a high Demand or Supply Value tilt the trade balance more than others. The best way to figure out how to buy things is to add up the total Demand on one side, and make it equal to the total Supply of what you wish to purchase.

For example, the Venge, an alien known to inhabit the Cerberus cluster, demands turbines at a value of 4, and supplies linkages at a value of 3. As with all aliens, fuel is worth 1. By giving the Venge a turbine [worth 4], you could get in exchange both a linkage and some fuel [3+1=4].

Warning: it is perfectly possible for you to Accept a trade deal that is unbalanced in the ***alien's*** favor. Try not to do this. Occasionally it is unavoidable, because of the mix of components you have available. But do it as little as possible.

It is possible, even probable, that when you begin trading with the aliens you will discover that they rate components differently. For instance, if you find an alien that Supplies radiators at a value of 2, and you find another alien that Demands them at a value of 4, you can purchase radiators from the former alien, and sell them to the latter alien for a profit.

1.4.5.

VIEW *COMPONENT OR* RESOURCE VALUES

To make effective deals and set up profitable trade routes, you must be able to compare one alien's trade deals with another's, This is made available through the View Values button.

Pressing this button pops up a window in the middle of the screen. On the left side of the window are given the selected alien's Supply value for all the components (or resources] he sells. On the right side of the window are the alien's **Demand** values for those components (or resources] he wishes to obtain.

Only those aliens with whom you have engaged in trade are available through the View Values button. Aliens whom you have met in the past, but did not trade with, are also available to view.

Next Alien: this flips the window to the next alien you know of. This is done in alphabetical order.

Previous Alien: flips the window to the previous alien. The Values window "wraps around", so that if you keep flipping through windows, you'll eventually come back to the alien you started with.

Return to Trade or Return to Commerce: Returns you to the Trade or Commerce screen, whichever you had come from.

1.4.6

PLANETARY RESOURCES

Four types of orbiting bodies are known to exist in star systems. Three are nearly useless to humankind, except as a matter of scientific interest. The fourth type of body — terrestrial planets — is the most important type. The four types are:

A double-star system consists of one large star orbited by another, smaller star. Such systems are hotter than normal and have few, if any, Jovian worlds.

Asteroid belts are fragmentary belts of rock. Though space pirates may base their homes in these areas, their resource value is nearly nil.

Jovian planets are gas giants, like Jupiter or Saturn in the Solar System. Their enormous gravity and liquid nature preclude exploitation of any natural resources they may possess.

Terrestrial planets come in four sub-types, distinguished bytemperature, atmosphere, and natural resources.

Hot planets are good sources of radioactives. These worlds usually are found in youthful systems, and the world's high temperature is itself caused by the prevalence of radioactive elements.

Warm planets are ideal for carbon-based life forms. Because of this, they are the best source for organic compounds, essential for any fledgling colony's success.

Cool planets are often good sources of water. While Earth has been blessed with an adequate supply of water, it is likely that you will have to import this important liquid to a colony world.

Cold planets are freezing rocks, far from any warming sun. All of their lighter elements have long since disappeared, often leaving large supplies of metals and metallic elements.

2. YOUR SHIP

Your ship is a ***Trailblazer*** series interstellar scout. The main hull is 3400 meters long [I 1,200 feet], and 2960 meters wide (9700 feet]. Built at the Tycho Spaceworks of the Lunar Democratic State, it belongs to the second-largest class of starfaring vessels ever built by humankind, eclipsed in size only by the immense ***Conestoga*** colony transports.

Your vessel is a essentially a gigantic scout ship, built to operate with a minimum of support. It carries the following:

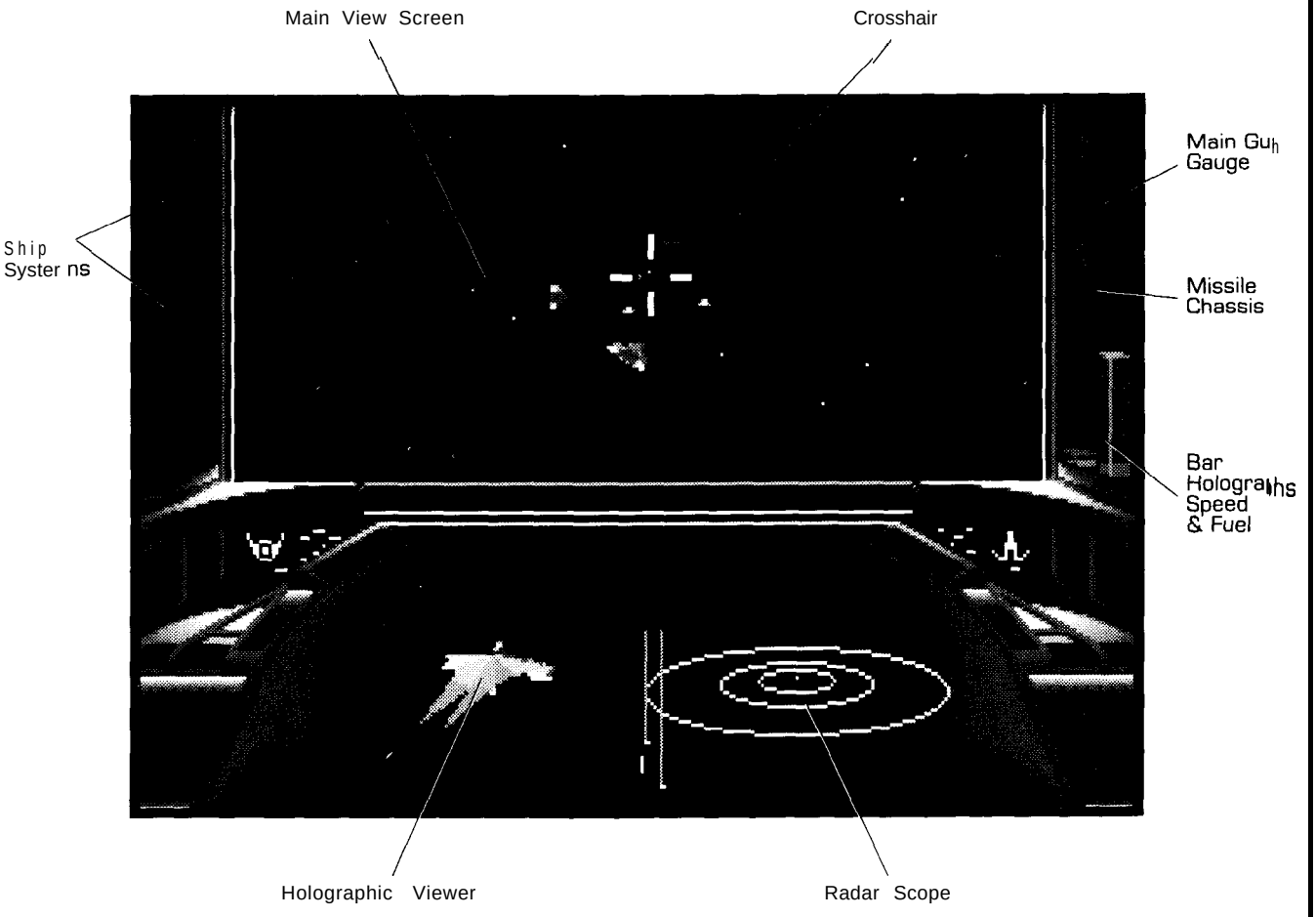
Up to 500 units of fuel
Up to 10 missile chassis [for guided missiles, kamikazes, & fighters]
Up to 3 planetary mining complexes

Your ship has an essentially limitless capacity for storing components and probes.

When you are low on fuel, missiles or mining complexes, you can receive more by visiting your home base.

One of the most important functions of your home base is that it continually manufactures computer disks for use in trade. These computer disks are universally valued, and you can use them as trade goods with every alien species known. On each trip back to your home base, you will receive one or more of these computer disks, and you will be able to use them to your advantage in obtaining useful components from friendly aliens.

MAIN COCKPIT



2.1. MAIN COCKPIT

2.1.1. MAIN GUN GAUGE

The left side of this gauge is a simple readout of your Main Gun's current status. See note 2.1.7., below, for details.

After your Main Gun fires, there is a delay of 3 to 13 seconds [depending on its status] before it is ready to fire again. The right side of the gauge keeps track of this delay, and shows you how close your main gun is to fire capability. When you fire, the display goes dark. As it recovers energy, the display begins to light up, from bottom to top. When the top line [the shortest one] is lit, your Main Gun is ready to be fired.

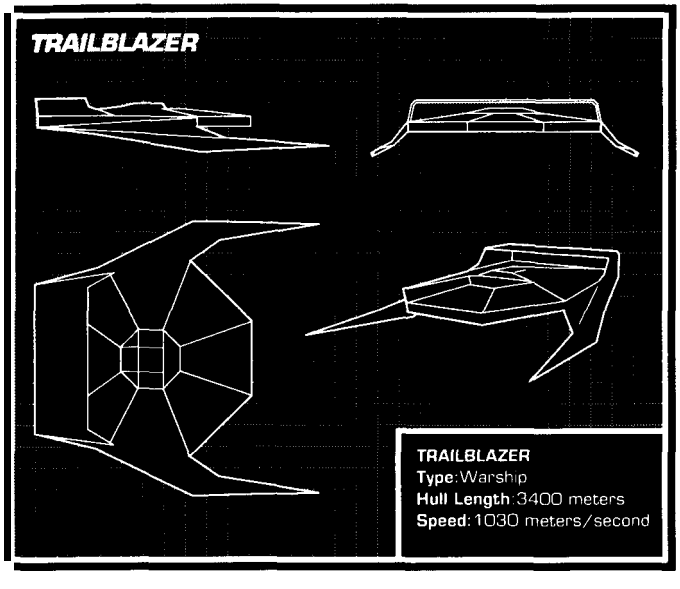
2.1.2. MISSILE CHASSIS

Your ship can carry a maximum of 10 missile chassis. This simple readout tells you how many chassis you have left. As you fire them off, the little missile icons go dark.

2.1.3. BAR HOLOGRAMS: SPEED & FUEL

Speed: The left hologram gives your ship's current speed. The higher the bar, the faster your ship is moving. Do not forget that your *Trailblazer,* even under the best conditions, is not particularly quick. If you crave speed in combat, launch a fighter.

Fuel: the right hologram tells you how much fuel you have left.



2.1.4. RADAR SCOPE

This lets you see all the objects around your ship. The scope is always centered on your current ship, and is faced in the same direction as your ship. While the scope may at first seem a little confusing, it will take very little time before you are able to easily see the correspondence between what the scope tells you and what your eye sees out of the main viewscreen.

Other ships or significant objects [such as missiles] appear as dots on the viewer. If they are above or below your ship's plane, a line will extend from the viewer's central plane to those ships, giving you a visual cue as to their location.

The alien ship on which you are currently targeted has a box surrounding its dot.

2.1.5.

HOLOGRAPHIC VIEWER

When you are facing alien ships, one of them is always targeted. At the start, this is always the largest alien ship. However, you can alter this by pressing the Target Change key. The targeted ship appears in the holographic viewer to the left of the radar scope.

Above the target ship is a glowing line. The length of this line gives you an indication of the ship's hull strength. As the target ship takes damage, a flashing color begins to creep in from the left side of the hull-strength line, giving you an idea of how much damage it has taken. If the line is half-consumed by the flashing color, then the ship has taken approximately half the damage needed to destroy it. Keep an eye on this line to get an idea of how weak or strong your foe is.

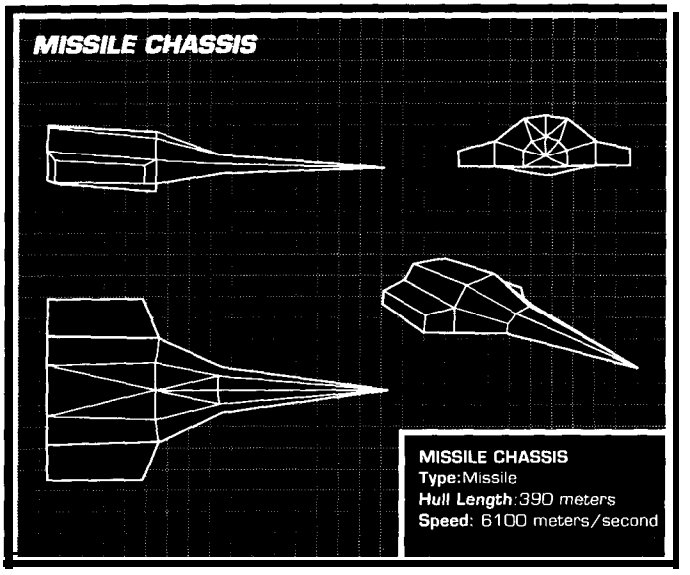
When an enemy ship is destroyed, the holographic viewer immediately switches to another target.

2.1.6.

SHIP SYSTEMS

Up the left side of your ship's viewscreen is a representation of your ship's internal systems. Once you are familiar with the layout of your engine room, these simple diagrams should be instantlv recognizable. From top to bottom, the systems represented are Screen Generators, Spinbrive, "Blaster Turret Bay, and Thruster Say. On'the right side of the screen, included in the main gun gauge [see 2.1.1, , above), is the Main Gun's system. Each component in these readouts is normally a bright color when present, and dark when absent. If a component is inactive, it remains visible, but is more dull than an active component. If a component is damaged, it flickers brightly until replaced.

You cannot replace or adjust components from the Main Cockpit. The ship systems display is solely informational. To fix your systems, you must go to the Engine Room.



2.1.7.

MAIN VIEWSCREEN

This gives you a view out of the front of your vessel. For maximum efficiency and minimum confusion, it only points straight ahead. If you wish to look all around your ship, you can do so easily and with a minimum of fuss by switching to your blaster turret and spinning in place.

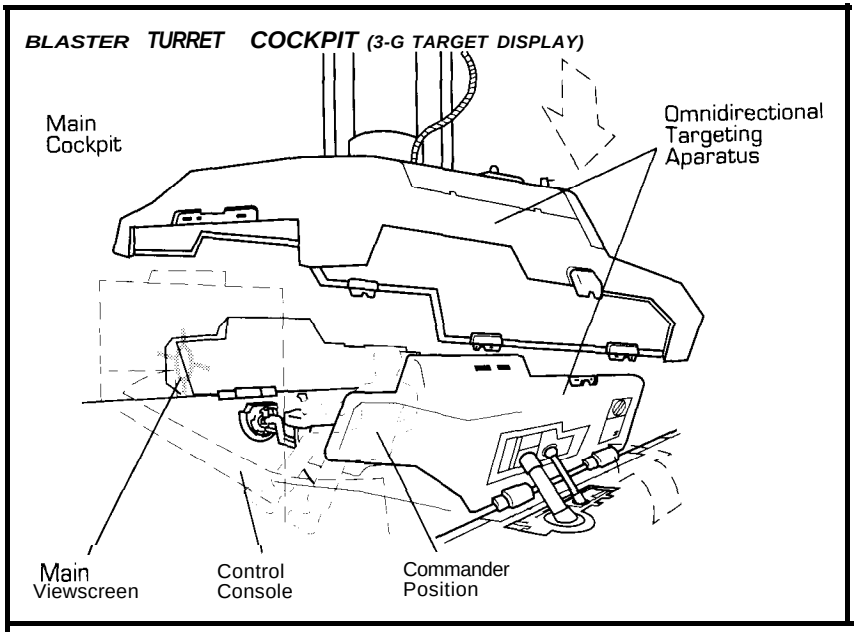
CROSSHAIRS

The crosshairs in the center of the screen show where your Main Gun's blast will strike if you fire. They are also an indication that you are out of range. When the ship near the crosshairs comes within range, the crosshairs change to a flashing reticule. Center the target ship within the reticule to aim your Main Gun at it.

Also usually visible on the main viewscreen are the Targeting Brackets. These indicate on which enemy ship you are currently targeted.

2.2. BLASTER TURRET COCKPIT

Your blaster turret can be reached from your main cockpit by hitting the space bar. This is a defensive position from which you can fire your ship's blasters at threatening missiles and fighters.



2.2.1.

RADAR SCOPE

This works identically to the Main Cockpit's radar scope. See 2.1.4. above for more details.

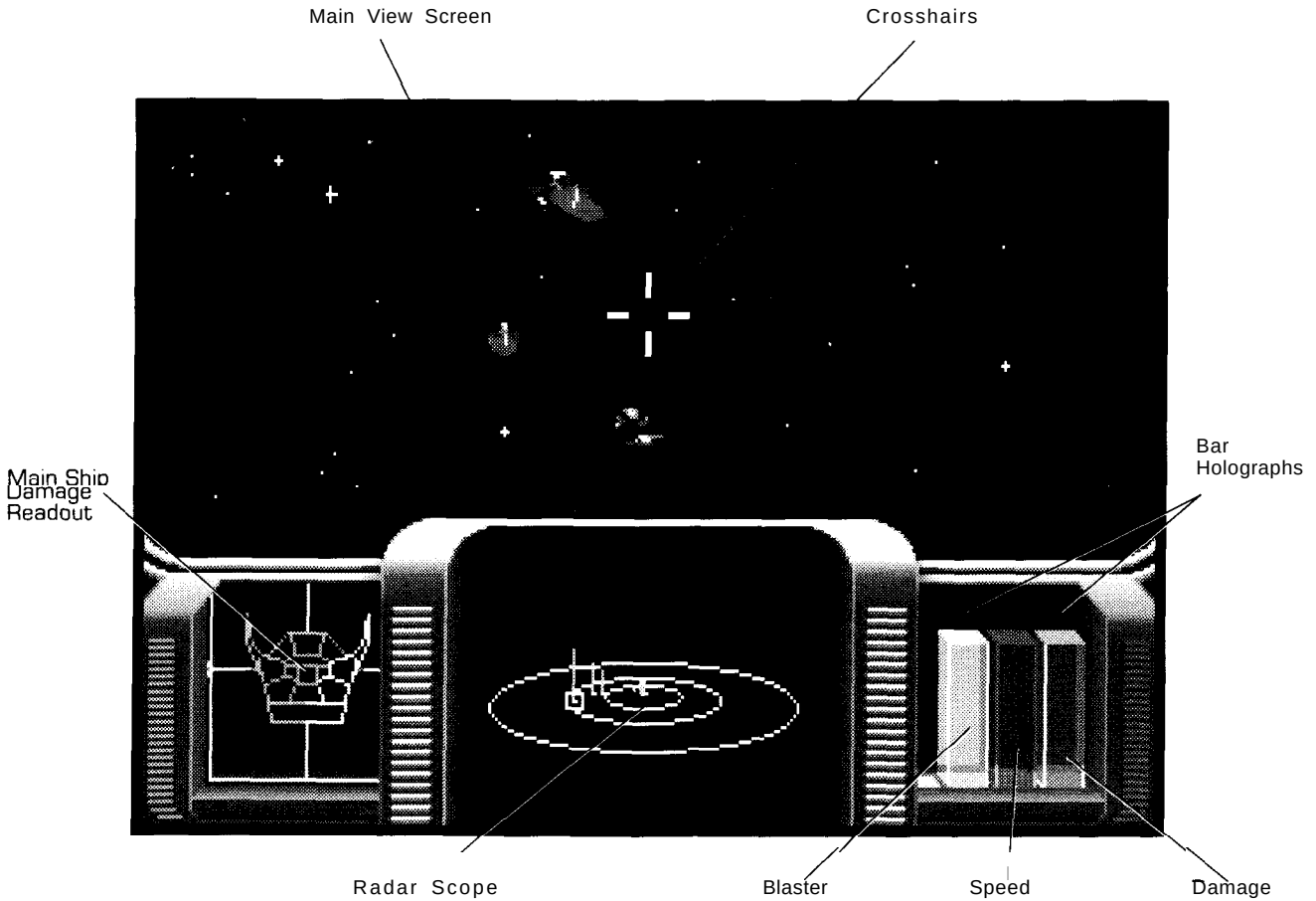
2.2.2.

CROSSHAIRS

The crosshairs in the center of the screen show where your blasters are aimed. They are also an indication that you are out of range, When a ship or missile comes within range, and is more-or-less close to the crosshairs, the crosshairs change to a flashing reticule. Center the target within the reticule to aim at it.

Your blasters have an additional feature associated with the rangefinder. The blaster bolts are aimed so that they always automatically converge at the distance at which the target has just been detected.

FIGHTER COCKPIT



2.3. FIGHTER OR KAMIKAZE COCKPIT

When you launch a fighter or kamikaze, a subspace link is set up between your main ship and the smaller craft, so that you can pilot these ships directly. However, if the fighter or kamikaze is destroyed, you are safe. These small craft are only used in combat, to carry out attacks against enemy vessels.

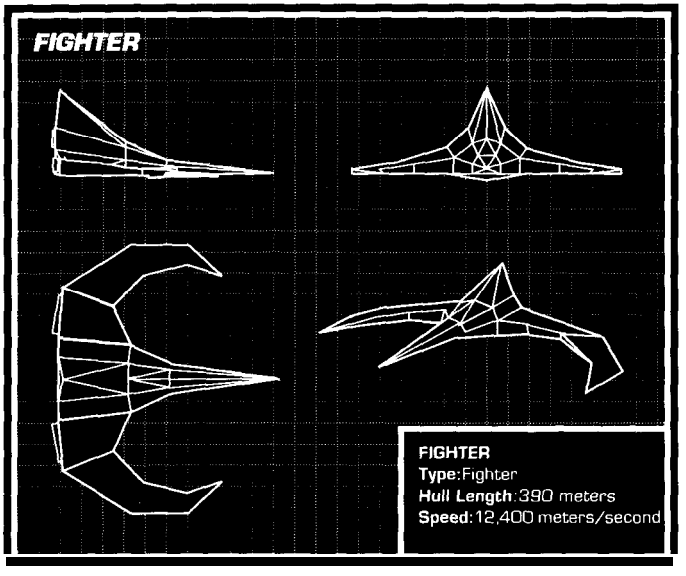
2.3.1. BAR HOLOGRAMS: BLASTER, SPEED, DAMAGE

Blaster: The leftmost hologram gives you an indication of how ready for action your fighter's blasters are. When it is at the top of its scale, you can fire a fairly long burst. As you fire, your blasters rapidly heat up, and the bar drops. If you refrain from firing, the bar will gradually rise. If you simply hold down the fire button, the blasters will keep shooting intermittently, even if they are overheated. In general, you get more impact from your shots if you fire in bursts rather than a continuous slow barrage.

In a kamikaze cockpit, this gauge is inactive; the blaster hologram is permanently at the bottom of its ramp.

Speed: The center hologram tells you how fast you are going. The higher the bar, the more velocity you possess. When it is at the top of its scale, you can't go any faster.

If you are flying a kamikaze, you will notice that the center hologram will not rise above halfway. This is because kamikazes have a lower maximum speed than fighters. In fact, they are only half as fast.



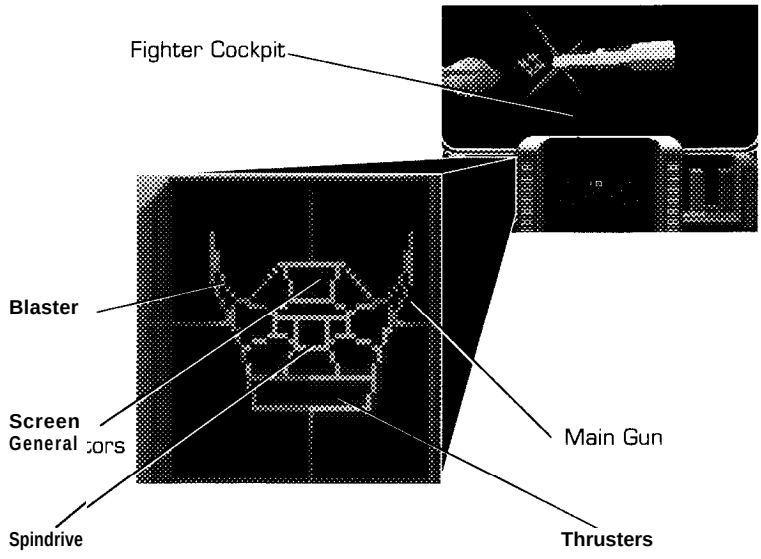
Damage: The rightmost hologram indicates how much structural strength your fighter retains. As your fighter takes more damage, the bar drops. You will never actually see the bar reach the bottom of its scale, because when that happens, the fighter is destroyed.

A kamikaze possesses the damage indicator, but any hit on a kamikaze will explode its deadly cargo; it never loses any structural strength without being totally destroyed. Thus, it is always at full strength when you are flying it.

2.3.2. RADAR SCOPE

This works identically to the Main Cockpit's radar scope. See 2.1.4. above for details.

MAIN SHIP DAMAGE READOUT



2.3.3.

MAIN SHIP DAMAGE READOUT

This gives you a graphic indication of how much damage the *Trailblazer* is suffering while you are in the fighter or kamikaze. Portions of this diagrammatic view of the *Trailblazer* will change color as they are damaged. In addition, at the bottom of the readout, text will appear notifying you of what system has just been damaged.

If you get concerned about the amount of damage the *Trailblazer* is taking, you may wish to jump back into the Main Cockpit and take control, abandoning the fighter or kamikaze to its fate [or returning it with the *Return Chassis* key to the mother ship's hold for future use). If not returned, it will fly straight on its last course until it is destroyed or you return to command it.

2.3.4.

C R O S S H A I R S

These work identically to the crosshairs in the Blaster Turret, See 2.2.2. for details.

2.4, ENGINE ROOM

From the cockpit, tap the *Engine Room* key to receive a top-down view of your ship's vitals. The engine room is divided into five different systems, each composed of a number of components. Some components can be used in more than one system. Your ship's hold is to the right of the screen. This contains components that you are not currently using, because you are saving them for trade, or because all the slots for that type of component are currently being used.

Damage taken in combat is expressed in terms of components destroyed. You can repair this damage by visiting your engine room and replacing damaged or missing components with new ones from your ship's hold.

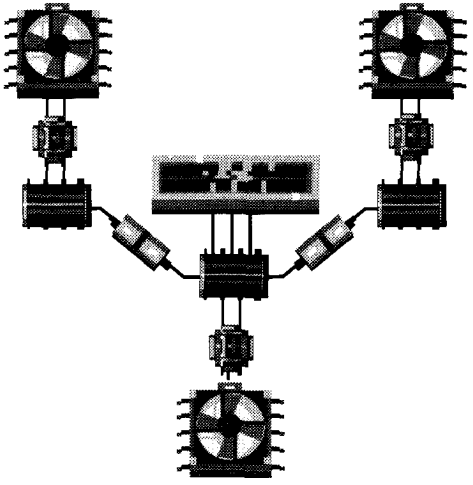
2.4.7.

SCREEN GENERATORS

Key Points

- The Screen Generator is divided into two parts: Forward and Rear.
- All components must be connected to the secondary to be active.
- Each active accelerator, radiator, or secondary enhances protection.
- If you have four or more turbine/accelerator pairs in the Spindrive, the converters, too, enhance the screen's protective value.

SCREEN GENERATOR SCHEMATIC



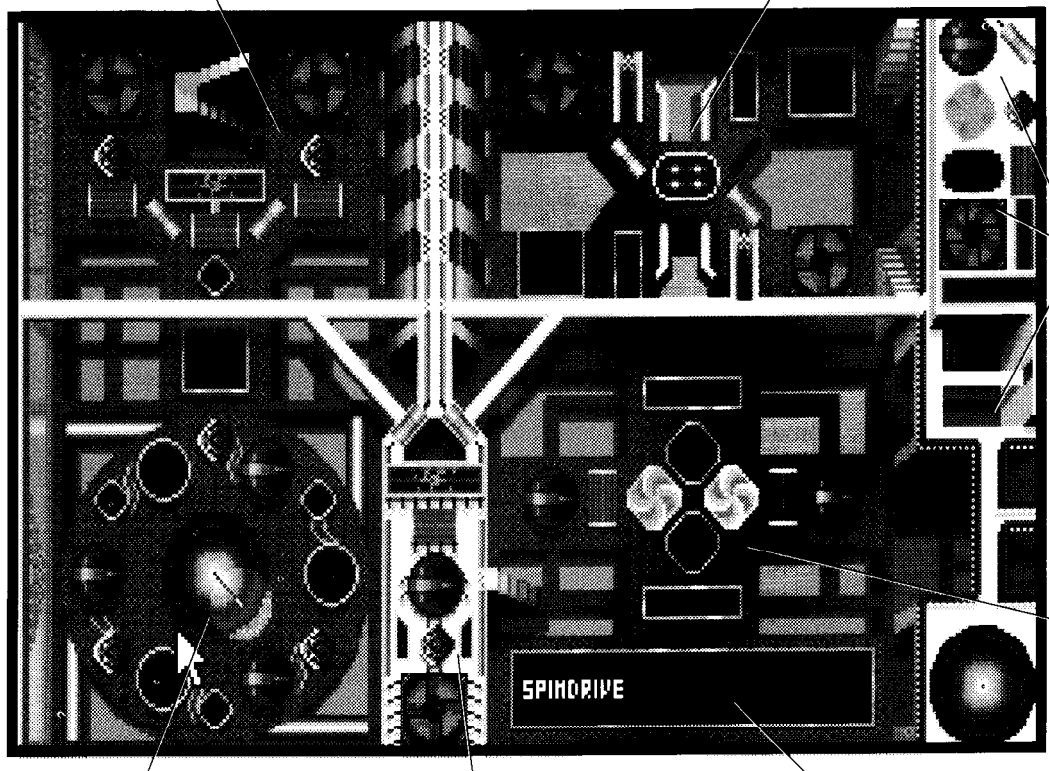
General Information

The screens are used to protect your ship from damage while engaged in combat. You can see that the components of your Screen Generators are arranged in a Y-shape. The right and left "arms" of the Y make up the Forward Screen Generator. The rearward-pointing "base" of the Y is the Rear Screen Generator. The Forward Screen Generator protects only the front hemisphere of your *Trailblazer.* The Rear Screen Generator protects only the rear hemisphere. Normally, the Forward Screen Generator is more powerful than the Rear Screen Generator.

A pair of linkages connect the Forward Screen Generators to the Rear Screen Generator, but are not actually part of either generator, and do not enhance the activity of either generator [except insofar as the absence of a linkage destroys the usefulness of one entire arm of the Forward Screen Generator).

In your initial configuration, your Forward Screen Generator is composed of two complete "arms", each containing one accelerator, one converter, and one radiator, for a total of two of each component, There is no room for expansion in the Forward Screen Generator.

ENGINE ROOM SCREEN



In your initial configuration, your Rear Screen Generator is composed of a single column, made up of a converter and a secondary. There is room for an accelerator and radiator in addition, should you need to upgrade your vessel's screens.

The Screen Generators protect your ship from enemy attacks by blocking off incoming missiles and energy charges. This is done as follows:

Step One: the secondary in the heart of the Screen Generator sets up and operates a powerful atomic field encircling your entire vessel. Any form of energy striking this field, whether that energy is electrical, radiation, or even kinetic, tends to convert itself harmlessly to neutrinos. This conversion is done on an all or nothing basis — either the entirety of a particular packet of energy is transformed, or none of it is.

Step Two: converters now come into play to alter the charge and spin of the incoming quanta of energy and prepare it for the desired transformation into neutrinos. If the Spindrive is at greater than normal capacity, the converters can, in addition, attempt to absorb part of the incoming charge. Under usual conditions, however, this latter effect is negligible.

Step Three: the incoming energy is now caught by the accelerators, which heat up rapidly [the accelerators' ability to transform energy is degraded unless this heat is expelled in turn by radiators). The accelerators enhance the effect of the atomic field as the energy is splayed out across its surface and then [hopefully] the harmful energy's potential is altered and dispelled.

If the transformation process is successful, the screen can cancel out the effect of even extremely powerful attacks. A disadvantage is that the transformation process is somewhat random.

Some alien races attempt to circumvent the screen's protection by firing volleys of shots or by firing very rapidly, in hopes that the multiplicity of incoming attacks will ensure that at least some of the alien's shots will hit home. Unfortunately, they are correct in their hope.

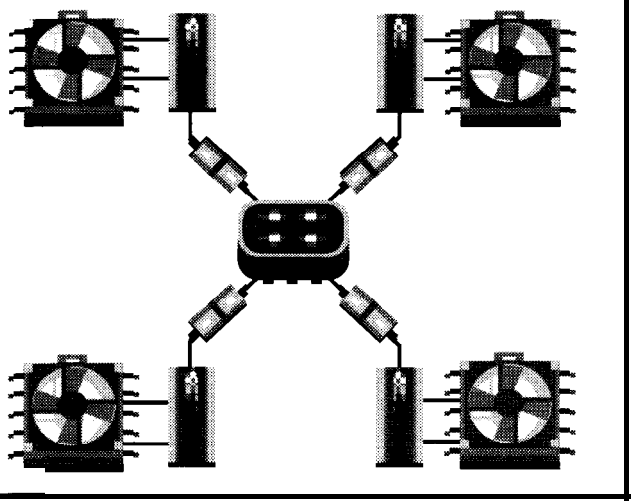
Component	Effect on Protection
Accelerator	+1 2% to chances of success
Converter	+1 2% to chances of success if Spindrive contains at least 4 active turbine/accelerator pairs
Linkage	no effect [but if absent, that arm of the Forward Screen Generator goes inactive]
Radiator	+1 2% to chances of success
Secondary	provides basic 12% chance of success
Initial Forward Screen Protection:	**48%**
Initial Rear Screen Protection:	**12%**
Maximum Forward Screen Protection:	**72%**
Maximum Rear Screen Protection:	**48%**

2.4.2. BLASTER TURRET BAY

Key Points

- The Blaster Turret Bay controls your defensive blasters.
- Each component must be linked to the central Targeter to be active.
- The more active blasters you possess, the faster you can fire.
- A blaster which lacks a radiator will overheat if fired too frequently.

BLASTER TURRET SCHEMATIC



General Information

The Blaster Turret Bay is one of your most important defensive systems. The Blaster Turret is used to destroy or break up incoming missiles and energy bolts, as well as enemy fighters, The initial configuration is composed of a Cody targeter, two linkages, two blasters, and two radiators, which gives you a "twin-barreled" effect, The bay can take two more linkages, blasters, and radiators, giving you up to four "barrels" when engaged in battle. Each complete linkage/blaster connection to the central targeter gives you one working blaster.

Your targeter controls the firing sequence of the blasters. It is the key component to your Blaster Turret Bay, and without it, no firing can take place. The damage rating for a single hit from a blaster is 0.15.

If a blaster lacks a radiator, it can only get off three shots in a row before becoming overheated. An overheated blaster fires much more slowly than one that has a radiator.

2.4.3. THRUSTER BAY

Key Points

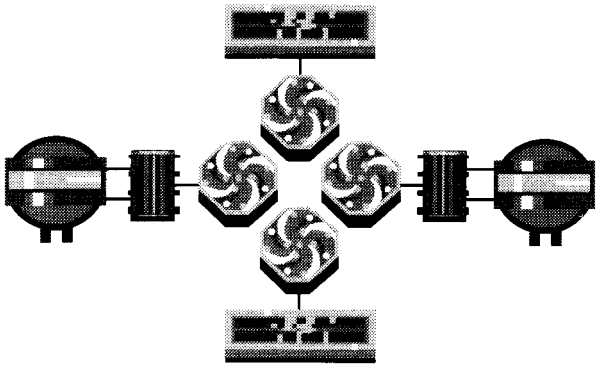
- The Thruster Bay controls your ship's speed in combat.
- You must have burners, or you cannot move at all.
- Converters and secondaries are inactive unless connected to burners.
- Turbines are inactive unless connected to a burner via a converter.
- If both turbines are inactive or missing, overall speed is halved.
- The converters can funnel extra power to the Thruster Bay from the Spindrive.

General Information

The Thruster Bay controls your sublight engines. The components that make up this bay directly control your ship's speed in combat. Your initial configuration is composed of two burners, each connected to a converter and a turbine. There is room in your Thruster Bay for two more burners, each potentially controlled by a secondary.

Your Thrusters can produce thrust in a three- or four-step process.

THRUSTER BAY SCHEMATIC



Step One: the burners produce high-energy ions. This produces raw thrust which can be channeled more-or-less backwards to provide a simple, if crude, forward locomotion.

Step Two: a converter absorbs and thus cancels out the electric charge on the backwards-moving ions, preventing them from repelling one another. Thus, the former ions can be expelled on exactly parallel lines, making a sort of electrically-neutral particle "laser", and causing all the thrust produced to be directly used in moving the ship. The converters by themselves are not able to absorb a very large electric charge, so most of the charge absorbed must be transferred to the Spindrive. Thus, the activity of the Spindrive can indirectly affect the speed produced by the Thruster Bay, through the converters.

Step Three: the magnetic swirl of a turbine is transformed into linear acceleration, speeding up the high-energy ions to relativistic speeds, at which both mass and velocity are enormous. Because neutral particles cannot be accelerated magnetically, this must be done before the converter does its work in Step Two above. Thus, the turbine's power must be applied through the converters.

Step Four: a secondary mechanism is able to control and organize the ion flux, pulsing it in the most efficient manner to prevent wavelength interference as the neutral jons are expelled from the ship's rear.

Under your ship's initial configuration, the potential fourth step of the above process is unused. If you are able to obtain additional secondaries, you may be able to utilize this potential extra speed.

The exact speed gained through the various components of the Thruster Say is explained below.

Thruster Speed

Each active burner provides	870 kph
Each active secondary provides	1090 kph
Each active turbine provides	440 kph
Each active converter provides	220 kph, plus 220 kph per active turbine/accelerator pair in the Spindrive, up to a maximum of 650 kph per converter.

2.4.4.

MAIN GUN

Key Points

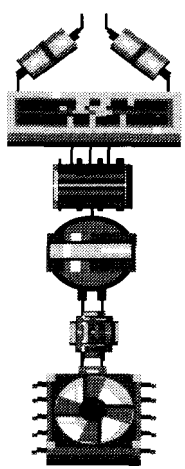
- The Main Gun is your ship's primary weapon
- The Main Gun can only fire straight ahead.
- The Main Gun can fire so long as it has at least one component.
- All components in the main gun are always active.
- Each accelerator, linkage, radiator, and turbine speeds up the rate of fire.
- The converter and secondary increase damage done.

General Information

The Main Gun is your ship's primary armament. Its sole function is to destroy enemy vessels and starbases. The Main Gun is composed of an accelerator, a converter, two linkages, a radiator, a secondary, and a turbine. Though the Main Gun is usable with less than this optimum setup, your default layout is complete, and cannot be increased.

Your Main Gun works by joining the normal functioning of two separate ship functions. Your ship's normal Spindrive travel naturally creates the useful by-product of waste antiprotons. These antiprotons are not expelled from your ship, but are collected into a small sub-universe. This sub-universe is similar to that formed by your Spindrive, but is shaped into the form of a hypersphere, and is thus both stable and immobile, relative to your ship. These antiprotons all by themselves are not useful. However, your ship is also subject to a never-ending barrage of gravitational energy, emanating from stars, planets, and galaxies from everywhere in the universe. Your ship can use this constant supply of gravity waves to create a spherical gravity shear. Antiprotons are then bled off from their storage sub-universe and injected into the center of the gravity shear. When a sufficient mass of antiprotons is present to give the gravity shear the ability to persist temporarily outside of the ship, your Main Gun is ready to fire.

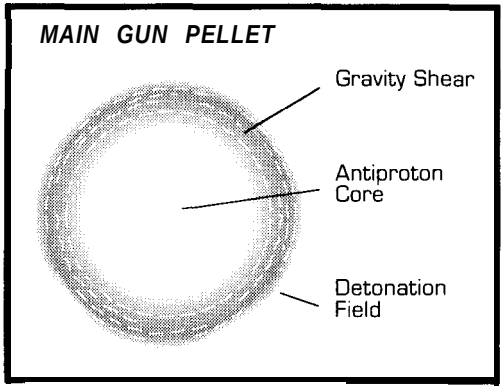
MAIN GUN SCHEMATIC



In firing, you project this sphere of antiproton plasma towards your intended target. When the sphere hits that target, the gravity shear is dispelled, and the energy of the antiprotons is absorbed, burning out many of the target ship's systems or even breaking it up entirely.

In its natural state, the Main Gun's antiproton sphere builds up rather slowly, and can only be launched once every 13 seconds, doing a natural damage rating of 2.3. However, this can be improved by a number of enhancements.

Under your ship's initial configuration, all the various enhancements possible to the main gun are used.



Accelerator: an accelerator relativistically compresses the antiproton sphere, forcing it to condense faster than normal, and thus reducing the time needed for the Main Gun to cycle.

Converter: a converter can be used to channel electrical power into the Main Gun from the Spindrive. This literally "heats up" the antiprotons, increasing their ambient temperature by as much as a billion times! This, of course, greatly increases the damage done by the Main Gun, but its effectiveness is entirely dependent on the current strength of the Spindrive. If the Spindrive is completely inoperative, the converter does nothing.

Linkage: linkages join the antiproton storage sub-universe directly to the gravity shear, enabling the antiprotons to flow into their shear at a much faster rate than the normal quantum leakage permits. This reduces the time needed for the main gun to cycle.

Radiator: the time needed for the main gun to cycle is normally lengthened by the fact that the gravity shear produces an enormous amount of heat as it forms. To keep it from heating up too quickly [which would dissipate it before it was ready for use], the Main Gun normally cycles at a slightly less-than-optimum rate. A radiator expels excess heat directly into the vacuum of space and so permits the Main Gun to cycle quicker.

Secondary: a secondary is able to control the antiproton flux, arranging the particles within their gravity shear in carefully layered rings of energy. When the antiprotons hit the target, their energy is released serially over the course of several nanoseconds instead of all at once. This produces a pulsed effect that significantly enhances the damage done by the Main Gun.

Turbine: the turbine is used to produce a magnetic cone which sweeps up the antiprotons and funnels them into their gravity shear at a greater speed than normal. This decreases the time needed for the Main Gun to cycle.

The exact speed gained through the various components of the Thruster Bay is explained below.

Component	Effect
accelerator	-2 seconds from rate of fire
linkage	-2 seconds from rate of fire per linkage
radiator	-2 seconds from rate of fire
secondary	+1.6 to damage rating
turbine	-2 seconds from rate of fire
converter	+0.8 to Damage Rating per active turbine/accelerator pair in the Spindrive
Basic Damage Rating:	**2.3**
Basic Rate of Fire:	1 per 13 seconds
Maximum Damage Rating:	**8.6**
Maximum Rate of Fire:	1 per 3 seconds

2.4.5.

SPINDRIVE

Key Points

- The Spindrive allows your ship to travel faster than light.
- The Spindrive is functional so long as it possesses a Navigator.
- Turbines and accelerators are only active when paired.
- The more efficient your Spindrive, the less fuel it requires.
- The Spindrive indirectly enhances other ship systems though their converters.

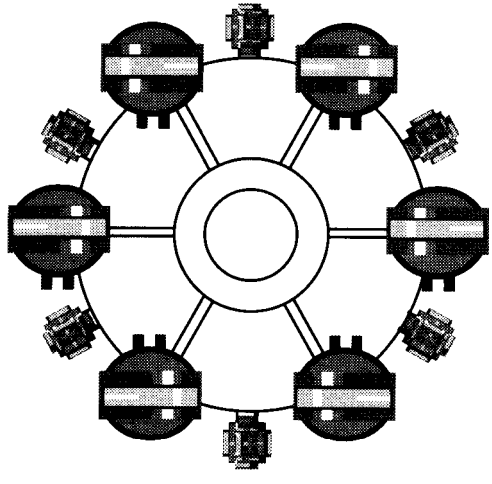
General Information

The Spindrive's primary function is to enable your ship to travel faster than light. Without a Spindrive, your vessel is left totally incapable of accomplishing its mission. It is probably the single most important system in your ship. The Spindrive is composed of a central Vespucci Navigator, surrounded by three turbine/accelerator pairs. It can be enhanced by adding up to three more turbine/accelerator pairs.

The Spindrive is controlled by the centrally-located Vespucci Navigator device. This device is actually capable of propelling your vessel at faster-than-light speeds all by itself. However, the addition of matched pairs of turbines and accelerators permits you to drain off power to be used by the rest of your ship and also enhances the drive's efficiency, so that it takes less fuel to travel through the cluster.

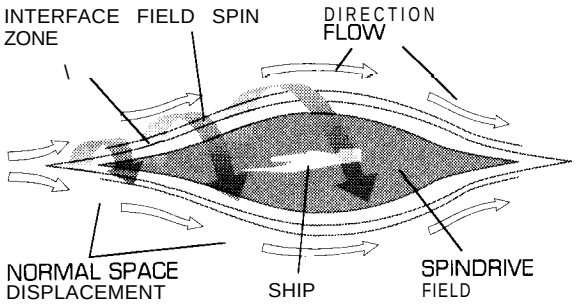
The Spindrive derives its energy from the controlled destruction of a complex antimatter clathrate. which contains numerous molecules of anti-Xenon. The energy created by this destruction is used to twist the fabric of space-time into a four-dimensional spindle. As the twisting effect accelerates, it eventually splits the ship off into a separate universe. In this new universe, all that exists is the ship itself, and the spindle-shaped hunk of vacuum contained by the Spindrive's effect, Within our new sub-universe, we are still limited by the speed of light, but we can move our entire universe [the new, small, one] faster than lightspeed, now that we are disconnected from the rest of the cosmos. Without difficulty, we can greatly exceed the speed of light.

SPINDRIVE UNIT SCHEMATIC



When two spindrive fields are operating in close proximity, it is possible for either of the ships involved to reverse their drive's polarity. This forces both ships out of spindrive and back into normal space. Once back in normal space, combat is possible. Hostile ships will often use this technique to drop your *Trailblazer* into normal space so that they can attack. You may also use this technique if you happen to pass near an alien ship while traveling through space.

SPINDRIVE EFFECT



The only drawback to this form of travel is that our ship expends enormous amounts of fuel to achieve any distance.

Spindrive Efficiency*	Effect on Screens	Effect on Thrusters	Effect on Main Gun
1	none	+22 kph	+0.8 to damage rating
2	none	+44 kph	+1.6 to damage rating
3	none	+65 kph	+2.4 to damage rating
4	***+12%***	+87 kph	+3.2 to damage rating
5	***+12%***	+110 kph	+4.0 to damage rating
6	***+12%***	+130 kph	+4.8 to damage rating

**** indicated as a number of active turbine/'accelerator pairs***

NOTE: the Spindrive's effect on other ship systems must be applied through those systems' converters. Thus, the listed effect should be considered a maximum.

2.5. COMPONENTS

COMPONENT ICONS

Accelerators: Used in the Main Gun, screen generators, and spindrive. Accelerators enhance system operation.

Blasters: Standard model. Used only in the blaster turret. Essential for the turret to fire.

Burners: Standard model. Used only in the thruster bay. Essential for the ship to move.

Converters: Used in the Main Gun, screen generators, thruster bay. Draw energy from the spindrive to enhance other systems.

Linkages: Used in the blaster turret bay, Main Gun, screen generators. Used to connect disparate components.

Radiators: Used in the blaster turret bay, Main Gun, screen generators. Enhances system operation.

Secondaries: Standard model. Used in the Main Gun, screen generators, thruster bay. Essential for screen generators, enhances other systems.

Targeter: Cody model. The targeter is used only in the blaster turret. Essential for the turret to fire.

Turbines: Used in the Main Gun, Spindrive, and thruster bay. Turbines will enhance system functioning.

Navigator: Vespucci model. The navigator is used only in the Spindrive. Essential for faster-than-light travel.

3. COMBAT TIPS

3.1. YOUR SHIP'S WEAPON SYSTEMS

Your ship boasts five weapons systems: a main gun, a blaster turret, kamikazes, guided missiles, and fighters.

3.1.1. THE MAIN GUN

Your Main Gun fires a 80-meter diameter cluster of antiprotons held together by a spherical gravity shear. When the sphere hits a ship, but does not destroy it, you will see the target ship momentarily glow brightly. This occurs when the antiproton energy is absorbed, and normally indicates that the target is seriously damaged.

The disadvantage of the Main Gun is that a defensive gravity shear will cancel out the effect used to keep the cluster together, thus dissipating it immediately. Such a defensive system will briefly turn visible just after being hit by the main gun. If you see a blocky-looking shield appear after you fire at a ship, you'll know that it has a screen generator and is immune to your Main Gun.

Your Main Gun is best for combat against enemy warships [the less maneuverable the better] and enemy starbases.

3.1.2. THE BLASTER TURRET

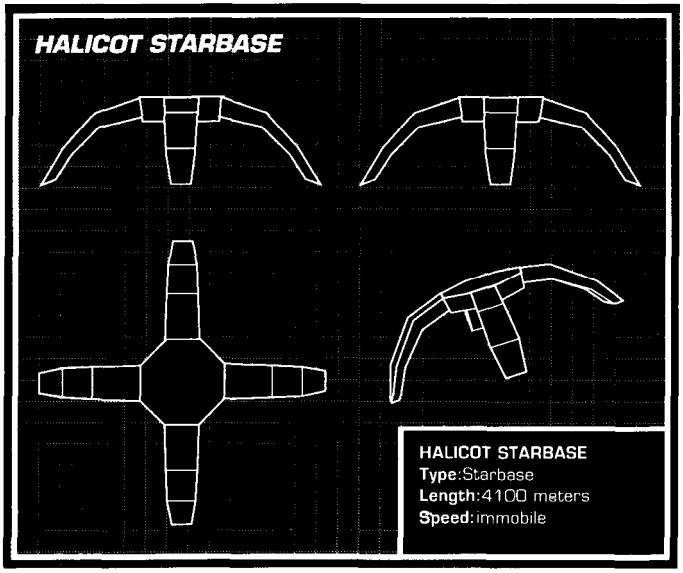
You can only reach the blaster turret from the main cockpit, The blaster turret is good for protection against incoming fighters and missiles. It is short-ranged and useless against large ships.

The best starship pilots learn to hop between the main cockpit and the blaster turret at a moment's notice. In hot situations, you must be prepared to steer your *Trailblazer* for a few seconds, then jump to the blaster turret to knock out a few incoming missiles, then go back to the main cockpit, Keep this up until you have won or the situation has improved.

3.1.3. GUIDED MISSILES, KAMIKAZES, AND STRIKE FIGHTERS

Launch a guided missile by hitting the *Guided Missile* key. Launch a kamikaze by hitting the *Kamikaze* key. Launch a fighter by hitting the Fighter key. Each time you launch one of these three weapons, your number of missile chassis is reduced by one.

Guided missiles home in on the currently-targeted enemy ship [visible in the left-hand viewer from the main cockpit), That ship is also indicated by brackets around its image in the main 3-D screen, and by a box around its point in the radar screen. Guided missiles do



comparatively little damage [damage rating 1.61. However, they can destroy any fighter, and several of them can destroy a smallish warship. They are vulnerable to enemy laser turrets.

Kamikazes must be piloted by you. They do much more damage than guided missiles [damage rating of 6.3 as opposed to the guided missile's 1.6]. You can exit the kamikaze cockpit at any time, leaving the kamikaze to continue in a straight line along its current course. If all the enemy ships have been destroyed, you can return the kamikaze to the Trailblazerby hitting the ***Return Chassis*** key.

Fighters must be piloted by you. They fire blasters, which cannot harm extremely large ships, but can be used to destroy pinpoint targets, such as laser turrets and screen generators. They are also very effective against any enemy fighters.

All three types of vehicles are vulnerable to enemy laser turrets. Your guided missiles, fighters, and kamikazes are all based on the same missile chassis. You can carry only 10 chassis at a time, so use them sparingly.

3.1.4. *DEFENSIVE SCREENS*

Your defensive screens work by randomly cancelling attacks against your ship. The more powerful your screens are, the more likely they are to halt a given attack. There is little you can do to help out your screens except make sure that they have the maximum number of components possible.

If you are facing a warship or starbase, it is usually a good idea to put as many components as possible in your Forward Screen Generator alone, since your rear screens are unlikelyto be hit. However, if you are facing small, agile ships such as fighters, you should even out your protection, with some components in your Rear Screen Generator as well, even if you have to partially denude one of your Forward Screen Generators to do so.

3.1.5. *EMERGENCY SPINDRIVE*

When you are clearly outclassed by an enemy vessel, you have a last-ditch defense mechanism. By hitting the Emergency Spindrive key, you can travel out of the conflict at a faster-than-light rate, negating any possibility of pursuit. Emergency Spindrive has a cost, however. It overburdens your ship's internal systems, and will physically damage your ship, sometimes quite severely. So reserve it for true emergencies.

If you have not selected a destination, and try to use Emergency Spindrive, your computer will signal you of your error. To correct it, quickly go to the Navigational Starmap and select a nearby system.

3.7.6.

JETTISON CARGO

Strictly speaking, this is not a “weapons systems”, but it is sometimes a useful tactic. You have a *Jettison* key, which you can press when engaged in battle. Certain quite mercenary aliens [mostly space pirates] will take some components from you rather than bothering to destroy your ship. Some aliens will not accept a surrender, so be forewarned. Against such aliens, Emergency Spindrive is generally a safer tactic, though often costlier in terms of components lost

3.7.7.

ESCAPE POD

This last-ditch survival mechanism is only useful when your ship has been damaged to the point that even Emergency Spindrive cannot be activated. By pressing the Escape *Pod* key, you can abandon your main ship and launch a sub-space capsule, which carries you unerringly back to your home base. Once there, a distress signal is sent to Earth and a new *Trailblazer* ship is dispatched to the home base for your use.

The escape pod is also a last resort when your ship has run out of fuel in interstellar space.

3.2. OFFENSIVE TACTICS

3.2.1. FIGHTERS

Fighters are small ships, usually armed only with blasters. They are much faster and more maneuverable than your Trailblazer, and are difficultto hit with a guided missile or even a kamikaze. Your best weapons against incoming fighters are your blaster turret and fighters of your own.

You can often destroy fighters from the blaster turret as they are making attack runs on your Trailblazer, For maximum efficacy, begin firing your blaster turret just before the attacking fighter comes within range [experience should teach you when this occurs]. If you are quick and skilled in operating the turret, and are able to follow an enemy fighter around as it swoops past you, you can get some shots in as it is leaving. Firing at a fighter while both coming and going like this almost always destroys it on a single pass — the most effective possible use of your turret.

Sometimes it is better to hop into a fighter of your own and hunt down the enemy. Few fighters have defensive laser turrets, so your own fighter can usually draw quite close to the enemy. Get on an enemy fighter's tail, press Match *Speeds* when you are within range, and fire a burst each time you get it in your sights. Se careful that your Trailblazer isn't wrecked beyond repair while you are out gallivanting around.

Sometimes you can knock down a fighter with your main gun as it is coming in for its initial attack run. Once they start circling around your *Trailblazer,* though, the main gun is rarely effective.

Guided missiles, too, are sometimes of use. If you wish to use guided missiles, fire them before the fighters have closed with your *Trailblazer.*

Kamikazes are rarely cost-effective against fighters. While a kamikaze can certainly destroy any fighter made, so can a guided missile. A well-piloted fighter can easily destroy two or three enemy fighters in the time needed for a kamikaze to knock out one.

3.2.2. WARSHIPS

A warship is defined as any vessel larger than a fighter. The smallest warships are really no more than overgrown fighters, while the largest ones rival your own *Trailblazer* in size. Warships are generally slower than fighters, but more heavily armed. While most fighters have fairly simple attack procedures, warships will be seen to employ a wide variety of strategies. Some warships can launch missiles or fighters of their own.

The Main Gun is generally the most effective attack against enemy warships. If you can avoid their attacks [whether by distracting them with a fighter or missile, or by shooting down their incoming shots with your blaster turret], and get a few hits in with your Main Gun, you can usually destroy almost any enemy. Many warships are smart enough to attempt to dodge the Main Gun, and you may need to try to predict in which direction they'll dodge and fire so as to catch them when they move.

Guided missiles and kamikazes are also worthwhile against many warships. Guided missiles are slightly less effective, because it takes many more of them to knock out a target.

Smaller, not armored warships are vulnerable to your fighters, and you can sometimes swoop in on them and destroy them long before they come within range of your Main Gun. Beware of defensive laser turrets, however.

Your blaster turret is rarely efficacious against a warship. They usually begin attacking from too far away for your turret to reach them, and are often armored against its effects.

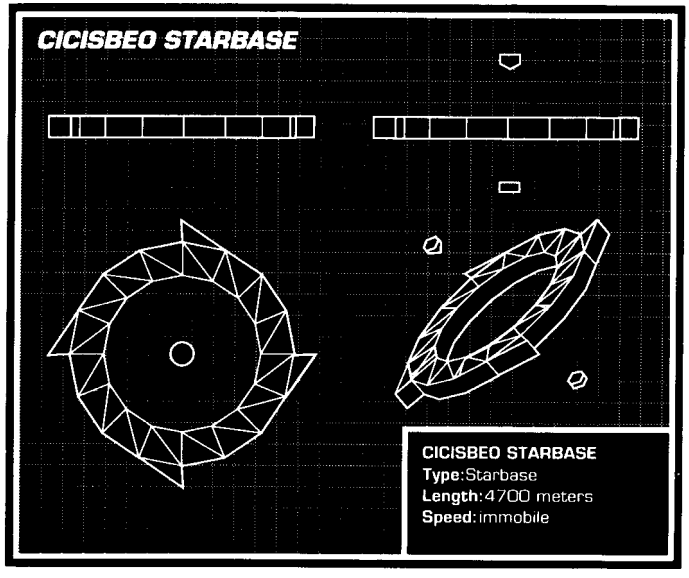
3.2.3.

STARBASES

Starbases are enormous, immobile redoubts. They are intended to defend entire solar systems from alien interference. Your ship, in its initial configuration, is probably too weak to engage most starbases successfully. Attack a starbase only in dire need or for the most important purposes. Never attack a starbase when your ship is in need of repairs.

Most starbases are defended by warships. In addition, the base itself can often fire missiles at attackers. The best way to knock out a starbase is at long distance. First destroy all defending warships. Then send fighters or kamikazes in against the starbase to knock out its defensive systems [especially any screen generators]. Once it is defenseless, you can move in close and destroy it with your Main Gun.

If you are desperate, hard-pressed, and clearly outgunned by the enemy, you may wish to press home an attack against the starbase alone. If you can knock out the starbese first, the accompanying ships will always depart, as the planet is now defenseless. However, it is quite difficult to take out the starbase before getting its escorts, so count the potential costs before embarking on this course of action.



3.2.4.

NOTES ON TACTICS

Every different type of alien has his own special weaponry, ships, and strategies which he will apply against you. You can only survive and prosper if you take care to learn how a particular enemy fights, and develop strategies of your own to defeat that enemy.

The rather general-purpose techniques taught in this section will serve to keep you alive at first. However, to be able to actually profit from combat, you must learn the specific techniques that will defeat each alien species with which you engage in combat.

3.3. ENEMY DEFENSES AND VULNERABILITIES

3.3.7. LASER TURRETS

Key Points

- Laser turrets provide a defense against guided missiles, kamikazes, and fighters.
- Laser turrets are always mounted on the exterior of the vessel, and are thus vulnerable to destruction.
- No one laser turret provides all-round defense.

General Information

Your vessel has a blaster turret which provides protection against incoming missiles and fighters. Many alien ships, especially those which are not particularly maneuverable, possess similarturrets. For simplicity, in this discussion we shall call all such systems "laser turrets", though in fact they fire a wide variety of energies in defense, depending on the alien manufacturer.

For obvious reasons, a laser turret must be mounted on the ship's exterior. Hence, a fighter or carefully-aimed missile can sometimes penetrate the laser turret's defenses and destroy it, opening the way for follow-up missiles.

3.3.2. SCREEN GENERATORS

Key Points

- A screen generator renders a ship completely immune to your main gun.
- Only the largest ships are capable of mounting screen generators.
- You can know that a ship has a screen generator if, upon hitting it with your main gun, the ship's prism-like screens momentarily become visible, obscuring the ship itself.
- Screen generators are always mounted on the vessel's exterior.
- Screen generators provide no protection against guided missiles, kamikazes, or fighters.

General Information

Your vessel's Main Gun fires a sphere of antiprotons held together by a gravity shear. Defensive fields capable of cancelling the sphere's containment shear are widely available. When the shear is destroyed, the antiprotons dissipate at once, completely destroying the bolt's efficacy.

The activation of such a defensive screen is highly visible — the screen is opaque and shaped in the form of rectangular prisms. The screens only appear for a moment, when struck by the Main Gun, but remember that their appearance indicates that your main gun cannot harm that ship until you have destroyed the alien's screen generator.

Fortunately, such a screen generator must be located on the exterior of the ship, for a gravity wave cannot be safely generated from the interior of a ship [the tidal effects would shatter the ship's hull].

Also, such screen generators are ineffective against incoming ships, such as fighters and missiles, because cancelling out such a small object's internal gravity has a negligible effect on the object's integrity.

Because of this, a fighter or kamikaze can penetrate the ship's screens and destroy the externally-mounted screen generator. Once the'generator is destroyed, the enemy's screen vanishes, and he is once more vulnerable to your Main Gun. In theory a guided missile could destroy a screen generator, but they usually lack the accuracy needed to do this. Still, on rare occasions you might see this happen.

3.3.3. ARMOR

Key Points

- All alien warships of any size have armor.
- Armor stops your blaster turret's bolts and fighter's blasters.
- Armor cannot be destroyed or circumvented.

General Information

There is nothing you can do about a ship's possession of armor. In general, medium to large enemy ships possess armor, You can tell that a particular vessel is armored if, when you fire at it with a blaster, no signs of damage appear [normally visible as small flaming chunks flying off the enemy ship].

An armored ship's hull is completely immune to your fighter's weapons. However, if the ship has a screen generator, laser turret, or other vulnerable exterior device, your fighter may still come in handy, as you can use it to destroy these devices. Be that as it may, you'll need to destroy the enemy ship itself with missiles, kamikazes, or your main gun.

3.3.4. OTHER VULNERABLE POINTS

Some ships may have vulnerable exterior devices other than laser turrets or screen generators. Their main armament may be vulnerable, or some other portion of the vessel. Generally, you'll have to learn these on a trial-and-error basis. When first encountering an unknown enemy ship, try shooting up likely-looking places all over its surface, till you find out what that ship's vulnerabilities are.

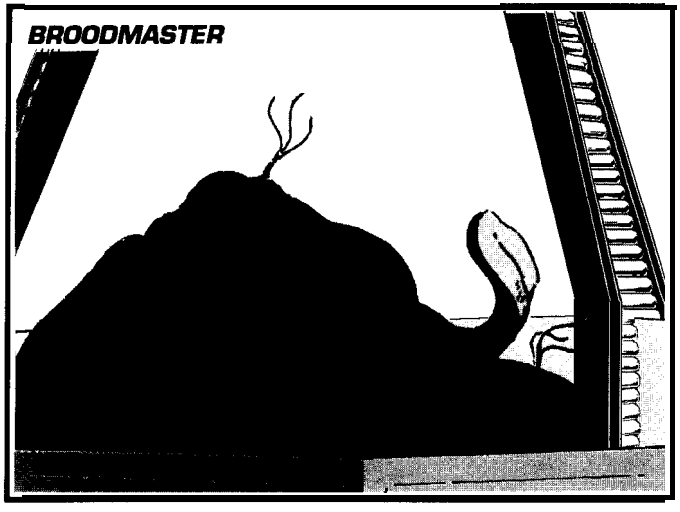
4. A FEW ALIENS

Dozens of different alien species are known to exist. Six alien races that humans have had some experience are described below. These races are known to inhabit the Hyades cluster. When you travel to other clusters, be prepared for anything.

4.1. BROODMASTERS

4.1.1

BROODMASTER GENERAL INFORMATION



Biology: An individual broodmaster is always accompanied by several insectoid broodlings. The broodmaster itself holds the main brain, and resembles a large dark sac of tissue, capable of extruding appendages. Normally the master remains within a protective shelter.

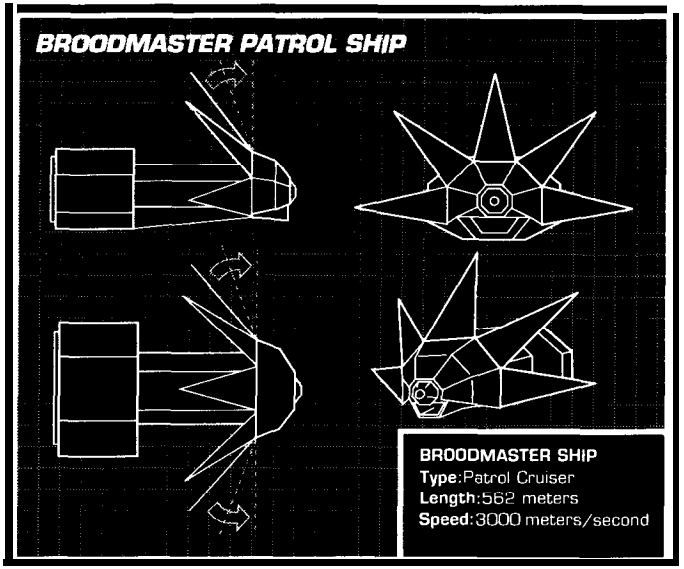
The broodlings serve as eyes, ears, and hands for the master unit, and they also groom and feed the master. They themselves feed oarasitically on a oroteinaceous secretion which seeps from'the master's pores. If the master dies or is incapacitated, the broodlings go into a dormant state and eventually die.

Personality: Broodmasters value territory above all and continually colonize new worlds, conquering and enslaving the native populations as desirable. Broodmasters are also cowardly, and generally refrain from aggressive action without first ensuring success.

4.7.2.

BROODMASTER WARSHIPS

Broodmasters field four known types of ships. These are the patrol ship [562 meters long], light cruiser [I 104 meters long], cruiser [2400 meters], and battleship [4800 meters]. The patrol ship is only encountered when near to a broodmaster colony. Broodmaster vessels always operate alone or, at most, accompanied by one patrol ship.



The main armament of a broodmaster ship consists of one to six neutron spark launchers, the exact number depending upon the ship's type. These neutron sparks deliver heavy damage. This, added to the fact that the sparks are fired in volleys, makes a broadside from a large broodmaster ship extremely dangerous.

All broodmaster vessels are equipped with frontal laser turrets for close-in defense against missiles. In addition, cruisers and battleships are armored, rendering their main hulls immune to your fighters. Battleships (only] are equipped with screen generators, which must be destroyed before your main gun can take effect on them.

Broodmaster ships are generally slow and unmaneuverable. Their normal tactic is to head straight for your *Trailblazer.* When the broodmaster ship is within range, it ceases movement and begins firing. If you move, the broodmaster ship will swivel to keep you in its sights.

Broodmaster Patrol Ship [warship]
Length: 562 meters [I 850 feet]
Normal Combat Speed: 3000 meters/second (10,800 kph, or 6500 mph]
Armament: light neutron spark launcher
damage rating: 1
firing arc: straight ahead
Defenses: frontal laser turret

Broodmaster Light Cruiser (warship]
Length: 1104 meters [3640 feet]
Normal Combat Speed: 2400 meters/second (8600 kph, or 5200 mph]
Armament: twin neutron spark launchers
damage rating: 4
firing arc: straight ahead
Defenses: frontal laser turret

Broodmaster Cruiser (warship]
Length: 2400 meters [7920 feet]
Normal Combat Speed: 1800 meters/second [6500 kph, or 3900 mph]
Armament: quadruple neutron spark launchers
damage rating: 8
firing arc: straight ahead
Defenses: frontal laser turret

Broodmaster Battleship (warship]
Length: 4800 meters [I 5,800 feet]
Normal Combat Speed: 1200 meters/second 14300 koh. or 2600 mph]
Armament: sextuple neutron spark launchers
damage rating: 12
firing arc: straight ahead
Defenses: frontal laser turret

4.2. CICISBEO

4.2.1.

CICISBEO GENERAL INFORMATION

Biology: These are genetic mutants engineered by their mythic founders, the Bright Masters. Most births are test-tube babies, formed by artificial chemical stimuli. For the first three years of life, a young Cisisbeo lives as a worm-like embryo inside a glass aquarium. After it has grown to the point where it can survive outside its life-support systems, it is carefully evaluated by trained judges. If it is deemed inferior, it is immediately destroyed. A Cicisbeo that survives this initial judgment is transferred to a windowless metal chamber where it lives and grows for nine more years, seeing no other living creature and being taught by robot tutors, learning the complex Cicisbeo societal intricacies. At the age of 12, the young Cicisbeo has reached its full growth and adult form, and leaves its room to be judged yet again. Once more, if it is considered less than fully acceptable, it is destroyed in a tasteful, yet painless, manner. The survivors enter Cicisbeo society.

Personality: Cicisbeo that have reached the age of 8,000 years or more are considered Elders. Cicisbeo do not die naturally, nor do they grow physically after the age of 12. The Cicisbeo has the ability to focus its being on a single goal. Once a Cicisbeo has set its mind upon some such goal [which could be destruction of an enemy, desire for an object, etc.], all its skills and abilities are degraded except when being used in an attempt to accomplish its chosen goal. In this latter case, the pertinent skills are each greatly enhanced. A Cicisbeo often chooses its goal for what seem petty reasons to humans. In general, Cicisbeo respect beauty and elegance, and the elder of two Cicisbeo is usually socially senior to the younger.

CICISBEO

4.2.2.

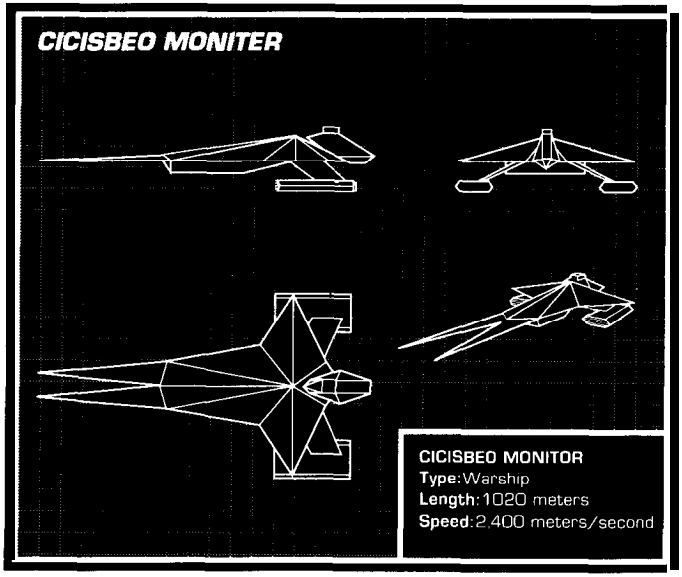
CICISBEO WARSHIPS

The Cicisbeo appear to possess only one type of warship: the monitor. This is a small ship, only 1020 meters long from its nose to the tip of its “tail”. In open space, monitors are always accompanied by three fighters, termed “birds” by the Cicisbeo.

A monitor is equipped with a large store of nuclear homing missiles, which it fires singly. Birds are armed with conventional blasters.

The monitor is equipped with two laser turrets for all-around defense against missiles. However, it is unarmored and thus vulnerable to any fighter that can get past the turrets. The birds are good-sized for fighters, and relatively slow. However, they pack a correspondingly heavier punch.

The typical Cicisbeo tactic is to send in the birds to make attack runs on your *Trailblazer* while the monitor circles, firing homing missiles. The Cicisbeo are not a warlike race, and if the monitor takes too much damage it retreats, taking the birds with it.

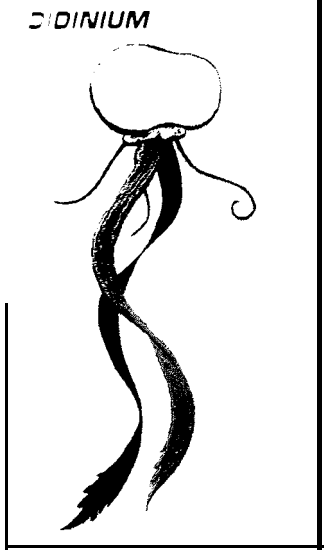


Cicisbeo Bird (fighter]

Length: 347 meters [1040 feet]
Normal Combat Speed: 5400 meters/second (19,400 kph. or 11,600 mph)
Armament: blaster
damage rating: 0.25
firing arc: straight ahead

Cicisbeo Monitor (warship]

Length: 1020 meters [3360 feet]
Normal Combat Speed: 2400 meters/second (8600 kph, or 5200 mph]
Armament: homing missiles
damage rating: 1.5
firing arc: all-round
Defenses: two laser turrets (top & bottom)



4.3. DIDINIUM

4.3.1.

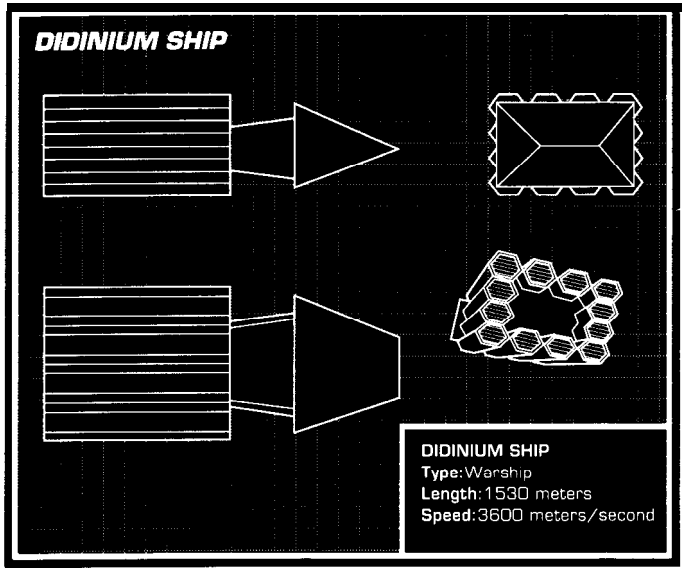
DIDINIUM GENERAL INFORMATION

Biology: Well over ten feet long, these aliens have small encapsulated bodies and several long ribbon-like tendrils. Whip-like structures spring from the base of their translucent bodies. All known Didinium live in spaceships. They are able to survive full vacuum. Water crystallizes and decomposes their tissue, so when visiting a planet surface they wear spherical self-sealing transparent envelopes to protect themselves.

Personality: The Didinium communicate among one another via controlled pulses of gamma radiation. Their weapons, tools, and shipboard command devices are operated similarly, in combination with manual controls. The Didinium are viewed as enemies by other sapients, as their custom is to move in on a traveling ship in force, quickly loot useful components with destructive weapons, and then abandon the gutted vessel.

4.3.2.

DIDINIUM WARSHIPS



Only one type of Didinium ship has been sighted. It is not particularly large [I 530 meters long], and it is not known whether it operates alone or in groups.

The armament of the Didinium is unknown. However, the large scoop on the front of their vessels would appear to indicate that their weapon, if any, is quite unusual.

Current information available indicates that the Didinium craft lack either laser turrets or screen generators. However, they are large enough to carry armor.

Their tactics are unknown, but presumably are based around their mysterious weapon. Despite their moderate size and innocuous appearance, Didinium ships are known to have defeated foes many times their size. These may have been the result of teams of Didinium working together, however.

Didinium Ship (warship]

Length: 1530 meters [5050 feet]
Normal Combat Speed: 3600 meters/second [I 3,000 kph, or 7800 mph]
Armament: unknown
Defenses: unknown

4.4. FEL

4.4.1. FEL GENERAL INFORMATION

Biology: Nothing is known of the Fel biology other than it appears somewhat compatible with human. Devices and chemicals found within the single Fel artifact discovered indicate that they exist in an atmosphere similar to our own, and are apparently carbon-based.

Personality: The most recent information indicates that the Fel are highly developed socially. They are less warlike and more cooperative than even humans.

4.4.2. FEL WARSHIPS

The only type of Fel vessel available for study was a wrecked cargo pod [1008 meters long]. The pod found was incapable of movement on its own, and presumably had been attached to some sort of transport vehicle.

Armament and defenses of the Fel are currently unknown. All indications are that they are an unaggressive species, and perhaps their ships are not particularly lethal.

LUTIN

4.5. LUTIN

4.5.1.

LUTIN GENERAL INFORMATION

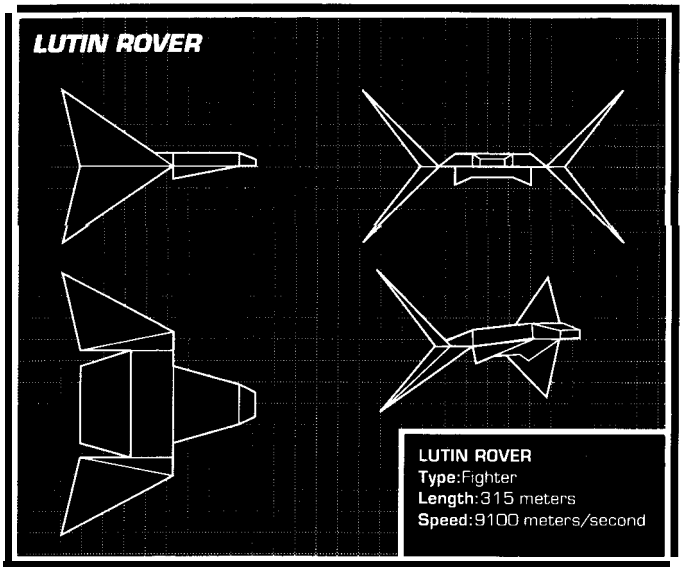
Biology: Lutins are tallish insect-like hexapods. A Lutin's head is flattened, with a pair of large eyes and a battery of complex mouthparts. All members of a Lutin colony appear to be identical, and may even think identical thoughts.

Personality: They evolved as plains predators and their ancestors have been using missile weapons for over seventy million years-since before their species was considered sentient! Lutin skill with weapons is infamous; they are hatched knowing how to fire and repair a laser. Their language is instinctive, so all Lutin can speak and understand from birth, and are full members of their community no matter what their age.

4.5.2.

LUTIN WARSHIPS

The Lutin operate only one type of ship in deep space, the fairly small Rover (315 meters long]. They are known to have a wider assortment of specialized ships for planetary defense. The Rovers in deep space are always encountered alone.



Each Rover is equipped with a spinal gun, running the length of the ship. It fires a pellet similar in nature to the antiproton ball launched by our own ship's main gun. Do not be deceived by the Rover's small size — its cannon is surprisingly powerful; and packs a punch heavier than that boasted by many larger ships. The Rover can fire its pellet only periodically, however, and has no other armament.

The Rover possesses no armor or other defenses. Rovers and probably other Lutin ships are extremely quick and maneuverable. The Lutin, like insects, fight to the death and never flee.

Lutiri Rover (large fighter)
Length: 3 15 meters [1450 feet]
Normal Combat Speed: 9100 meters/second [32,800 kph, or 19,700 **mph]**
Armament: spinal gun
damage rating: 4.5
firing arc: straight ahead

4.6. STENTOR

4.6.7. STENTOR GENERAL INFORMATION

Biology: This species is known to have entered our galaxy 20,000 years ago. Reportedly, they have significant hyperspatial abilities and can perform feats with their peculiar biology that are unknown to other species. Most reports agree that the Stentor are small creatures. They manipulate various tools by magnetism, rather than through dexterous appendages.

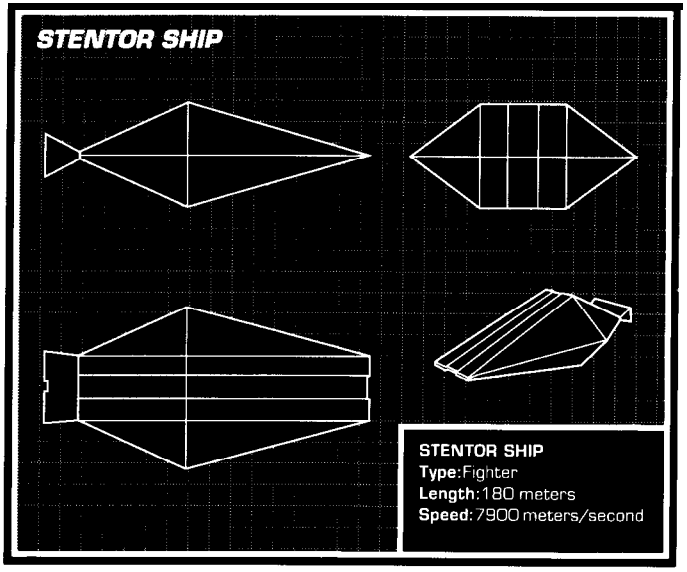
Psychology: The Stentor are efficient. Even the most barbaric actions are done with carefully-calculated ends in sight. Their savage suppression of ships that refuse to surrender serves to discourage other would-be foes. The Stentor tend to be brave and flamboyant, but ruthless.

4.6.2. STENTOR WARSHIPS

Only one type of Stentor ship is known: the 180-meter-long fighter. It is small and simply-built. Available information conflicts as to whether the Stentor operate singly or in large packs.

The Stentor are armed only with conventional blasters, and possess no defenses besides speed and small size. In light of this, it is disquieting to learn that their vessels are widely feared, and most starship captains go out of their way to avoid Stentor territory.

Stentor tactics are reportedly conventional, if aggressive. Because of their reputation, we advise extreme caution when encountering the Stentor.

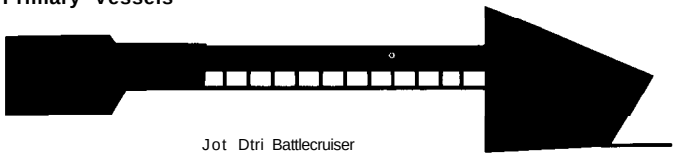


Stentor Ship (fighter)

Length: 180 meters [600 feet]
Normal Combat Speed: 7900 meters/second [28,400 **kph, or 17,100 mph]**
Armament: twin blasters
damage rating: 0.5
firing arc: straight ahead

SHIP SIZE COMPARISON CHART

Primary Vessels



Jot Dtri Battlecruiser

Didinum Cruiser

Cisisbeo Monitor

Terran Fighter

Terran Trailblazer

Broodmaster Patrol Ship

Aircraft Carrier

Golden Gate Bridge

Manhattan Island [Cross Section]

Lutin Rover

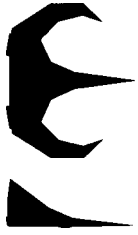
0 5000

Thousands of Feet

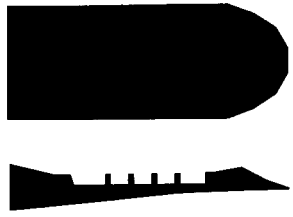
Fighters/Secondary Vessels

Aircraft Carrier

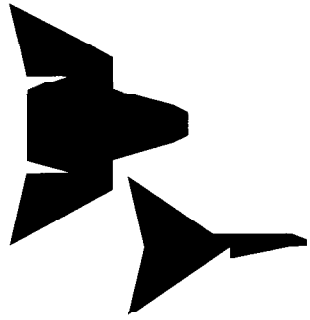
Halicot Fighter Stentor Fighter



Terran Fighter



Vorc Fighter



Lutin Rover

0 2000

Thousands of Feet

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