673 Duncan Oakes Drive

North Baysville, CA 53286

North America

Earth

Sol

1/1/3200

Dear Jake

I never forget my promises and I always repay my debts. Your actions last October saved my youngest daughter and for that I will be eternally grateful. I know I can never fully repay you for what you have done, but I couldn't live with myself if I didn't try.

We didn't spent much time together before the explosion but I remember how passionately you spoke of your grandfathers travels through space. This struck a chord with me as it is a life I have also experienced. The isolation, being your own boss, never having to see another living soul if you don't want to, the possibility of flying away from civilisation and not stopping till you have passed the edge of explored space. Living your dreams where you want, when you want. There is a Pioneer in all of us, but I know yours is stronger than mine.

Packaged with this letter is the manual and access chit for a second-hand shuttle, a small token of my appreciation. By the time you receive this letter she'll be fuelled, certified and ready to fly from your local starport. It may be a small ship but it punches above its weight in terms of performance. She even comes loaded with the basic equipment to get you going, but it'll be up to you to equip her properly.

I know this is a lot of new information, most of it foreign to you so I've annotated the manual where appropriate. You'll struggle at first, It took me a year in space to find my feet (metaphorically of course), but you'll quickly find the niche that’s right for you. There is money in trading – I'm proof of that – but something tells me that won't sate your thirst for adventure. Doing odd jobs can be its own reward, never working for the same person twice, drifting on the darkest sea like the sail boats of old. Bounty Hunting may come later if you have the skills. If not you may fall into the trap of piracy, but I pray you won't. If you get bored you can always run freelance missions for one of the governments. The Galaxy is at peace my friend, but I find that is when it is at its most dangerous.

I can't tell you what will happen, where you go and whether you will survive, but regardless of the outcome I hope you enjoy the journey and that my small token brings you a lifetime of happiness.

If you are ever back this way again make sure you stop by for a beer.

Your friend,

Carl Noebbers

WELCOME!

CONGRATULATIONS on your purchase of the \*cough cough\* shuttle, the robust backbone of the interplanetary travel market.

The Spartan interior maximises cargo space yet contains all the necessities for any traveller. You'll be surprised at just how much you can fit into this tidy little ship. As part of a recent promotion your new \*cough cough\* shuttle includes a raft of free equipment to ease your transition into the life of space.

We know you'll enjoy your new life with our \*cough cough\* shuttle and will be pleased to know that it is compatible with equipment sold at all good shipyards and resellers across the galaxy.

**\*cough cough\* shuttle Technical Specification**

* A control seat made of the all new Gravi-gel composite, a mouldable material that protects you from high acceleration forces yet retains strong feedback to make you feel in control at all times
* A Schekt and Muhr 1.2 megawatt pulse cannon, an unfortunate necessity in this day and age. The S&M cannon is a cost effective weapon with a low profile and high accuracy.
* A 25 tonne ship with a 20 tonne hull capacity. With 15 tonnes of equipment included that leaves an amazing a 4 tonne capacity cargo bay with 1 tonne of fuel.
* A thruster capable of supplying a peak acceleration of \_\_\_\_g
* Fines Ceramic grade atmospheric shielding – guaranteed for a thousand re-entries
* A single missile mounting compatible with a range of missiles.
* A Brabham designed and built class 1 hyperdrive, renown as one of the most robust drives still available on the market. This hyperdrive gives you a range of eight whole light years.
* A standard autopilot for ease of navigating.
* SystemNav Scanner

*Don't worry about all this stuff kid, it's just the usual salesman crap. Your ship has everything you need to start your career in space, but you'll need to think quickly about what else you need. Defense, offense, intelligence gathering. There's more equipment to buy than stars in the sky so keep a cool head and spend your money wisely.*

**PIONEER**

* SECTION ONE: ICONS

Using the console to control your ship.

* SECTION TWO: NAVIGATION AND FLIGHT

Getting around the galaxy and flying your ship.

* SECTION THREE: COMBAT

Using offensive and defensive equipment.

* SECTION FOUR: THE SHIPYARD

Buying new ships, equipping them, and contacting local police.

* SECTION FIVE: TRADING

Using the Stockmarket and the black market.

* SECTION SIX: MINING

Mining asteroids and planets.

* SECTION SEVEN: POLITICS

Information on current galactic politics.

* APPENDIX ONE: SHIPYARD EQUIPMENT

A breakdown of all available equipment.

* APPENDIX TWO: TRADE ITEMS

Items you can expect to trade

* APPENDIX THREE: AN INTRODUCTORY JOURNEY

If you need further guidance before going it alone, this is it.

* APPENDIX FOUR: THE MECHANICS OF SPACE FLIGHT

Technical details not for the faint-hearted, by David Braben.

* APPENDIX FIVE: SHIP IDENTIFICATION

Facts and figures about some of the ships you will see and fly.

**SECTION ONE - ICONS**

**USING THE CONSOLE**

This is a guide to using the console to control your ship there is also a summary sheet which summarises the use of icons.

**SELECTING AN ICON**

The icons are activated by first touching them with the tip of the mouse-controlled pointer and then pressing the left hand mouse button. Note that all icons give an indication of what will happen if that icon is selected. They do not show the current mode. The four main icons F1-F4 to the left-hand side of the scanner select the current type of display. The icons on the right-hand side F7-F10 change depending on the active display.

This section outlines the four main types of display and their associated functions.

**VIEW ICONS (F1)**

These icons allow you to cycle through a choice of views of the space through which you are travelling. They are: Front, Rear and External (and Turret if fitted). The position of the view from your ship is described in the View Status area.

* FRONT VIEW

This gives the view in the direction in which your ship is pointing. It is not necessarily the direction in which you are travelling. If you have a gun at the front, crosshairs will be positioned in the centre of the screen.

* REAR VIEW

A view in exactly the opposite direction to the front view. Crosshairs will only be visible if you have a gun mounted on the rear.

* EXTERNAL VIEW

An external view is simulated by your onboard computer and can be useful for aligning your ship. Some landings are particularly pleasing if viewed in this mode. Use the Arrow (Cursor) keys to change the angle of view, the - key to zoom in and the + key to zoom out. This can be used for general surveillance of the surrounding space.

It needs to be borne in mind that the view is locked to the orientation of the ship. For example, if you are looking at the craft from the side and it is rolling, you will not see it roll, but the space around it will appear to move and the craft will stay still.

* TURRET VIEW

If you have top or bottom turrets on your ship this icon will become available and is needed in order to fire lasers from turrets. If you have two turrets (top and bottom) and you select this icon, the view presented will come from the turret you were using last. Use of the right- hand mouse button will move the angle of view, not the orientation of the ship. If, when using the mouse, you dip below the level of the turret, the view automatically changes to the other turret if you have one.

**FLIGHT CONTROL ICONS (F7)**

This icon on the right hand side of the display is operational in View mode only. It switches between Engines Off (Fig 2) and Manual flight (Fig 3). If you have an Autopilot and have selected a target (see THE AUTOPILOT on page 20), then the Flight Control icon will cycle through Autopilot (Fig 4) too. When you are landed, the Vertical Take-Off icon (Fig 5) is the only option available. The status of your ship and its engines is described in the Ship Status area.

**HYPERSPACE ICON (F8)**

While in View mode select this icon (Fig 6) to make a hyperspace jump. See the NAVlGATION AND FLIGHT section on page 23 for details.

**UNDERCARRIAGE ICON (F9)**

In View mode use of these icons raises or lowers the undercarriage (Fig 7 and Fig 8). The Autopilot does this automatically when landing, but in Manual Flight you must operate it yourself.

**IDENTIFICATION TEXT ICONS (F10)**

In View mode these icons (Fig 9 and Fig 10) are used to name all identified objects on your display to aid navigation as the name can sometimes be seen before the body itself.

**MAP ICONS (F2)**

These icons cycle through two map pages: Galactic Map (Fig 11) and Current System Map (Fig 12). See the NAVIGATION AND FLIGHT section on page 11 for a more detailed description. Note that the functions of icons F7 to F10 are not always the same in Galactic Map and Current System Map (see below).

**GALACTIC MAP ICON (F2)**

A grid map of all the star systems in the galaxy is displayed and the following options are available:

* **DATA ICON (F6)**

Gives geographical and physical data on the selected system if it has been explored This is only present if a system has been selected. Selecting the Data icon calls up the following four functions:

GALACTIC MAP (F6) Returns you to the Galactic Map.

ECONOMY ICON (F7) Gives data on imports, exports and illegal goods for the selected system.

SOCIAL STRUCTURE ICON (F8) Gives data on government type, population etc, for the selected system.

ORBITAL MAP ICON (F10) Provides a diagram of the orbits of all bodies within the system shown. They can be seen in motion using the Forward and Rewind icons (see below). For closer observation of bodies use the Zoom icons F7 and F8.

* **ZOOM ICONS (F7, F8)**

Allow the view to be magnified (Fig 14) or reduced (Fig 15), except in Data mode F6 where F7 and F8 are redefined for other uses.

* **~~TOOLS ICON (F9)~~**

~~The galactic map can be redefined for easier and faster use. Selecting the Tools icon calls up the following four functions:~~

~~STALKS ICON (F7) Turns height indication stalks on the galaxy grid map on or off.~~

~~GRID ICON (F8) Turns grid on the Galactic Map on or off.~~

~~TRADE ROUTES ICON (F9) Turns Trade Routes on the Galactic Map on or off.~~

~~IDENTIFICATION TEXT ICON (F10) Some text on the Galactic Map can be turned on or off.~~

* **GALACTIC VIEW ICON (F10)**

Shows a creator's eye view of the galaxy to remind you of how small you are. The brightness of each pixel depends on the number of stars in the area covered by that pixel. Use the Zoom icons F7 and F8 to adjust the view. Select the Galactic Map icon F10 (Fig 18) to return to the Galactic Map.

**CURRENT SYSTEM MAP (F2)**

Shows an orbital map of the system through which you are travelling. Again, bodies can be seen in motion or at close range. Use the Zoom icons F7 and F8 to adjust the view. The following options are also available:

* **TOOLS ICON (F9)**

The orbital map can be redefined for easier and faster use. Selecting the Tools icon (Fig 19) calls up the following two functions:

ORBITAL ICON (F9) Turns orbital lines on or off.

IDENTIFICATION TEXT ICON (F10) Turns names of bodies on or off.

TARGETING ICON (F10) Enables you to select targets for combat or the Autopilot. Do this by

activating the icon (Fig 20), then clicking on the body to be targeted. See the COMBAT section on page 35 and the NAVIGATION AND FLIGHT section on page 11.

**INVENTORY ICONS (F3)**

If activated. this icon will cycle through seven information pages, in order:

SHIP'S EQUIPMENT (see the SHIPYARD section on page 49)

COMMANDER PROFILE (see the COMBAT section on page 35)

CREW ROSTER (see the TRADlNG section on page 55)

CARGO ON BOARD (see the TRADlNG section on page 55)

PASSENGER ROSTER (see the TRADlNG section on page 55)

OUTSTANDING CONTRACTS LIST (see SHIP'S INVENTORY on page 60)

MININING INSTALLATIONS (see the MINING section on page 65)

See also SHIP'S INVENTORY on page 60 for a summary of the pages contents. Note that if there is no information on a page it will not be displayed.

**COMMUNICATION ICON (F4)**

The effect of this icon (Fig 21) is different depending on whether you are landed (or docked) or in flight.

* **COMMUNICATION WHILE LANDED (OR DOCKED)**

When this icon is selected a list of options will appear (Fig 22), for example Stockmarket (See the TRADING section on page 55), Bulletin Board (see the TRADlNG section on page 55), Launch Request (see the NAVlGATION AND FLIGHT section on page 30) and Shipyard Services (see THE SHIPYARD section on page 49).

* **COMMUNICATION IN FLIGHT**

A list of messages to be broadcast will be superimposed on the main display (Fig 23) Options include a request for landing or docking clearance and sending messages to others. Some will provide a further list of communications ,for example Broadcast message to all in range.... which allows you to send distress calls or demands for surrender. You can also contact the police and settle any outstanding fines by remote payment. See the TRADING section on page 55, the COMBAT section on page 35, and the NAVIGATION AND FLIGHT section on page 11.

FORWARD AND REWIND ICONS

They are only displayed when orbital maps are in use (see the NAVIGATION

AND FLIGHT section on page 11), and are used to show the position of bodies

at different points in time. The simulated time is displayed at the bottom

left hand corner of the screen.

TIME CONTROL ICONS

These allow the pilot to alter the apparent speed of time. The single arrow means real time and the arrows to the right increase the passage of time by 10 to 10,000 times. The icon on the far left hand side is a pause button to halt everything. See the NAVIGATION AND FLlGHT section on page 11 and the TRADING section on page 55. The pilot should realise that his enemies are similarly sped up, so using these icons will only make a dodgy problem worse.

THE WEAPON CONTROL PANEL

Call up the Weapon Control Panel (fig 26) by selecting the Scanner area. Some items of your ships equipment do not have icons because they work automatically Those that do have an icon which needs to be activated in order for them to function are illustrated in the grey boxes. In the bottom right hand corner of the icon, the letter for the keyboard short cut is shown. The separate icon guide lists the weapon and equipment icons. See also the COMBAT section on page 35 for details of use of weapons and APPENDIX ONE: SHIPYARD EQUIPMENT on page 69 for technical details of weapons and equipment.

**SECTION TWO: NAVIGATION AND FLIGHT**

**NAVIGATION**

One part of your ship that is impressive is the Galactonav space navigation

facility, built in to all spacecraft. You have a number of facilities at

your disposal by using the Map icons F2 (Fig 27 and Fig 28).

Those icons cycle through two maps: the map of the galaxy and a current

map of the system in which you are travelling. Depending on which map you

are viewing the icons on the bottom right-hand side of your console have

different functions (see GALACTlC MAP ICON on page 5 and CURRENT SYSTEM MAP

ICON on page 7).

VIEWING THE GALAXY IN DETAIL USING THE GALACTIC MAP

---------------------------------------------------

Select the Galactic Map icon F2 to obtain a map of all the star systems in

the galaxy (Fig 29), thanks to the Galactic Survey of 2817. The positions

of all 100,000,000,000 stars (approximately) were mapped as soon as

technology provided telescopes sophisticated enough to do the job.

A grid is drawn through the plane of the galaxy to aid visual orientation

and provide navigational coordinates. The galaxy is divided up into

sectors. Since the galaxy is thin and flat, sector coordinates are only

two dimensional with a sector measuring eight light years along each edge

and containing all the stars above and below it. Sector boundaries are

shown in bright green on the map, and their coordinates are given relative

to the Solar system for historical reasons.

From Sol's sector, 'east' and 'west' coordinates are represented by the

first coordinate 'east' being a positive and 'west' a negative number.

Similarly, 'north' and `south` are represented by the second number, with

'north' positive. Up to nine sectors are displayed at once on the screen

and the coordinates of the central sector are displayed at the bottom

left-hand corner. Each star is shown coloured according to type (eg. red

for a red giant. blue for a hot blue star) and with a line indicating its

height `above` or 'below` the galactic plane.

The pink lines linking systems are recommended trade routes in case you

feel you need some guidance to start with. They were compiled by the

Zebulon Intergalactic Trading Corporation five years ago.

MOVING AROUND THE GRID

To move around the grid, use the Arrow (Cursor) keys. The system in the

centre is highlighed in green and a small amount of information on it is

shown on the console. The system you are currently travelling through is

highlighted in pink.

To change the angle of the grid itself (Fig 3O), to see the relative

positions of systems more clearly, hold down the right hand mouse button

and move the mouse.

You can zoom in and out with the Zoom icons F7 and F8

You can re-centre the map by pressing the C key.

MANIPULATING THE GALACTIC MAP

Once familiar with the grid, faster operation can be achieved by electing

to discard certain features (Fig 31 and Fig 32). Select the Tools icon F9

and four different icons become available which enable you to adjust

certain features of the grid.

. The Stalk icon F7 will turn the distance lines on or off.

. The Grid icon F8 will turn the grid on or off.

. Trade icon F9 will turn the trade routes on or off.

. The Identification Text icon F10 will remove the incidental and other

details like Core System.

As you elect to do any one, the four icons disappear but can be brought

back again with the Tools icon F9.

OBTAINING DATA ON A SYSTEM

ASTRONOMICAL DATA

From the grid map, select the system you are interested in by using the

Arrow (Cursor) keys to move it into the middle of the screen where it will

be highlighted in green

Use the Data icon F6 and a schematic summary of all astronomical bodies in

the system will appear, if the system has been explored (Fig 33).

Use the mouse to pick out individual bodies on which you require

geographical and physical data including:

Average surface temperature.

Major starports.

Orbital period (which is the sidereal period measured in Earth days).

Average orbital radius.

Orbital eccentricity and inclination, measured relative to the rotational

plane of the central body.

Clicking away from the text returns you to the general system data.

Alternatively click on another body.

If you want to return to the grid map of the galaxy, use the Data icon F6

again or the Galactic Map icon F2.

When in Data mode F6 the icons F7, F8 and F10 have new functions, as

follows:

DATA ON ECONOMY OF SELECTEO SYSTEM The Economy icon F7 gives a breakdown of

imports, exports and illegal goods. Exports tend to be cheap and imports

expensive.

DATA ON SOCIAL STRUCTURE AND COORDINATES The Political icon F8 gives

relevant details on Government type, economy, allegiance and population.

Sector coordinates in the Galactic map are also given here.

CONFIGURATION OF ORBITS OF THE SELECTED SYSTEM While still in System Data

mode F6 use of the Orbital map icon F10, will allow you to see the orbital

configuration of the system you selected (Fig 34), To alter the viewing

angle. press the right-hand mouse button and move the mouse.

VIEWING ORBITS WITH RESPECT TO TIME The orbital map shows a `snapshot' of

the positions of bodies. Select the Forward or Rewind icons on the right

hand side of the screen to predict the position at different times. The

time and date shown at the bottom left hand side of the screen will change

The real time is displayed underneath it.

VIEWING A SPECIFIC BODY Click on a body which will then become central on

the screen and use the Zoom icons F7 and F8.

MANIPULATING THE SELECTED SYSTEM ORBITAL MAP

Select the Tools icon F9 and two different icons become available which

enable you to adjust the features of the grid.

The Orbital icon F9 removes or replaces the orbit lines.

The Information Text icon F10 removes or replaces the text on the screen.

To get out of the Orbital map, use the Map icon F2 to return to the

Galactic map.

THE GALACTIC VIEW

This feature can be used to get an idea of perspective. While in Galactic

map mode, click on Galactic View icon F10 and a Creator's eye view of the

galaxy is shown (Fig 35).

At maximum zoom (showing 500 light year scale) each pixel represents a

single sector To zoom in and out use the Zoom icons F7 and F8 (Fig 36).

Note that the resolution is best while not zooming. When you stop zooming,

improvement of the first, coarse picture is made as quickly as possible by

the on board computer.

The Galactic Map icon F10 can be used to return to the Galactic map.

USING THE CURRENT SYSTEM MAP

----------------------------

VIEWING THE CONFIGURATION OF ORBITS

1. Select the Map icon F2 twice and a map of the system you are currently

in is displayed, showing the configuration of the orbits (Fig 37).

2. Zoom in and out with the Zoom icons F7 and F8.

3. Alter the viewing angle by holding down the right-hand mouse button and

moving the mouse as for the Galactic map.

VIEWING ORBITS WITH RESPECT TO TIME

The orbital map shows a 'snapshot' of the positions of bodies. Select the

Forward or Rewind icons on the right of the view screen to predict the

positions at different times. The time and date shown at the bottom

left-hand side of the screen will change. The real time is displayed

underneath it.

VIEWING A SPECIFIC BODY

Click on a body which will then become central on the screen and use the

Zoom icons F7 and F8

Note that the Autopilot can be targeted using the Current System map (see

the FLIGHT section on page 20).

MANIPULATING THE SYSTEM MAP

Select the Tools icon F9 and two different icons become available which

enable you to adjust certain features of the map.

The Orbital icon F9 will remove the Orbital paths.

The Information Text icon F10 will remove the names of the bodies.

OBTAINING PERMITS

-----------------

Some systems, such as those with a prison colony, require visitors to have

permits in order to enter the system. Any such requirements for a system

will be shown on the console when using the Galactic Map.

Permits are not widely available and you will find that they can only be

obtained indirectly. This means that you must do business involving the

system in question, for example delivering a package, so that the client

must give you a permit.

FLIGHT

------

Your ship has three basic modes of flight: Autopilot, Manual and Engines

Off which can be selected by using the Flight Control icons F7 in View

mode. The Autopilot is by far the easiest way to control your craft but

does not give you a sense of achievement. Manual flight may take some

getting used to, but is more rewarding. Flying with engines off does not

get you very far, but has some advantages as you will see.

THE AUTOPILOT

This most useful device, although not usually fitted as standard, has been

included with your Eagle. It can be bought and fitted at a shipyard if

ever you need another one. Your Autopilot, the Robocruise automatic

navigation system, superseded the Celestial Pathfinder which was less

reliable.

The Autopilot can only be used to select a destination in the system

through which you are currently travelling. For longer journeys, a

hyperspace jump needs to be made

OPERATING AUTOPILOT IN VIEW MODE

The Autopilot can only be used when in flight.

Whilst in a View mode (use the View icon F1 if you are in another mode),

target a planet or space station which is on the screen by clicking on the

centre of the target Note that you will find it easier to find a target,

for example, a city, if the name is on screen. If names have been turned

off, select the Identification Text icon F10.

Clicking where there is no potential target deselects any previously

selected target.

When a target is selected a sight will come up with targeting squares and

the range in astronomical units or kilometres (Fig 38). If the target goes

off the screen an arrow will appear pointing in its direction. If it is

behind then Target Behind is displayed.

Use the Flight Control icon F7 and cycle through Manual and Engines Off

to Autopiiot.

The Autopilot icon will only appear if a target is selected.

OPERATING AUTOPILOT IN CURRENT SYSTEM MAP MODE

This mode can be used when the desired destination is too far away to be

visible. A target can be selected even while landed or docked but the

Autopilot can only be engaged while in flight.

Use the Map icon F2 twice to obtain the Current System map.

Use the Current System map controls until yon can see the desired

destination on the screen

Click on the Targeting icon F10.

Click on the centre of the desired destination (Fig 39).

If you wish to change the target, click on the Targeting icon before

selecting another body. Clicking on bodies without selecting the Targeting

icon will merely move that body to the centre of the screen.

If you wish to deselect the target, click on an area which is blank. This

will also disengage the Autopilot if it is currently in control.

Return to View mode using the View icon F1. Targeting squares, looking

like a tunnel leading to the destination, will be visible, if in Front or

Rear View.

If you are in flight click on the Flight Control Icon F7 and cycle to

Autopilot to engage it. To return to Manual flight, use the Flight Control

icon F7 and cycle to Manual or Engines Off.

The Robocruise will automatically plot and maintain the course to your

destination. It will also lower the undercarriage and dock or land for

you, having automatically asked for clearance, while you freshen up. Some

pilots find it disorientating when the Robocruise engages and swings the

ship round. The true Spacehound knows that it is only locking on to the

new course.

Remember you can only trade and do business in cities or at space stations.

If you do land anywhere else the console will indicate Landed (Rough).

The Robocruise really comes into its own when used in conjunction with the

Stardreamer Time Control unit which is fitted as standard on all ships due

to regulations regarding Wilbron's psychosis. This condition is known to

afflict the space traveller who endures lengthy, uneventful journeys.

Boredom becomes so intense after all leisure pursuits have been exhausted

that pilots have been known to fly their craft into the odd star or planet

just to liven things up a bit.

USING THE STARDREAMER TIME CONTROL

This can be used with the Robocruise or in Manual flight. Use the Time

Control icons (after targeting your destination if using the Robocruise) to

select the rate of time acceleration. Time appears to increase in steps of

ten from ten times to ten thousand times, depending on the icon selected.

Return to real time by selecting the single arrow.

Sit back and a combination of a Zilman field and ultrasonic waves induce a

semi- hypnotic state which renders you unaware of the passage of time other

than seeing the range indicator change rapidly in front of you. This

effect was discovered by Dr Rabbne by accident when he revised why his

projects were running over time for no apparent reason. Reassuringly, if

your ship is attacked or hailed or you have arrived at your destination,

the Stardreamer will restore you to full consciousness and real time.

Don't forget that your enemies may be operating in real time and hence will

seem to be sped up enormously.

HYPERSPACE JUMPS

----------------

Space is BIG and hyperspace jumps are necessary to access different systems

quickly. Hyperspace jumps can be made using either Standard Hyperdrive or

Military Hyperdrive engines which can be bought at the Shipyard and come in

different sizes with varying ranges. Refer to APPENDlX ONE: SHIPYARD

EQUIPMENT on page 69 for a description of them.

A hyperspace jump causes a disturbance resulting in a glowing field at the

entry and exit points. A Hyperspace Cloud Analyser can determine the

destination of the jumping ship (See APPENDIX ONE: SHIPYARD EQUIPMENT on

page 69) Before attempting your first jump, it is recommended that you read

the whole of this section.

RANGE

The range of the jump is determined by two things: fuel and the type and

class of engine. Details of these are given in the TRADING section for

fuel on page 55 and APPENDIX ONE: SHlPYARD EQUIPMENT for engines on page

74. Briefly the engines range depends on its class as well as the size of

the ship.

Engine ranges are displayed in two ways:

On the Inventory page select the Inventory icon F8 until the Ship Equipment

appears where the engine's range will be given.

On the Galactic map (Galactic Map icon F2, displayed in the panel, to the

right of the system name. If your engine is not up to jumping to the

destination selected, the mssage Out of Range will be given.

Fuel range is shown in two ways:

The amount of fuel required for a jump is displayed at the bottom left of

the Galactic map. If you have insufficient fuel then Insufficient Fuel

will also be displayed otherwise the fuel which will be used will be shown.

On the Galactic map, a pink circle will surround the system you are

currently in and this shows your maximum range for hyperspace in a single

jump.

JUMP DURATION

Although the perceived duration of a jump is very short, the actual time is

much greater It takes a week to make the maximum range jump for any engine.

For example an engine with a maximum range of 1O lightyears will take a

week to jump that far or 3.5 days for a 5 light year jump, and so on. A

ship with a maximum hyperspace jump range of 4 light years will take half a

week to jump only 2 light years. This has implications for piracy because

a pirate ship with a Hyperspace Cloud Analyser and a lighter ship can

'overtake' you and lie in wait. Contact in Hyperspace is not possible.

HYPERSPACE OPERATION

Target a system using the Galactic Map icon. by placing the required

destination in the centre of the screen with the Arrow (Cursor) keys. That

system becomes highlighted in green.

Return to View mode using the View icon F1.

Select the Hyperspace icon F8 (it will not show if you have no hyperspace

facility or a valid jump is not selected) and cross your fingers. If you

like you can set your destination. go about your business and be able to

make a quick exit at any time if things hot up a bit. Alternatively, if

you use the H key you can make your jump (Fig 40) without going into View

mode first.

Remember that the evidence of your hyperspace jump will be visible to

anybody in the vicinity of your exit or entry, as it leaves a glowing area

of disturbance in space. The destination can only be ascertained with a

Hyperspace Cloud Analyser, available at shipyards.

There are a number of reasons why the Hyperspace icon may not appear,

they are as follows:

You are too close to a planet. Regulations were laid down after the first

few decades of hyperspace jumping. Sudden above average recordings of

mutations around starports occurred a few years after jumps became routine.

It was discovered that the intense radiation caused by the jump was

affecting the population below. It became a requirement by law (on all

sides) that all ships have a cutout system built into the Hyperdrive which

is activated if you try to jump from near to a planet or space station.

A valid destination is not selected.

You do not have enough fuel for a jump to the selected destination.

Engine is damaged or destroyed.

You don't have a Hyperdrive engine!

MIS-JUMPS

Hyperdrives almost never go wrong, but if you are unfortunate enough to

suffer a spontaneous misjump, you can get into serious trouble. You will

emerge somewhere other than your planned destination, which may be out of

range for your remaining fuel. It is even possible to mis-jump beyond the

maximum range of your drive. If indeed your fuel reserves are too low or

the Hyperdrive is broken, your only hope is to call for help (Communication

icon F4) and risk pirates responding. It is not entirely understood why

mis-jumps happen but an unserviced Hyperdrive is a likely culprit. There

are no reliable statistics available on the occurrences of mis-jumps as

most ships are never found. A missing ship could just as easily be the

result of piracy.

FORCED MIS-JUMPS

Faulcon De Lacey do not condone this practice as it has an unpredictable

effect on the Hyperdrive. It is the equivalent of blindly jamming a

screwdriver into the works. We feel that it needs to be mentioned as a

warning because foolish pilots do use it as a last resort to escape

pirates. If they are being pursued by a larger pirate ship with a

Hyperspace Cloud Analyser they force a mis-jump by pressing the Alt key

while activating the Hyperspace icon or the F8 key. The pirates follow

them into hyperspace only to find that their quarry is nowhere to be seen

and is in fact somewhere else, frantically trying to work out exactly where

they are. The Hyperspace Cloud Analyser cannot distinguish a mis-jump from

a normal jump.

WASTE PRODUCTS

Unfortunately, the convenience of hyperspace travel is blighted with the

problem of waste products if you use military fuel. Due to the processes

in the Hyperdrive, every tonne of military fuel is converted to one tonne

of radioactives which you will need to dispose of on the stockmarket. See

APPENDIX TWO: TRADE ITEMS on page 77 for more information. Standard

Hyperdrive engines powered by hydrogen fuel do not produce problematic

waste products.

USING MANUAL CONTROL

--------------------

Due to the marked improvement of engineering technology the engines of the

craft are not controlled by the pilot directly, but by the on-board

computer in response to the pilot This fly by wire facility has enabled

many to take to the cockpit who would not have had the skill to do so.

The main problem for beginners is that they are usually accustomed to

driving surface based vehicles in reasonable gravity, or have only used

poor quality space flight simulators. What needs to be borne in mind is

that when direction is changed, the experience is rather like skidding. If

your ship is travelling in one direction changing course will mean that the

nose will turn but you still have momentum in the direction you were

originally going. The engines will compensate for this but there is a lag,

the duration of which will depend on the type of ship. For example the

response rate of a fighter will be faster than that of a heavy cargo ship.

This must be borne in mind at all times.

FUEL CONSUMPTION

Normal flight consumes much less fuel than hyperspace jumps and for that

reason fuel for this purpose is kept separately in an engine tank from the

hyperspace fuel (kept in the hold). Class 1 Engines hold one tonne, and

Class 2 Engines hold two tonnes. You do not need to refill very often and

the current level can be seen on the green gauge (left most of three) in

the dials area, to the right of the scanner. See INVENTORY ICONS in the

ICON section on page 8, and THE SHIP`S INVENTORY in the TRADING section on

page 60.

REFILLING THE ENGINE FUEL TANK

Spare fuel for refilling the engine tank is carried in the hold in one

tonne units.

To refuel the engine tank, select the Inventory icon F3 until the Ship

Equipment page is displayed. (Refuelling is done automatically with the

Auto Refueller fitted.)

Click on the Refuel button to transfer the fuel into the engine tank from

the hold.

If the engine tank only needs one third of a tonne, two thirds will be

wasted as the hold tank transfers units of one tonne only.

CONTROLS IN FLIGHT

TO MAKE THE SHIP DIVE Use the A key, push the joystick shaft forward or

move the mouse forwards while holding down the right-hand mouse button.

TO MAKE THE SHIP CLIMB Use the Z key, pull the joystick shaft back or move

the mouse backwards while holding down the right-hand mouse button.

TO GO LEFT Use the < key, move the joystick left or move the mouse to the

left while holding down the right hand mouse button.

TO GO RIGHT Use the > key move the joystick right or move the mouse to the

right while holding down the right hand mouse button.

Note that when flying with your engines off, the front and rear engines may

be controlled using the Enter and Shift keys respectively.

THE FRONT SCREEN

In Front View mode (see page 3 for a reminder) you will see two crosses on

your screen, One is a gun sight cross (Fig 47) which shows which way you

are facing, and the other is a diagonal cross, the velocity sight (Fig 48)

which indicates the direction in which you are travelling. When the two

are in line (Fig 49) it means that you are moving in the direction you are

pointing. If they are separate, it means that your velocity is in the

direction of the diagonal cross and you are pointing in the direction of

the gun sight because, for example, you have suddenly changed course. you

will hear the engines fire until alignment is achieved, You may see the

velocity sight disappear when your direction of travel is not within the

area of the screen if, for example, you veer wildly and the engines have

not yet compensated enough.

To summarise, the gun sight shows the orientotion of the ship and is

controlled by the pilot, the velocity sight indicates the direction of

travel and is controlled by the on- board computer.

Your ship's internal gyros enable it to rotate, much like those in the

ancient Earth satellites, good examples of which are now in the space

museum in Apollonius City on the Moon. While greatly superior now, the

gyros still have a limit to the rate at which you can turn, so don't expect

to spin 'on a sixpence' (small coin used in Britain on Earth, about 1,200

years ago).

SPEED

Speed is controlled with the Return key to accelerate and the right-hand

Shift key to decelerate. Two speed values are displayed on the screen:

Set speed and Actual speed (Fig 50). The first is the requested speed, set

by the keys above and the second is the speed relative to the most

important body in your vicinity. This important body can be a planet, star

or a space station or very large spaceship, and is selected by the on board

computer. If you fly away from it and the computer then designates

another, the actual speed will change, as will the velocity.

You will notice that the velocity sight will move as the on-board computer

adjusts your speed relative to the new body. For those who are happy to

point your ship at something and go, this is all you need to know. Pilots

wishing to be accomplished in flight theory should refer to APPENDlX FOUR:

THE MECHANlCS OF SPACE FLIGHT on page 91.

ALTITUDE

An altitude reading in metres will be displayed on the screen when in close

proximity to a planet or star. It will give your distance above the

average ground height of the body (Fig 50).

LAUNCHING

---------

SURFACE TAKE OFF

A warning sign is shown over the Take Off icon if permission to launch has

not been granted. If you are landed anywhere other than a starport (Landed

Rough) you do not need to ask for clearance. If you are in a starport

select the Communication icon F4 followed by Launch Request.

In View mode, activate the Right Control icon F7 for take off. This gives

you vertical thrust. The console will display Take Off.

This can seem quite slow so a faster ascent can be made if you tilt the

nose up once you have left the ground and increase your Set speed with the

Enter key. Using the rear view will display a pleasing panorama.

Once you have used forward thrust, the vertical thrust is turned off and

the console will display Manual Control.

Bear in mind that gravity will always pull you back down. If you wish to

fly in the atmosphere you must give the ship some lift by pointing the nose

up slightly thereby providing a small vertical component to the thrust.

LAUNCH FROM A DOCK

Activate the Commuication icon F4 and select Launch Request.

Accelerate forwards using the Enter key.

You must leave the area promptly because your clearance expires.

RUNNING WITH ENGINES OFF

If you are economising, turning off the engines has obvious advantages and

your engine flares wil not be visible to your enemies. It can make

manoeuvring easier when strafing a target. For example you can aim to fly

across a target and turning off the engines means you can point at it, go

sideways and shoot without the engines firing to propel you forward into

it. Experienced pilots often use this mode in combat, using the forward

and reverse thrusters (Enter and Shift).

SLING SHOT ORBITS

This technique for gaining speed was important in the early days of space

flight, but now it is unecessary due to advances in space technology. The

only reasons to do this are because it can be visually pleasing to sweep

past a planet or sun so that you can say you`ve done it. A sling shot uses

to your benefit the gravity of large bodies to 'sling` your ship in the

direction of its travel. Your engines need to be turned off otherwise they

will compensate for any effect and it saves fuel as well.

LOSS OF ENGINES

If an engine is disabled, the Autopilot will not function properly and only

very experienced pilots will be able to fly the ship manually.

LANDING AND DOCKING

-------------------

LANDING MANUALLY AT A CITY WITH A BREATHABLE ATMOSPHERE (AN OUTDOOR CITY)

Executing a manual landing will require practice, so try it in a relatively

safe area. You may find it easier to use External View to align the ship.

Remember though that the ship will appear to be stationary and the ground

will seem to move. You may also find it helpful to use the targeting

squares, obtained by setting your destination as a target (see THE

AUTOPILOT section on page 20 or the TARGETlNG section on page 36).

Normally the Autopilot flies to an area 20km above the target and descends

vertically. You can set the controls to Manual flight using the Flight

Control icon F7 at any point in this operation. Alternatively you can fly

the entire approach and land manually (Fig 41).

The easiest method is to make a pass over the port while waiting for

clearance (Communication icon F4) and lowering the undercarriage

(Undercarriage icon F9). If the undercarriage has not been lowered you

will crash land. When you have been told which landing pad to use, aim to

be more or less at zero speed when you come to rest above it. If you

select Engines Off, gravity will take you down, with the on board computer

stabilising the ship. If there is little or no gravity, you may have to

thrust slightly with the nose down to start with, but be careful.

LANDING AT A CITY WITH NO BREATHABLE ATMOSPHERE

Follow the same guide lines as for an outdoor city with a breathable

atmosphere. The only difference is the appearance of the landing area,

covered with a hexagonal airlock door (Fig 42). When clearance is granted,

the aperture will open to reveal the landing pad. Don`t ask for permission

too early or you will find that the clearance will be withdrawn and the

airlock shut. Again, the targeting squares may be helpful by providing a

'tunnel' through which you can fly (see THE AUTOPILOT section on page 20 or

the TARGETlNG section on page 36).

DOCKING AT A SPACE STATION

Request permission for docking (Communication icon F4) and wait until the

red flashing light turns white and orange homing lights are visible it is

illegal to approach prematurely. The on board computer matches your roll

with that of the station so you do not have to make difficult calculations

in order to dock. Position the ship immediatly in front of the docking

entrance and proceeding slowly (Fig 43). The dock`s vechicle arrest

mechanisnm will halt the craft provided your speed is not excessive.

SECTION THREE COMBAT

====================

USING YOUR WEAPONS

------------------

Welcome to the manual! (in case this is the first page you have turned

to).

While Faulcon de Lacy do not condone offensive combat, it is often

unavoidable. The best defence is always to run away if at all possible

(though many cultures reject this as cowardly). Combat is very dangerous,

and rarely ends up without expensive repairs being necessary.

Weapons (like missiles) may be controlled via the Weapon Control Panel of

your ship (Fig 52) which may be selected by clicking on the scanner area

with the left hand mouse button, or pressing the F5 key.

This display replaces the scanner display (if fitted). The scanner may be

restored by clicking on the area again (away from any icons) or by pressing

the F5 key. It should be borne in mind that keyboard shortcuts to the

Weapon Control Panel icons can still be used even if the Control Panel is

not currently selected.

As additional weapons and equipment are fitted to your ship, their icons

appear along the bottom of the panel. The icon boxes will remain blank

until you have obtained the equipment. As you buy missiles and mines, they

will be illustrated next to the icon boxes as shown above. It is

recommended that you read APPENDIX ONE: SHIPYARD EQUIPMENT on page 69 for

more technical information before buying anything.

TARGETING

Targeting is used for both long range navigation (see the NAVlGATION FLIGHT

section on page 11) and combat. One target can be set at a time.

Using the screen in Front, Rear, External or Turret View mode F1, click on

the centre of the ship to be targeted.

If you are in external or Turret View a sight on the target will appear

together with the range (Fig 53).

If you are in Front or Rear View you will be presented with the Targeting

Tunnel on your headup display (Fig 54). This is displayed as a series of

contracting squares along the path to the target, and looks like a tunnel.

The range of the target is given in Astronomical Units AU or kilometres km.

Targeting Tunnels are not normally shown for ships as they can be

confusing. They may be enabled by using the 'Preferences'.

In order to pursue the ship you fly down the tunnel. As you get closer to

the target the squares will be shown closer together, thus the squares will

come towards you faster. If you are approaching a stationary target then

ideally the squares should pass at a constant rate, as you slow down on the

final approach.

If the target goes off screen an arrow will indicate the direction in which

it lies, or, if it is behind your ship, Target Behind will show.

To deselect the target, click on a blank area that is not a potential

target.

You may also select another target at any time by clicking on another

object

Some pilots may find the 'tunnel' an annoyance. If you are one of these

refer to the Preferences sheet supplied separately from this manual.

OFFENSIVE WEAPONS

-----------------

Quite often, the best form of defence is attack, hence Faulcon de Lacy do

provide what may be considered offensive weapons. It should be made clear

that they should only be used in a defensive capacity against an attacker -

Faulcon de Lacy in no way condone any other use.

PULSE LASERS AND BEAM LASERS

One laser (or other gun) can be mounted at the front of your ship and, for

ships with a rear mounting, one at the rear. Some larger ships are fitted

with turret, which can each take a single weapon. There is a wide range to

choose from (see APPENDIX ONE: SHIPYARD EQUIPMENT section on page 69),

though the full range will only be available at the biggest shipyards. It

is rumoured that the military of both sides have developed additional

weapons for their own use, but this is usually denied.

A Pulse Laser fires a single high energy pulse about once every 5/8 of a

second, while a Beam Laser fires a continuous beam, so is far more

devastating. Even small lasers are reasonably effective up to 8km range,

but their effectiveness decreases with distance, as the beam spreads

slightly. It is recommended that you get your shots in at as short a range

as possible, for maximum efficiency.

Beware of laser reflections from certain types of surface, especially when

at a glancing angle, Though the beam may have lost much of its energy it

can still cause serious damage. There are also words that the Imperial

Navy are developing reflective armour, which reflects much of a laser's

energy back along the incoming path, though this is strongly denied.

OPERATING PULSE OR BEAM LASERS

Lasers are fired by pressing both mouse buttons together, the Spacebar on

the keyboard or the fire button on the joystick. The front mounted laser

will fire if you are in Front View mode F1, the rear laser if in Rear View

mode, and the appropriate turret laser if in a Turret View mode. If you

are in External View, then the front laser will be used irrespective of any

other lasers fitted.

It is quite common for lasers to overheat, particularly with more excitable

pilots and with the higher power beam lasers. It is unlikely you will do

your laser any damage by this as it is protected by an automatic cut out to

prevent it burning out, but it may stop working for a few seconds.

LASER COOLING BOOSTER

This reduces the problem of lasers overheating at that vital moment. It

supplements the built in cooling system of your currently selected laser,

causing it to cool more rapidly. It does not affect Plasma Accelerators.

USING MISSILES

If you want a quiet life, be careful who or what you use as target

practice. When the time comes to use one of these devices, proceed as

follows:

Arm the missile of your choice by clicking on one of the missile icons.

The console will show the type of missile or mine you have armed. You can

arm only one missile at a time so if you click again on a different

missile, you will be arming that one and disarming the previous one.

A Fire icon also appears. Clicking on this or pressing the M key on the

keyboard fire the armed missile at your target, but it is important to

remember that you can only firew if a target has been selected.

Disarming is simply achieved by clicking on the missile in question or

clicking on an another weapon.

All types of missile will home in on their selected target as rapidly as

their incredible 65g acceleration ZX34 Short Burn engine will allow.

Nevertheless they have limited fuel (enough for about one minute of flight)

so pilots do sometimes evade them. It is best to fire the missile from as

close to the target as you dare. Ideally while facing it. If the target

is behind, the missile will turn around, but this will waste precious

flight time, and give the target ship more time to use ECM if it has it.

The missile will detonate on hitting any solid object (including the ship

that fired it) but will attempt to avoid such non target objects if

possible. It does not need to hit the target in order to detonate - it may

detonate in close proximity and do almost as much damage. Due to an

international treaty it will also detonate when it runs out of fuel. A

small village was once destroyed by a missile which had been flying through

space for months, following the battle in which it was fired.

USING MINES

Mines operate just like missiles, but without drive systems. They need to

have an assigned target since they also will detonate in the proximity of

that target without necessarily hitting it. Mines are also susceptible to

detonation by ECM. Dummy Mines are a relatively recent innovation, and

still contain machinery internally in order to fool radar scans, hence

their weight. They are also visually indistinguishable from normal mines

so, although they are safe to scoop back up again, beware of accidentally

scooping a live mine instead, as the scoop mechanism will cause it to

detonate.

ENERGY BOMB

Generally only of use against smaller ships. This causes the main reactor

of all small ships' drive systems (within a range of about 100km) to

resonate and overload. it is linked to the drive of the ship using it, so

will not cause that to detonate. Operated with the Energy Bomb icon (Fig

56) on the Weapon Control Panel, or from the keyboard with the B key.

LARGE AND SMALL PLASMA ACCELERATOR

These are very large weapons, usually carried by large naval cruisers and

battlestations, and are sometinmes carried by large trading ships and

passenger liners in the more dangerous regions of space. They are used in

the same way as lasers and take up a gun mounting. After firing, they take

a few seconds to recharge. Two sizes are commonly available, imaginatively

named 'Large' and 'Small'. Even a Small Plasma Accelerator will destroy a

well armed hundred tonne ship with a single shot. The large version has

been known to be used as a planetary assault weapon, destroying selected

areas of cities from orbit. This has a devastating effect on the local

population, because the terrifying noise of the beam cutting through the

atmosphere can be heard for hundreds of kilometres, and will deafen anyone

unprotected in the vicinity.

DEFENSIVE AND OTHER EOUIPMENT

-----------------------------

ECM SYSTEM

This destroys all active Mines and Homing Missiles in the vicinity (within

about 100km) It is operated with the ECM icon from the Weapon Control

Panel, or with the E key from the keyboard. Do not be alarmed if it causes

interference on your main display.

NAVAL ECM SYSTEM

A superior version of the standard ECM system, which can also destroy Smart

Missiles and has a greater range (about 200km). This may also cause

interference on your main display. This is operated with the Naval ECM

icon from the Weapon Control Panel, or with the E key. If both ECM systems

are fitted, then Naval ECM is used in preference. The only slight

advantage in having both systems fitted is that if the Naval ECM breaks

down or is destroyed, then you can use the standard unit.

AUTOMATIC HULL SEALING

All hulls have an automatic sealing system, fitted as standard, thanks to

Faulcon Hermeseal. It is comprised of two separate layers of resin under

high pressure in the hull. When the layers are breached the substances

expand and mix to form a very durable foam likepatch. This prevents the

whole hull being explosively decompressed from a single shot.

HULL AUTOMATIC REPAIR SYSTEM

This gradually completely reverses hull damage, but it is so big that only

larger ships can have one fitted. See APPENDIX ONE: SHIPYARD EQUIPMENT

section on page 73.

SHIELD GENERATOR

This will protect against energetic weapons like lasers and missiles. It

is not much good with collisions. If a ship that has a Shield Generator is

hit by a weapon, the field will glow in a colour depending on the strength

of the shield. At full charge, the field will glow a bluish white but will

progress through to yellow, orange and finally red as it is discharged.

While the shield is active, no damage will get through to the hull. If

your ship has shields, they work automatically and the percentage of the

charge remaining if not 100 per cent, will be indicated on the top left of

the screen. More than one shield Generator may be fitted to a ship at

once, and their shielding effect is additive.

ENERGY BOOSTER UNIT

This large unit increases the rate that all Shield Generators currently

fitted to your ship recharge. Only recommended for larger ships with a

large number of Shield Generators because of its size.

TACTICS AND PLANNING

--------------------

It is vital to know what your enemy is up to, so you can avoid getting into

combat with them. There are several different ways of doing this.

CHECKING UP ON THE COMPETITION

USING THE SCANNER

This device, usually provided as standard by Faulcon de Lacey, shows the

relative positions of ships and other objects in your vicinity. The

holographic display shows the other objects as coloured blobs above or

below the plane of your ship, with a coloured line drawn to that plane.

The plane of your ship is shown as a red circle with a grid on it (seen in

perspective when viewed from the pilot's seat), with two lines drawn on it

to show the extremity of your front view. The colour of the blob reflects

the mass of the ship or object.

BLUE 1- 15t

GREEN 16- 31t

MAGENTA 32- 63t

RED 64-111t

ORANGE 112-159t

YELLOW 160-207t

GREY 208-299t

WHITE 300t+

USING THE RADAR MAPPER

This provides you with additional information about your current target,

such as the number of Shield Generators it has fitted, their current charge

level, the ship's maximum hyperspace range and any important equipment such

as Energy Bombs and Hyperspace Cloud Analyser. It will also check if the

ship matches any on the Wanted Criminals list, and if so will show any

bounty that is offered. This bounty will be paid into your account

automatically, when the destruction of the ship is recorded by your

on-board computer. No bounty will be paid for a ship if the Radar Mapper

has not first identified it, since proof of identity is needed

To operate the Radar Mapper:

Make sure you are in View mode by using the View icon F1.

Target a ship by clicking on it using the left hand mouse button. If the

selected target is not a ship then no information will be shown.

Select the Radar Mapper icon (Fig 60) on the Weapons Control Panel and

information will be displayed at the top right of the headup display (Fig

61) on your target until the Radar Mapper is deselected.

To deselect this facilicy, use the icon again.

To deselect the target, click away from the ship where there is no

potential target.

USING THE HYPERSPACE CLOUD ANALYSER

This device is commonly used by pirates to identify the destination of

their quarry, and also by police forces and bounty hunters. If your ship

has a greater hyperspace range than the one you are chasing (use the Radar

Mapper and your Ship Equipment Inventory page to determine this), then you

will arrive at the destination before them if you left at the same time.

It gives their hyperspace destination, the ship's mass is also shown and

the exact Galactic Mean Time and date at which they will arrive.

Make sure you are in View mode by using the View icon F1.

Target a hyperspace remnant by clicking on it using the left hand mouse

button. If the selected target is not a hyperspace remnant then no

information will be shown.

Select the Hyperspace Cloud Analyser icon (Fig 62) on the Weapons Control

Panel and information will be displayed at the top right hand corner of the

headup display until the Hyperspace Cloud Analyser is deselected.

To deselect this facility, use the icon again.

To deselect the target, click away from the ship where there is no

potential target.

To follow the ship, use the Galactic Map icon F2 to jump to the same

destination (see the NAVIGATION AND FLIGHT section on page 11), As long as

you enter hyperspace not too long after your quarry then you will leave

hyperspace at a similar position.

Once out of hyperspace, use the Stardreamer Time Control (see the

NAVIGATION AND FLlGHT section on page 22) to wait until the likely time of

arrival of your quarry. The Hyperspace Cloud Analyser information is quite

accurate, so if the predicted time has been exceeded by about a minute,

then your quarry will not arrive. They must have mis-jumped (whether

intentionally or not) and there is no way you can find them.

BROADCASTING MESSAGES

While in flight you can hail other ships using the Communication icon F4.

A range of messages for broadcasting will be presented on your headup

display (Fig 64). For example you can demand surrender if you are

fortunate enough to be in such a position. If your ship is on the

receiving end of aggression you can call for assistance, but there is a

risk some pirates listen for a call of distress and will home in on it like

a spider to a fly. If you have broken down the dilemma is the same, but

calling for help may be the only option open to you.

MAKING A RUN FOR IT

You will discover that there are many bigger and more heavily armed ships

than yours and a ship to ship fight may be foolish. Faulcon De Lacey do

not advocate illegal evasive measures and feel that going down in a blaze

of glory is more memorable for your loved one than a prison sentence. If

posthumous praise is not appealing, an escape capsule could be your answer.

ESCAPE CAPSULES

An escape capsule is not fitted as standard and needs to be obtained from

the shipyard. It is not a capsule as such but is a modification that

allows your cockpit section to break off as a separate craft.

Unfortunately leaving any crew members passengers and cargo behind. It

flies to the nearest starport under a cut down Autopilot, and can be used

only once. For this reason, it comes with an insurance policy which is

automatically cashed in for a basic Eagle Long Range Fighter to replace

your abandoned ship.

The capsule has no weapons or hyperspace facility. You may ask why your

enemy isn`t going to shoot at you. It is considered to be extremely bad

form to shoot at escape capsules because they are much too easy a target,

and most pilots realise that some day they may need to use one. It has

been known though, that some pilots are not bothered by image and will pick

you off anyway. Another problem is ships scooping up escape capsules and

selling the occupant into slavery. This is severely frowned upon by both

the Elite Federation of Pilots and the Federation itself. To release the

capsule, you select the Escape Capsule icon on the Weapons Control Panel,

or use the X key on the keyboard.

HYPERSPACE

Jumping into hyperpace is often sufficient to evade pirates, but a pirate

with a fast ship may use their Hyperspace Cloud Analyser to chase you into

hyperspace and, if they have a faster ship, may even arrive at your

destination before you do.

ILLEGAL AND RISKY PRACTICES

You may notice others committing offences in order to remain alive and we

feel compelled to explain their erroneous behaviour in order to discourage

you from copying them. One tactic is the highly risky Hyperspace Mis-jump

and this can be found in the NAVIGATION AND FLIGHT section on page 25.

Another is to jettison cargo in the hope that any ship following will give

up the chase in order to scoop it up. This is explained in the TRADE

section on page 59. Remember it is illegal to jettison any cargo.

COMBAT AND SERVICE RATINGS

--------------------------

ELITE RATING

Your rating as a pilot is displayed if you use the Inventory icon F3, and

cycle through to Commander Profile (Fig 66).

You are given a rating by the Elite Federation of Pilots which is

calculated from the number and type of kills recorded by the on board

computer. For example, shooting up a heavily armed ship will a mass a

large number of points. Many have disapproved of using kills in order to

calculate this rating as it can lead to illegality. In older times much

store was set by this as you had to be able to fight to survive, so

shooting down others was seen as a mark of skill and bravery. Great

respect is still held for the rating in the outer systems, where the way of

life still reflects that of the past of the inner, now more civilised,

systems. For historical reasons therefore, the method of rating has been

preserved. The categories are as follows, in order of merit:

ELITE RATINGS

Harmless Above Average

Mostly Harmless Competent

Poor Dangerous

Below Average Deadly

Average ELITE

MEDALS

If homicide is not your scene, medals are awarded by the Federation or the

Empire for particularly heroic deeds. Medals include the humble

Certificate of Valour and the highly respected Imperial Celestial Warrior

medal. These are also shown on the Commander Profile page of the

Inventory.

MILITARY RANK

Both the Federation and the Empire give military ranks for services

rendered although these are known as titles in the Empire. An individual

can gradually progress up the ranks even from purely mercenary missions,

receiving promotions after sustained loyal service. Usually these ranks

are mutually exclusive as each of the superpowers does not tolerate its

officers working for the other power (though work for the independant

worlds is usually allowed).

FEDERAL RANKS IMPERIAL TITLES

None Lieutenant Outsider Viscount

Private Lieutenant Commander Serf Count

Corporal Captain Master Earl

Sergeant Commodore Sir Marquis

Sergeant Major Rear Admiral Squire Duke

Major Admiral Lord Prince

Colonel Baron

LEGAL RATING

Before you start shooting at everything that moves in order to improve your

rating consider your legal status. Data is collected by the three police

forces: The Federal Security Service (of the Federation), the Imperial

Guard (of the Empire) and interpol (that of the Independent Systems). The

latter was set up after the Federation and Empire became established as

superpowers, and the world leaders that wished to remain free of both got

together and decided to set up their own police force. This was largely to

avoid the independent worlds becoming a dumping ground for criminals.

Remember what you do and who you work for will almost certainly be noticed

by someone.

SECTION FOUR THE SHIPYARD

=========================

SHOPPING FOR SHIPS AND PARTS

----------------------------

The shipyard on any planet or station is where you can contact the police

to pay any outstanding fines or buy equipment for your ship, have parts

fitted and removed, repairs made or even part exchange your ship. The

range on offer depends where you are, so you may have to shop around. For

example a low population area is not going to have a vast selection of

hardware for your ship. Having used the Communications icon F4, select

Shipyard and you will be presented with a list of services (Fig 67).

UPGRADING THE SHIP OR REMOVING PARTS FOR CASH

Click on Upgrades. The screen will show items for sale with options to Fit

or Remove them and the prices for doing so (Fig 68).

Select Fit or Remove buttons for the item of interest, and your cash total

at the bottom left of the screen will change accordingly.

If the complete list of available items is too long to be shown in its

entirety, use the More... arrows to look through it.

Use of the Go Back... button will return you to the Shipyard and the

Communications icon F4 will return you to the Services list. Equipment is

fitted or removed while you wait and the process is fully automated.

NOTE FOR FITTING GUNS

For guns, if your ship has more than one mounting you will be asked where

you want the gun fitted. Old campaigners may recall that left and right

mounts were once available but this was outlawed after so many people found

that they were accidentally shooting their own their friends or, more

embarrassingly, the police, due to the impracticality of using them.

DECIDING WHAT TO BUY OR REMOVE

Each ship has only so much space in the hull and out of this, room has to

be made for the engine, guns, fuel, cabins, cargo and so on. The

proportion that these items take up depends on your needs, for example a

fast courier ship's engine will dominate the hull.

Alternatively, if you are interested in having a more deadly ship than a

fast one, engine size can be sacrificed for weapons. All items are rated

for weight which is equivalent to the space they occupy, any space left can

be used for cargo. If a particular shipyard does not sell a piece of

equipment, repairs or removal cannot be carried out because the tools

required will not be available either.

SHIPS EQUIPMENT INVENTORY

A list of equipment on board can be obtained by using the Inventory icons

F3. Cycle through the pages until you find Ship Equipment Status. The

picture of your craft will show any externally visible items.

REPAIRS, SERVICING AND BREAKDOWNS

Equipment is usually very reliable but will become more unreliable with

age, so servicing is important. It can be done at any time, and the longer

you leave it the more likely a problem is to occur, so delay at your peril.

Shipyards vary in the service they give, so you may find that your ship

suffers from poorly fitted parts and shoddy repairs. If an item of

equipment breaks down it will not function and will be shown on the Ship`s

inventory page (Inventory icon F3) in faded text until is has been

repaired. If a particular shipyard does not sell a piece of equipment,

repairs cannot be carried out because the tools required will not be

available either.

Having a piece of equipment repaired or serviced:

Select the Communications icon F4.

From the list choose Shipyard followed by Repairs and Servicing.

You will be presented with a list of servicing options.

NEW AND RECONDITIONED SHIP HULLS

This mode allows you to part exchange your ship for another. It is

standard procedure to strip a ship of its extras before selling it, as the

only optional item which affects your trade in value is the Hyperdrive.

New ships come with 1t of the appropriate fuel in the internal tank,

whatever the size of the tank.

Via the Comnmunications icon F4 select Shipyard followed by New and

Reconditioned Ship Hulls

The ships on offer will be listed with sale details.

You may elect to Buy or to View the ship first. Note that the types of

ship on offer in a system will differ according to political allegiance,

population and types of visitor.

Additional ship information is provided when selecting View including

mountings crew and hyperspace range.

TAKING ON CREW MEMBERS

When you buy a larger ship, it may require extra crew in order to fly it.

Without them it will not be able to take off. It is not necessary to buy

extra cabins because they come with the ship if it needs multiple

personnel. You must hire the crew members through the Bulletin Board using

the Communication icon F4 (see the TRADING section on page 61). When they

are hired, a page called Crew Roster appears in the inventory mode

(Inventory icon F3, see the ICONS section on page 8), and will list all

crew members You can also fire them using this page, but only when you are

in dock.

Crew members will cost you the fun of the ride isn't enongh. Wages will be

deducted by direct debit from your bank account. Wages are sometimes

negotiable but are generally quite high because there is a certain amount

of danger for crew members. For example, should you decide that you need

to use your escape capsule, the crew are left behind. Remember, you get

what you pay for.

SECTION FIVE TRADING

=====================

BUY! SELL!

Trading is a simple process thanks to an agreement between the Empire and

the Federation that allows free trade within all systems via the

stockmarkets. After all the cold war has to be supplied and fuelled by

something. There are also private markets which may be more lucrative, but

are sometimes risky. Each will be explained in turn.

TRADING ON THE STOCKMARKET

You need to go to a city or space station in order to trade on the

stockmarket. You cannot trade in flight but at least you will be safe

whilst trading.

Select the Communication icon F4 at the bottom of your console. and a list

of options will appear

Select Stockmarket from the menu, and you will be presented with a

selection of items (Fig 72). Click on the down More... arrow and any

remainder of the list will be given.

The screen displays Buy and Sell buttons, price per tonne, stock on the

market and the amount of cargo (in tonnes) that you have at present in your

hold

Before trading read the information on the items below. Note that only

legal items will be listed. For illegal goods you will have to use the

private market (see THE BULLETIN BOARD section on page 61).

BUYING

To buy one tonne of a chosen item, activate the button corresponding to the

item of your choice in the Buy column. Your console will show the item you

have selected. One click will auto load one tonne into your hold. Holding

down the button will buy multiple tonnes at an accelerating rate.

If you want to revise your transaction, the Sell button will subtract from

your stock. There is no charge for changing your mind during trade but you

must make a decision reasonably quickly.

UNSUCCESSFUL TRANSACTIONS

You will be unsuccessful if:

Your cargo hold is full (indicated at the bottom left of the screen under

Cargo Space). See also THE SHIPS INVENTORY section on page 60.

You have insufficient money (indicated at the bottom left of the screen

under Cash)

The stock is not available.

Information on all situations will be displayed on your console.

SELLING

This is a similar operation to buying, but using the Sell button. Your

stock level will be automatically decreased as you sell. A mistake can be

changed using the Buy button or which there is no charge but if you delay

too long, someone else may buy first.

You will be unsuccessful if your own stock runs out, which will be shown on

your console. See also THE SHIPS INVENTORY section on page 60.

STOCK AND PRICES

The stock level indicated on the console is that on the stockmarket, not

the private market which has its own separate holding. Prices are brought

to you by Zebulon Intergalactic Trading Corporation (ZITCO), and are

updated each midnight Galactic Mean Time (GMT). Galactic time was adopted

after the signing of the treaty between the Empire and the Federation.

Hostilities between them cannot be conducted if one party does not turn up

because they have calculated the time incorrectly. If the stock level

falls due to demand, the local price may rise. If a ship arrives with a

large cargo of grain say, when it sells this onto the market, the price of

grain may fall at the next midnight price adjustment.

TRADING AND THE STARDREAMER TIME CONTROL

Prices are changed every midnight which may be a bit frustrating if you are

in a hurry Use of the Time Control icons activates the Stardreamer which

will appear to speed up time. There is a description of this Device in the

NAVIGATION AND FLIGHT section on page 22. Remember that your enemies are

also going to be sped up so only use this when it is safe to do so, though

even on an open air station, you will be protected by the station's own

defences. Remember also that the station makes a small charge every

midnight for your stay.

CHOOSING WHAT TO TRADE

Systems all have their own production and consumption, imports and exports

Generally the price of imports will be higher than the Galactic average and

that of exports lower than average. For example a farming area will have

cheap grain, so it will be a good place to buy in order to sell to an area

that has no grain production;

A listing of imports and exports for a given system can be found by using

the Data icon F6 (see the NAVIGATION AND FLIGHT section on page 15).

Information on illegal goods will also be found there.

CHOOSING WHERE TO TRADE

The Galactic Map (Galactic Map icon F2) shows a number of recommended trade

routes (lined in pink) updated by ZITCO in 3195. Faulcon De Lacey take no

responsibilty for any inaccuracies for this reason. A map with the trade

routes has also been supplied with this manual,

It is always worth looking at the political and economical details of a

system before possibly wasting fuel (see the NAVIGATION AND FLIGHT section

on page 15) Items that are in abundance in a star system will be relatively

cheap to buy. Conversley items that are in short supply will be more

expensive and worth selling there.

CASH

Your funds are indicated under Cash at the bottom left hand corner of the

screen. They are safe if your ship is destroyed thanks to an automatic

banking system. if you run out of cash you could sell your ship for a

smaller one or sell off a piece of equipment. It may be worth looking for

offers of insurance from the Bulletin Board.

JETTISONING AND SALVAGING GOODS

This is an illegal practice but is occasionally necessary. Certain goods

are damaged by this act and this needs to be taken into consideration when

salvaging such cargo.

The following changes will occur:

Live animals will become animal meat

Slaves die and are officially used as fertilizer but rumour has it that the

bodies are finding their way onto the animal meat market.

Liquor, luxury goods, grain, fruit and vegetables are all turned into

rubbish.

Sometimes containers will explode unpredictably when released due to

irregularities introduced during their manufacture.

JETTISONING

Select the inventory icon F3 and cycle to the Cargo Inventory section,

which displays jettison buttons (Fig 73). Activate the button next to the

goods which will be ditched one tonne at a time.

SALVAGING

You cannot salvage jettisoned goods unless you have bought a Fuel Scoop and

a Cargo Scoop Conversion. If you have such equipment, manoevre so that the

cargo item is immediately in front of the scoop and move forwards slowly

relative to it.

SHIP'S INVENTORY

----------------

This gives a more detailed account of your cargo and passengers, and is

obtained by using the Inventory icon F3. Clicking on this icon cycles

through seven pages of information for your perusal including:

SHIP EQUIPMENT STATUS

Lists weapons and equipment currently fitted to the ship. See the SHIPYARD

section on page 51 for details of individual items. It also shows the

level of fuel in the engines which is distinct from the hyperspace fuel

(see FUEL CONSUMPTION in the NAVIGATION AND FLIGHT section on page 26).

COMMANDER PROFILE

Lists awards and grading. See the COMBAT section on page 47.

CREW ROSTER

Lists any crew members (on larger ships only). See the SHIPYARD section on

page 53.

CARGO INVENTORY

Your cargo is listed if you have any. Jettison on tonne of any item by

clicking on the relevant button.

PASSENGER AND SMALL ITEMS

This lists the names of your passengers or clients, the number of persons

on board, any small packages and the destination and how much money you are

still owed from the deal.

OUTSTANDING CONTRACTS LIST

This shows contracts taken on but not yet completed. Those which involve

carrying parcels and passengers are listed on the Passenger And Small Items

page.

MINING INSTALLATIONS

Lists the locations of all active mining installations owned, See the

MINING section on page 65.

Note: the pages will not be shown if there is nothing on them.

THE BULLETIN BOARD

------------------

This is a collection of small advertisements for trading, services and

requests for passage, amongst other things. You will find other types of

advertisements so it is worth a browse. It is also possible to contact the

military, its allegiance depending on the system you are in.

TRADE IN LEGAL ITEMS

Some individuals trade on the Bulletin Board in preference to the

Stockmarket, and taking a risk with them may benefit you. There may be ads

for specific items which a person needs urgently that cannot be bought on

the Stockmarket, so they are prepared to pay over the odds for them. You

may earn more money this way than simply selling directly on to the

Stockmarket.

Select the Communications icon F4

Select Bulletin Board and look for advertisements stating WANTED (Fig

74).

TRADE IN ILLEGAL ITEMS

Of course being a law abiding citizen you will not be engaging in this, but

in order to understand the criminal mind better you ought to know the

typical procedure.

Select the Communication icon F4.

Select Bulletin Board and took for advertisements stating Goods Bought and

Sold Though there may not be any in a particular place or that day, The

More... arrows will allow viewing of the ads which on a given day don't

fit on the screen.

Click on the button for the Goods Bought and Sold advertisement you are

interested in and a list will appear of all the illegal goods available.

Trade in a similar way to the stockmarket.

The police, although aware of this practice, will not shut it down. Not

only do they take a cut in profits but they often use it to their

advantage. Traps are laid in the form of advertisements and the astute

criminal will get to know their characteristics. once successful trading

has taken place, there is always the threat of customs officials, not that

you will ever have anything to hide of course.

CARRYING PASSENGERS

People may place ads asking for passage for themselves or a group to a

stated destination. If you want to do this, you need sufficient cabin

space on your ship, which may mean extra outlay for you. See THE SHIPYARD

section on page 50, where upgrading your ship is explained.

TAKING UP A REQUEST

On the bulletin board via the Communication icon F4, look for the

appropriate advert and select it (Fig 76).

Choose one of the responses presented to you, for example one response

might ask why they are prepared to pay so much.

The answer comes up on the console at the bottom.

If you want to make a deal, click on "OK- agreed" at the top of the list of

responses

The passengers will appear on your passenger list.

Payment is normally made on arrival at your clients' destination, although

some will pay half up front or even all!

CARRYING PACKAGES

To act as a courier, negotiate in the same way as for passengers after

finding adverts for transporting packages. A package is deemed to take up

negligible space in your cargo hold and of course does not need a life

support system.

TAKING ON CREW

If you ever buy a larger ship, it may require extra crew which are also

obtained through the Bulletin Board small advertisements. More details

about your contract with them can be found under TAKING ON CREW MEMBERS in

THE SHIPYARD section on page 53.

SECTION SIX MINING

===================

THERE'S GOLD IN THEM THAR HILLS

-------------------------------

If you prefer a solitary life, then mining is for you. This occupation

entails travelling from place to place collecting ore. There are two types

of mining: Asteroid Mining and Surface Mining, both have their merits and

drawbacks.

ASTEROID MINING

Asteroid mining is an old method but it is tried and tested. It is the

easiest and cheapest way of obtaining ore and requires you to have a 30 MW

Mining Laser, Fuel Scoop and a Cargo Scoop Conversion. You simply blast an

asteroid with the laser then fly over the bits of asteroid and the Scoop

collects as much ore as you can accommodate in the cargo bay. Not all

asteroids are mineral rich though, so you may end up with a bay full of

rubbish.

SURFACE MINING

Once you are established, this type of mining is a more predictable means

of getting ore. It does, however, demand a large initial outlay in order

to acquire the installations and possibly a larger ship (minimum of 30

tonnes of free cargo space) to transport them The only recommended device

is the MB4 Mining Machine which, alas is still not widely available. The

MB4 is impressive in that it not only mines but also refines the material,

so you put it in place, leave it and come back to pick up the results. The

MB4 can mine, separate and refine minerals, alloys and even on occasions

precious metals and gem stones.

The disadvantage is the risk of mining others' claims, resulting in an

aggresive response to your activities. In some areas it is illegal to mine

and police, depending their mood, may not be too interested in maintaining

a public image of fairness and understanding and may blast you to pieces.

SETTING UP YOUR WB4

Choose a mining site with a temperature below 200 degrees Centigrade. The

most likely suitable locations will be on systems' inner planets which are

more likely to be mineral rich. Ones which humans have hardly touched are

more likely to be mineral rich as machines like the MB4 and its

predecessors are very thorough, and will have scoured most of the surface

of core worlds by now. To test the composition of the crust, you need to

land.

Land at the chosen site and select the Weapons Control Panel by clicking on

the Scanner

Activate the Unload Rig icon (Fig 78) which will cause the mining rig to be

unloaded whereupon it will analyse a sample of the crust and relay the

results to your on board computer. If the prospects are good it will bed

itself in and begin drilling immediately. You may then take off and come

back later once it has mined the full capacitv of 10 tonnes.

FINDING THE MB4 AGAIN

All the mines have a beacon which has your own coded signal allowing the

computer to pin-point its position. If you pick up someone else's rig,

your computer will automatically register the code of the owner. All other

rigs belonging to them in this star system will then be shown on your

inventory page. This means that stealing ore is possible however the same

can be done to you. A safeguard is to avoid placing numerous rigs in one

system, so that they are not so easily found should one of your rigs be

purloined. Your beacons will use a different code in each system.

Select the Inventory icon F3 and cycle through until you come to the Mining

Installations page (Fig 79). It will list your rigs and their location.

Fly to the Star system in which a particular rig is situated.

Set up the Mining Installations page again and use the button next to the

rig you wish to find.

The on-board computer will then set it up as your current target. You may

then fly to it manually or with the Autopilot. You can deselect the target

as before by placing the pointer away from the target and using the left

hand mouse button.

COLLECTING THE ORE

Land near to the installation and select the Load Rig icon (Fig 80) with

one click. this will remotely instruct the machinery to off load ore into

your hold until it is full. It will be no more than 10 tonnes at a time

because that is the maximum capacity of the MB4's hopper.

If there is no ore to collect the first selection of the icon will load the

rig onto the ship if you have space.

Your cargo inventory (Inventory icon F3) will show the minerals on board

COLLECTING THE MB4 MINING MACHINE

Land next to the installation and click on the Load Rig icon twice so that

the rig and the contents of its hopper are taken on board.

As stated above, the rig will be loaded after the first click if there is

no ore in the hopper

The rig may be left for further mining. There is no need to bring it on

board if you intend to Deposit it in the same place.

If you want to move the MB4 to another location on the same surface because

a site is 'mined out', it is worth moving it a good distance. This is

because the MB4 probes quite a large area with its underground drills.

If your MB4 had found a rich seam of minerals, Do not move it as the seam

may be a long way below ground and the MB4 may not be able to find it

again.

APPENDIX ONE SHIPYARD EQUIPMENT

================================

MINES AND BOMBS

---------------

XB13 PROXIMITY MINE

Explodes when object is within range. They are carried on missile pylons

in place of a missile.

XB74 DUMMY PROXIMITY MINE

Exactly the same in appearance as the Proximity Mine, even on radar, but

they do not explode, in fact they do nothing except increase your foes

laundry bill. You can even recover them like cargo if you have a Fuel

Scoop and a Cargo Conversion, but beware of accidentally scooping a real

one!

ENERGY BOMB

Causes the drive system of smaller ships to overload and explode, but not

your own as it is very specific. It can be withstood if a ship has a

strong enough shield.

MISSILES

--------

The COMBAT section on page 38 gives additional information. Note that all

the missiles have the same flying characteristics.

KL760 HOMING MISSILE

For destroying small spaceships and damaging larger ones.

LV111 SMART MISSILE

Similar to the Homing Missile but has ECM protection (not effective against

Navy Grade ECM). Has a greater explosive power than the Homing Missile.

NN500 NAVY GRADE MISSILE

Even more bang for your money and immune to any known ECM system although

it is rumoured that technology is improving in this field

GUNS

----

The COMBAT scetion on page 38 provides furthur details.

30MW MINING LASER

Pulse laser set up to blast asteroids into recoverable portions if you see

your future in mining. Can be used as a weapon but its repeat rate is not

as fast as weapon lasers.

1MW PULSE LASER

The very same as the bottom of the range laser weapon as the Phlaschygt

that came with your ship. seasoned combatants consider it only of use for

tattooing numbers onto slaves. Better than nothing.

5MW PULSE LASER

Otherwise known as the Phlaschbugher. More powerful than the Phlaschgyt,

but less devastating than the Beam Laser.

BEAM LASER

Continuous laser beam which is more devastating than a Pulse Laser. the

1MW, 4MW, 20MW, and 100MW Beam Lasers are the same but more destructive

with increasing voltage.

LASER COOLING BOOSTER

Some busy pilots find their normal laser cooling equipment inadequate.

Since lasers cut out when they overheat, this Device is a bonus.

SMALL PLASMA ACCELERATOR

Very big and heavy and carried by larger ships and Naval ships only. It is

extremely potent and obliterates small to medium ships with one shot.

LARGE PLASMA ACCELERATOR

The ultimate weapon pilots aspire to owning.

ECM SYSTEMS

-----------

ECM SYSTEM

Short for Electronic Counter Measures. A clever device this, as it causes

detonation of all activated Homing Missiles in range (including your own).

NAVAL ECM SYSTEM

This higher specification system can also destroy the Smart Missile. Only

obtainable at larger Shipyards.

ENVIRONMENTAL CONTROL SYSTEMS

-----------------------------

CARGO BAY LIFE SUPPORT

Superb environment control, including deodoriser and choice of four fresh

air scents, Fomalhaut Harvest, Ma`s Cookies, Seashore and Solar Breeze.

Needed for transportation of live animals and slaves.

EXTRA PASSENGER CABIN

For one person it comes with life support, food dispenser and Holovid dream

inducer for long journeys. An extra facility is the automatic decor

control which changes in order to compliment the mood of the occupants. It

is activated by sensors of heat and pheromones. Takes up five tonnes of

cargo space.

ELECTRONIC EQUIPMENT

--------------------

FOR CONTROL AND SURVEILLANCE

AUTOMATIC PILOT

The Robocruise automatic navigation system has the capability to plot and

control travel to any destination within a system. For details of how to

use the Automatic Pilot see the NAVIGATION AND FLIGHT section on page 20.

AUTOREFUELLER DEVICE

This automatically tranfers 1t of fuel from the cargo bay to the internal

tank of a ship`s engine when it is needed, so preventing any wastage. It

also avoids any embarrassing moments when your engines fail during combat

or docking.

SCANNERS

The scanner section in the middle of the console is provided as standard on

most ships. Some hardened space travellers remove it in the belief that

demonstrates a certain amount of machismo, but others say this demonstrates

something else.

RADAR MAPPER

Scans for information on a targeted ship. For details of how to use the

Radar Mapper see the COMBAT section on page 43.

HYPERSPACE CLOUD ANALYSER

Determines the destination and the exact time and date of arrival of ships

by analysing the residual space time disturbance left behind after a

hyperspace jump. You will also be told the mass of the ship which has left

or is about to arrive. See HYPERSPACE in the NAVIGATION AND FLIGHT

section, and also Combat on page 43.

DEFENCE

-------

SHIELD GENERATOR

This device affords additional shielding to the normal damage resistance of

a hull. More than one can be fitted at once and the effect is cumulative.

They recharge from the ship`s power system, and each shield takes a fixed

amount of time to do so. For example a large ship with ten shield

generators will take the same time to recharge as a ship with one shield.

The ship with ten however, will achieve the same defense as the ship with

one shield in a tenth of the time because of the additive effect of shield

Generators. See the COMBAT section on page 35.

ENERGY BOOSTER UNIT

Boosts the recharging rate of all Shield Generators fitted. A good buy for

very large ships

ESCAPE CAPSULE

For those sticky moments when a fast exit is prudent. It has no weapons or

shields.

ATMOSPHERIC SHIELDING

Additional coating to the hull which enables a ship to enter an atmosphere

at high speed.

HULL AUTO REPAIR SYSTEM

A large piece of equipment which is generally only fitted to larger ships.

Exactly how this works is a trade secret, but it does entail placing many

microbots in the hull reinforcing channels. See the COMBAT section.

ENGINES AND MISCELLANEOUS

-------------------------

INTERPLANETARY DRIVE

An ordinary, lightweight engine that uses hydrogen fuel contained within

the drive. It is not capable of hyperspace jumps but is suitable for small

interplanetary Hops. It is equivalent to the Class 1 Hyperdrive but has no

hyperspace capability.

STANDARD HYPERDRIVES

Standard Hyperdrives are readily available and are used by most ships.

They use Hydrogen fuel which can be bought or scooped (see Fuel Scoop) and

all waste products are used as reaction mass by the thrusters. The range

of a Standard Hyperdrive engine depends on the size of ship it is fitted

to. For example, a Class 3 engine will have a greater range if fitted to a

200 tonne ship rather than a 300 tonne ship. Although the classes are

listed up to seven, higher classes exist but are only obtainable from

specialists.

MILITARY HYPERDRIVES

This is a different breed of engine to the Standard Hyperdrive in that it

has a greater range and is faster and lighter. This means that a small

ship can carry an engine of the military type that is equivalent to a

Standard Hyperdrive that would be too big to fit. All military ships are

driven by them. They run on Military Fuel which is much more expensive and

has drawbacks (see MILITARY FUEL in APPENDIX TWO: TRADE ITEMS Section on

page 79).

A Military Hyperdrive will give your ship advantages over the competition,

but it will cost you to run it. In the same way as Standard Hyperdrives,

the range is a function of the size of tHe ship and the maximum possible

range for the engine. Military Hyperdrives are not widely available and

there are only three classes for sale. The reason is thought to be

instability occurring in bigger engines, but rumours say that military

engineers are working on this problem. They are also reputed to be making

even lighter engines.

FUEL SCOOPS AND MINING EQUIPMENT

--------------------------------

FUEL SCOOP

Scoops fuel from the upper layers of gas giants or the photosphere of cool

stars when you fly at below about 30km altitude while travelling forwards

at speed. In order to scoop from a gas giant, Atmospheric Shielding is

needed. A star however, requires greater protection for your ship in the

form of an Atmospheric Shield and a Shield Generator. Even with these it

is still dangerous and only a desperate pilot would attempt it.

CARGO SCOOP CONVERSION

Allows the Fuel Scoop to be used to salvage jettisoned cargo and Dummy

Mines. It is also used to collect ore during asteroid mining, and

explosion debris from ships.

MB4 MINING MACHINE

This amazing machine prospects, mines and refines minerals for you (see the

MINING section on page 68) but is not readily available.

APPENDIX TWO TRADE ITEMS

=========================

AIR PROCESSORS

Devices used in life support systems to remove unwanted gasses from the

air. These are vital to many mining establishments, keeping the air in the

huge underground complexes breathable.

ANIMAL MEAT

Real meat from an animal. A delicacy, but the market for this is growing

as a revolt against synthetic meat. People have become unsettled by the

thought of their food growing in vats of seething, viscous fluid, the

stench of which is indescribable The idea that real animal meat once felt

the sun on its back and frolicked in a meadow feels more wholesome and

natural and such meat is claimed by many to taste better. Given that the

amount of meadow available is far exceeded by the hooves to roam it and

that factory farming is unfashionable, the meat is rare and widely sought

after. Trading in animal meat is illegal in some places.

ANIMAL SKINS

This covers the skins of all sorts of animals and parts of them. It seems

that the more that go into a garment, the more prized it is. A ridiculous

extreme is a coat woven from eyelashes of the Sweetums Scroblet, an ugly

animal with a bad temperament and no endearing qualities other than

colourful, luminescent eyelashes

BATTLE WEAPONS

The heavy weapons used on the battlefield and usually illegal

COMPUTERS

Mostly used for administration and as components for automated machines

like space craft, though some advanced cultures use them a great deal for

interactive entertainment systems.

FARM MACHINERY

Machinery used to, erm... farm.

FERTILIZER

Fertilizers are usually manufactured in vast chemical plants, but organic

waste is often used to supplement this.

FRUIT AND VEGETABLES

This can seem like a loose term looking at some of the produce that comes

under this classification. One could be forgiven for taking up a shovel

and disinfectant when faced for the first time with the Oosli from the

Formalhaut system.

GEM STONES

They come in all colours and different levels of sparkle. Fashions come

and go, but the current gem to be seen wearing is the Zublic, a colourless

stone that is totally reflective. It is very easily mimicked but only the

real stone is non irritant to body, so those who are status conscious have

them sewn into their skin.

GRAIN

One of few foodstuffs that is both traditionally grown and not too

expensive

HAND WEAPONS

Firearms. Many cultures regard them as a necessary accessory and feel

naked without one. Illegal in many systems.

HEAVY PLASTICS

Have a variety of uses especially in high temperature environments like the

rocket engines. Manufactured in large industrial complexes.

HYDROGEN FUEL

The nornmal four star fuel for spacecraft. All the waste products are used

as reaction mass in the thrusters. It can also be obtained by scooping it

from stars and gas giants (see FUEL SCOOPS in APPENDIX ONE: SHIPYARD

EQUIPMENT on page 75).

INDUSTRIAL PARTS

Everything from fusion motors to nuts and bolts.

LIQUID OXYGEN

Used mainly by settlements on airless worlds for life support systems

LIQUOR

Covers all intoxicating Drinks from interesting local hooches such as the

Bourbon from the system of Epsilon Indi to unexciting brews made by large

industrial companies. An example is Splag, which is akin to watery Old

Nova, but some have been less generous in their appraisal

LIVE ANIMALS

Used for meat, exhibition or recreation or just companionship. Your hold

must have a life support facility to carry them.

LUXURY GOODS

Many items are classed as luxury goods, for example perfumes jewellery,

artefacts and fabrics. The most treasured are generally produced on

esteemed worlds like Earth.

MEDICINES

Drugs are as always, big business as people would rather be reassured by a

drop of something that tastes foul, rather than examine their way of life

that more often than not causes the ill health. However, the most healthy

person can still fall foul of bugs such as black hole fever (well known but

seldom talked about except in jest with references to escape velocity

usually being made).

METAL ALLOYS

They have hundreds of uses, one example is the production of foam metal

valued for its lightness and use as electromagnetic shielding.

MILITARY FUEL

Very high energy per unit weight. It is manufactured and consists of an

engineered molecule with anti matter atoms suspended in it. It is not

always available and is expensive. You need to weigh up the advantages of

greater range and speed with the fact that it is converted to radioactives

when consumed.

MINERALS

There is little to say about minerals. Mined on rocky planets by machinery

except on planet Major (van Maanen's star) where the Guardians of the Free

Spirit exhume it with only a hammer and chisel. They believe in severe

hardship and live underground. It is thought that money (left over after

buying necessities like oxygen) is burned in ceremonies intended to purify

the soul. The worshippers think of all the luxuries, such as a salve for

their bleeding hands, that the money could have bought causing great

anguish which is thought to be cleansing.

NARCOTICS

The most common is Lyrae weed. Narcotics are readily available on some

large corporate manufacturing complexes to induce a sense of well being in

such appalling conditions. Occasionally a few workers are killed due to

insensibility or halllucinations but it is considered that they are better

off that way and there are plenty more where they came from. Illegal in

many places.

NERVE GAS

Expect the police in most places to take up a chase if you trade in this.

PRECIOUS METALS

Mainly used for adornment and trying to maintain stability in unstable

financial systems. Generally cheaper in the outer systems, where precious

metals have not yet been mined out.

RADIOACTIVES

Radioactive materials for example Plutonium and Tritium. Note that this

item has a negative trade value, in other words, you have to pay for

someone to take it off your hands. Some make a living out of being paid to

take this waste away and deliver it to reprocessing plants (ie, anywhere

that has Radioactives as a major import). More unscrupulous and

irresponsible characters will prefer to jettison it instead, risking

prosecution. This is a highly illegal practice and locals are usually

vehemently opposed to this act. Police often don't bother with questions

but deal with you there and then, as this not only saves on police time but

court fees as well.

ROBOTS

This covers a whole range of automata. Generally they are intricate

machines used to do everything from serving canapes to use as assault

troops. They are illegal in a few cultures, mainly because of the

violation of their work ethic, but also the extreme techno fear some people

experience.

RUBBISH

Again, this has a negative price, so you must pay to dispose of it. Some

cargo items when decompressed (by being jettisoned) will turn into rubbish.

SLAVES

Consider carefully where you are going to trade because slave trading is

illegal in many systems, where it is seen as unacceptable. Life support

needed.

SYNTHETIC MEAT

This is the most common form of protein to be found, so it is relatively

cheap. Grown in vats, this meat is in no way derived from animals, though

most would agreed that it tastes exactly the same as real meat. It is sold

in one flavour, called Original, which is fairly bland and unexciting.

Individual flavours are added by the user, for example Earth beef, Lava hog

from Biggs Colony or Brog buck from Homeland around Beta Hydri (for those

who like their meat to bite back).

WATER

H2O, usually needed by small industrial settlements and those with no

natural water supply.

APPENDIX THREE AN INTRODUCTORY JOURNEY

=======================================

TO BEGIN...

You are at Sirocco Starport, on Merlin, a planet orbiting a gas giant which

in turn orbits Ross 154, 9.35 light years away from Earth. What you can

see on the screen is the front view from your ship with the ringed gas

giant, Aster, looming in the sky. The time of day and the date are given

on the left hand side of the console.

1.First take a look at the system you are in.

(a) Select the Galactic Map icon F2 and you will see a map of all the stars

in your vicinity. Ross 154 is in the middle, highlighted in green.

2.Find out details about the system.

(a) Select the Data icon F6 and a diagram of your system will be shown

(b) Count two bodies from the star, Ross 154. This is Aster, Now click on

the planet below it and information on Merlin will come up.

(c) Select the Economy icon F7 to get trade details for the whole system.

Notice that major exports are animal meat (this is fish on Merlin) and

liquid oxygen so both should be relatively cheap.

(d) Select the Political icon F8 to get information on the social

structure. This system is under federation control so should be reasonably

safe.

3. Find a place to sell the goods you buy at a reasonable price.

(a) Go back to the grid by using the Galactic Map icon F6.

(b) Use the Arrow (Cursor) keys to move the map until Barnard's Star (look

up and then right) is in the middle of the screen and highlighted in green.

(c) Select the Data icon F6

(d) Click on the bodies until you find the space station orbiting

Birminghamworld, it is called Boston Base.

(e) In the same way as steps 2(c) and 2 (d), check the economy and social

structure. You will see that animal meat and liquid oxygen are imports.

the system is a corporate state and it should be reasonably safe, so you

could trade here.

(f) You can see the orbits of the systems bodies by using the Orbital Map

icon F10.

(g) If you want to take a closer look, you can use the Zoom In icon F7 and

the Zoom Out icon F8. Click on the body to place it into the centre of the

screen and then use the icons.

4. Buy one tonne of fish at Merlin. You can only trade while in dock so

now is the time to do it.

(a) Select the Communication icon F4, and you will be presented with a list

of options.

(b) Choose Stockmarket.

(c) A list of items with Buy and Sell buttons is now displayed so locate

Animal Meat. You can afford to buy one tonne of animal meat.

(d) Click on the Buy button for animal meat once so that one tonne of

animal meat will be autoloaded into your hull. (If you ever buy too much

by mistake, simply click on the Sell button until you have the right

amount). The console will display the amount of cash and cargo space you

have left.

5. See if there are any packages to take to Barnard's star. This sort of

thing is what makes money but there is some risk involved. The good thing

about packages is that they take up negligible cargo space and do not

require cabins or life support.

(a) Click on the Communications icon F4 again followed by Bulletin Board

(b) Scroll through the advertisements using the up and down More... arrows

(c) There may not be a suitable advertisement but if there is one, click on

it. If there isn't go to step 6.

(d) A list of replies will be presented to you from which you must choose

one to send by clicking on it. The brave will click on "OK- agreed". with

no questions asked.

(e) The package will be autoloaded into your ship.

(f) You can check that it is on board by clicking on the Inventory icon F3

until the page showing passengers and small packages is displayed.

6. Take off for Barnard's Star system

(a) Go back to the front view by using the View icon F1 and click on it

until Front View is displaved on the right of the console.

(b) Select the Communication icon F4 and you will be given a list of

options. Click on Launch Request.

(c) When clearance is indicated on the console, select the Right Control

icon F7. This will cause your vertical thrusters to engage, lifting you

slowly upwards.

(d) Tip the nose of the ship by moving the mouse backwards whilst holding

the right hand mouse button down.

(e) Activate the thrusters using the Enter key for a couple of seconds and

you will begin to fly out of the atmosphere. You now have manual control.

7. Make a hyperspace jump to Barnard`s Star.

(a) Use the Galactic Map icon F2 and make sure Barnard's Star is in the

middle of the screen where it will be highlighted in green.

(b) Return to View mode by using the View icon F1.

(c) Activate the hyperspace engine with the Hyperspace icon F8. After your

journey through hyperspace you can see the effects of the disturbance. Use

the View icon F1 to get a the rear view in order to see it. This

hyperspace cloud behind you is visible for an enormous distance and may

attract pirates, so it is wise to leave it as soon as possible by pressing

the Enter key to increase your Set speed. Click on the View icon again

until you get back to the front view.

(d) Select the Identification text icon F10 which will overlay names onto

the systems bodies which may not yet be visible to the naked eye.

(e) If you wish to look around then you can do so by holding down the right

mouse button to swing the ship round. This is not essential to get to your

destination.

8. Fly to Birminghamworld by using the Autopilot and Stardreamer Time

Control

(a) Take a look at the system structure by using the Galactic Map icon F2

and then the Current System Map icon F2 to obtain an orbital map of the

current system.

(b) Zoom in using the Zoom icon F7 until you can see Birminghamworld

clearly

(c) Put Birminghamworld in the middle of the screen by clicking on it then

zoom in until it is clearly defined and the orbital lines almost cover the

width of the screen.

(d) When you can see the space station name (Boston Base) move the mouse

while holding down the right hand mouse button so that you can see the

space station clearly.

(e) Set up the destination for the Autopilot by using the targeting icon

F10

(f) You will be instructed by the console to select a target so point at

the space station and click on it and a homing square will be displayed.

If you take too long doing this you may have to use the targeting icon

again.

(g) Return to View mode with the View icon F1.

(h) Engage the Autopilot with the Flight Control icon F7 by activating it

until Autopilot is shown on the console, the ship is no longer under manual

control

(i) You will see targeting squares looking like a tunnel leading to Boston

Base, Aa you get closer they will come towards you more rapidly, indicating

that you should slow down as you approach. Ideally, these should pass at a

constant rate.

(j) Even though you are relatively close to Boston Base it will still take

a long time to get there so use the Stardreamer time Control to make time

appear to pass more quickly. Further details of its function are given in

the NAVIGATION section on page 22.

(k) Locate the time Control icons. The single arrow sets normal time and

each icon to the right increases the apparent rate of passage of time by

ten times. Select 1000 times normal time (four arrows) or 10,000 times

normal time (the last icon on the right) as you wish. When you approach

the space station the on-board computer will return you to normal time for

docking.

(l) The docking process is handled by the Autopilot including obtaining

clearance from traffic Control, If you do not wish to watch the docking the

then you may operate the time control again.

9. Sell your goods.

(a) Once docked select the Communication icon F4 and choose Stockmarket

again

(b) Sell your goods by using the Sell buttons. ie. click on the Sell

button for Animal Meat once.

(c) The money shown under Cash at the bottom left of the console should now

be a greater sum than you started with, unless you have been very unlucky

with the stockmarket prices.

(d) Remember to refuel by buying at least one tonne of hydrogen fuel!

APPENDIX FOUR MECHANICS OF SPACE FLIGHT

========================================

FLY BY WIRE

As starship designers through the ages have found, space craft have so many

potential degrees of freedom they are impractical for a mere human to

control to the full unaided. Logically a free flying combat craft has at

least five independent directions (or vectors) to control, Those vectors

are:

1. Facing vector (unit magnitude) F

2. Velocity vector V

3. Thrust vector T

4. Camera viewing vector C

5. Weapon vector W

It is clearly logical to combine some of these, but the more they are

combined, the more functionality is lost, Faulcon de Lacy (and indeed most

ship manufacture) combine (1), (4) and (5) and control (2) and (3)

automatically, leaving the pilot to control only (1), with the option of

disabling the automatic control of (2) and (3) when necessary. Even this

seems a handful for a species evolved to move in only two and a half

dimensions (up and down are very much secondary to north, south, east and

weat).

The pilot is assumed to have a desired velocity vector D along his or her

facing vector, the magnitude of which is the desired speed S they have set.

Hence: D = sF

and thrust to achieve velocity D T = mf (D-V)

where f is a factor chosen for fuel efficiency

and m is the mass of your craft

A maximum value is given to f (about 1). to avoid wasteful thrusting and

possible oscillations. This is why your craft will slowly settle down over

the landing pad even with a zero set speed. At higher speeds the limits of

the power of the thrusters effectively restrict the value of f. The

desired thrust is resolved into components along each of the ships working

thrusters and if any of the these cannot provide sufficient thrust then the

value of f is reduced appropriately (preserving the direction of thrust is

more important than its magnitude).

FRAMES OF REFERENCE

The problems of the fly-by-wire technique are further complicated when

considering the frames of reference in which velocities are measured. When

a vehicle moves slowly along a street, say, the driver does not want to

know that both the street and the vehicle are moving sideways at many

thousands of kilometres per hour (due to the velocity of the planet around

the star, and the rotation of the planet). Indeed, if the vehicle were to

face the way it is travelling, then its motion along the road would be

almost irrelevant. What the driver wants is to face along the direction of

travel in the frame of reference of the planet, which is both moving and

rotating.

Hence D = sF + R

where R is the velocity of the frame of reference

and ideal thrust T = mf ( D-V )

T = mf ( sF + R-V )

Your on board computer automatically selects the body you are most likely

to want to define a frame of reference for your motion. This is usually a

planet or moon, but can also be a space station or large ship. It also

decides whether it would be more intuitive to use a rotating frame or not.

For space stations, it is only sensible to use a rotating frame in the

docking tunnel otherwise your ship continually thrusts to attempt to move

in a circle in time with a similar point on the station.

CHOICE OF FRAMES OF REFERENCE

The body is used to define your current frame of reference is shown on the

bottom right of your head up display this is chosen by a weighting

function. For planets and stars this is based on mass, thus a star's

sphere of influence generally extends way beyond its planets. For other

bodies it is based on their dimensions.

You may notice your ship's engines suddenly starting to thrust when a

different frame of reference is chosen. This is not a fault with your ship

but is because your set speed has suddenly appeared to change as it is now

measured relative to the new body.

APPENDIX FIVE SHIP IDENTIFICATION

==================================

ADDER

HULL MASS 15 TONNES

MASS (FULLY LADEN) 55 TONNES

INTERNAL CAPACITY (NO DRIVE) 40 TONNES

RETRO THRUSTER ACCELERATION 8 EARTH G

MAIN THRUSTER ACCELERATION 18 EARTH G

CREW 1

GUN MOUNTINGS 1+F

MISSILE PYLONS 0

ALLEGIANCE INDEPENDENT, FEDERATION

ANACONDA

HULL MASS 150 TONNES

MASS (FULLY LADEN) 800 TONNES

INTERNAL CAPACITY (NO DRIVE) 650 TONNES

RETRO THRUSTER ACCELERATION 3 EARTH G

MAIN THRUSTER ACCELERATION 6 EARTH G

CREW 10

GUN MOUNTINGS 2+F

MISSILE PYLONS 8

ALLEGIANCE INDEPENDENT

ASP EXPLORER

HULL MASS 30 TONNES

MASS (FULLY LADEN) 150 TONNES

INTERNAL CAPACITY (NO DRIVE) 120 TONNES

RETRO THRUSTER ACCELERATION 7 EARTH G

MAIN THRUSTER ACCELERATION 22 EARTH G

CREW 2

GUN MOUNTINGS 2+F

MISSILE PYLONS 1

ALLEGIANCE INDEPENDENT, FEDERATION

BOA

HULL MASS 200 TONNES

MASS (FULLY LADEN) 1500 TONNES

INTERNAL CAPACITY (NO DRIVE) 1300 TONNES

RETRO THRUSTER ACCELERATION 4 EARTH G

MAIN THRUSTER ACCELERATION 8 EARTH G

CREW 12

GUN MOUNTINGS 4+F

MISSILE PYLONS 6

ALLEGIANCE INDEPENDENT

COBRA MK1

HULL MASS 15 TONNES

MASS (FULLY LADEN) 75 TONNES

INTERNAL CAPACITY (NO DRIVE) 60 TONNES

RETRO THRUSTER ACCELERATION 6 EARTH G

MAIN THRUSTER ACCELERATION 16 EARTH G

CREW 1

GUN MOUNTINGS 2+F

MISSILE PYLONS 2

ALLEGIANCE INDEPENDENT, FEDERATION

COBRA MKIII

HULL MASS 20 TONNES

MASS (FULLY LADEN) 100 TONNES

INTERNAL CAPACITY (NO DRIVE) 80 TONNES

RETRO THRUSTER ACCELERATION 7 EARTH G

MAIN THRUSTER ACCELERATION 20 EARTH G

CREW 1

GUN MOUNTINGS 2+F

MISSILE PYLONS 4

ALLEGIANCE INDEPENDENT, FEDERATION

CONSTRICTOR

HULL MASS 30 TONNES

MASS (FULLY LADEN) 120 TONNES

INTERNAL CAPACITY (NO DRIVE) 90 TONNES

RETRO THRUSTER ACCELERATION 10 EARTH G

MAIN THRUSTER ACCELERATION 22 EARTH G

CREW 2

GUN MOUNTINGS 2+F

MISSILE PYLONS 2

ALLEGIANCE INDEPENDENT, FEDERATION

EAGLE LONG RANGE FIGHTER MKI

HULL MASS 5 TONNES

MASS (FULLY LADEN) 25 TONNES

INTERNAL CAPACITY (NO DRIVE) 20 TONNES

RETRO THRUSTER ACCELERATION 10 EARTH G

MAIN THRUSTER ACCELERATION 25 EARTH G

CREW 1

GUN MOUNTINGS 1

MISSILE PYLONS 2

ALLEGIANCE FEDERATION, EMPIRE

EAGLE LONG RANGE FIGHTER MKII

HULL MASS 6 TONNES

MASS (FULLY LADEN) 28 TONNES

INTERNAL CAPACITY (NO DRIVE) 22 TONNES

RETRO THRUSTER ACCELERATION 4 EARTH G

MAIN THRUSTER ACCELERATION 28 EARTH G

CREW 1

GUN MOUNTINGS 1

MISSILE PYLONS 2

ALLEGIANCE FEDERATION

EAGLE LONG RANGE FIGHTER MKIII

HULL MASS 8 TONNES

MASS (FULLY LADEN) 30 TONNES

INTERNAL CAPACITY (NO DRIVE) 22 TONNES

RETRO THRUSTER ACCELERATION 15 EARTH G

MAIN THRUSTER ACCELERATION 28 EARTH G

CREW 1

GUN MOUNTINGS 1

MISSILE PYLONS 2

ALLEGIANCE EMPIRE

FALCON

HULL MASS 5 TONNES

MASS (FULLY LADEN) 16 TONNES

INTERNAL CAPACITY (NO DRIVE) 11 TONNES

RETRO THRUSTER ACCELERATION 9 EARTH G

MAIN THRUSTER ACCELERATION 30 EARTH G

CREW 1

GUN MOUNTINGS 1

MISSILE PYLONS 2

ALLEGIANCE FEDERATION

GECKO

HULL MASS 11 TONNES

MASS (FULLY LADEN) 45 TONNES

INTERNAL CAPACITY (NO DRIVE) 34 TONNES

RETRO THRUSTER ACCELERATION 9 EARTH G

MAIN THRUSTER ACCELERATION 6 EARTH G

CREW 1

GUN MOUNTINGS 2

MISSILE PYLONS 1

ALLEGIANCE INDEPENDENT

IMP COURIER

HULL MASS 130 TONNES

MASS (FULLY LADEN) 480 TONNES

INTERNAL CAPACITY (NO DRIVE) 350 TONNES

RETRO THRUSTER ACCELERATION 6 EARTH G

MAIN THRUSTER ACCELERATION 16 EARTH G

CREW 3

GUN MOUNTINGS 1

MISSILE PYLONS 6

ALLEGIANCE EMPIRE

IMP TRADER

HULL MASS 175 TONNES

MASS (FULLY LADEN) 700 TONNES

INTERNAL CAPACITY (NO DRIVE) 525 TONNES

RETRO THRUSTER ACCELERATION 4 EARTH G

MAIN THRUSTER ACCELERATION 9 EARTH G

CREW 6

GUN MOUNTINGS 1

MISSILE PYLONS 6

ALLEGIANCE EMPIRE

INTERPLANETARY SHUTTLE

HULL MASS 4 TONNES

MASS (FULLY LADEN) 8 TONNES

INTERNAL CAPACITY (NO DRIVE) 4 TONNES

RETRO THRUSTER ACCELERATION 3 EARTH G

MAIN THRUSTER ACCELERATION 5 EARTH G

CREW 1

GUN MOUNTINGS 0

MISSILE PYLONS 0

ALLEGIANCE INDEPENDENT, FEDERATION, EMPIRE

KRAIT

HULL MASS 8 TONNES

MASS (FULLY LADEN) 38 TONNES

INTERNAL CAPACITY (NO DRIVE) 30 TONNES

RETRO THRUSTER ACCELERATION 10 EARTH G

MAIN THRUSTER ACCELERATION 20 EARTH G

CREW 1

GUN MOUNTINGS 1

MISSILE PYLONS 4

ALLEGIANCE INDEPENDENT

LIFTER

HULL MASS 3 TONNES

MASS (FULLY LADEN) 10 TONNES

INTERNAL CAPACITY (NO DRIVE) 7 TONNES

RETRO THRUSTER ACCELERATION 2 EARTH G

MAIN THRUSTER ACCELERATION 4 EARTH G

CREW 1

GUN MOUNTINGS 0

MISSILE PYLONS 0

ALLEGIANCE FEDERATION

LION

HULL MASS 65 TONNES

MASS (FULLY LADEN) 300 TONNES

INTERNAL CAPACITY (NO DRIVE) 235 TONNES

RETRO THRUSTER ACCELERATION 3 EARTH G

MAIN THRUSTER ACCELERATION 5 EARTH G

CREW 4

GUN MOUNTINGS 4+F

MISSILE PYLONS 6

ALLEGIANCE FEDERATION

MORAY

HULL MASS 17 TONNES

MASS (FULLY LADEN) 87 TONNES

INTERNAL CAPACITY (NO DRIVE) 70 TONNES

RETRO THRUSTER ACCELERATION 6 EARTH G

MAIN THRUSTER ACCELERATION 14 EARTH G

CREW 1

GUN MOUNTINGS 1+F

MISSILE PYLONS 4

ALLEGIANCE INDEPENDENT, FEDERATION

OSPREY

HULL MASS 4 TONNES

MASS (FULLY LADEN) 15 TONNES

INTERNAL CAPACITY (NO DRIVE) 11 TONNES

RETRO THRUSTER ACCELERATION 8 EARTH G

MAIN THRUSTER ACCELERATION 27 EARTH G

CREW 1

GUN MOUNTINGS 1

MISSILE PYLONS 2

ALLEGIANCE EMPIRE

PANTHER

HULL MASS 400 TONNES

MASS (FULLY LADEN) 2500 TONNES

INTERNAL CAPACITY (NO DRIVE) 2100 TONNES

RETRO THRUSTER ACCELERATION 3 EARTH G

MAIN THRUSTER ACCELERATION 6 EARTH G

CREW 15

GUN MOUNTINGS 4

MISSILE PYLONS 8

ALLEGIANCE FEDERATION

PUMA SHUTTLE

HULL MASS 175 TONNES

MASS (FULLY LADEN) 1000 TONNES

INTERNAL CAPACITY (NO DRIVE) 825 TONNES

RETRO THRUSTER ACCELERATION 3 EARTH G

MAIN THRUSTER ACCELERATION 6 EARTH G

CREW 11

GUN MOUNTINGS 4+F

MISSILE PYLONS 8

ALLEGIANCE FEDERATION

PYTHON

HULL MASS 100 TONNES

MASS (FULLY LADEN) 500 TONNES

INTERNAL CAPACITY (NO DRIVE) 400 TONNES

RETRO THRUSTER ACCELERATION 4 EARTH G

MAIN THRUSTER ACCELERATION 10 EARTH G

CREW 7

GUN MOUNTINGS 2+F

MISSILE PYLONS 4

ALLEGIANCE INDEPENDENT

SIDEWINDER

HULL MASS 8 TONNES

MASS (FULLY LADEN) 33 TONNES

INTERNAL CAPACITY (NO DRIVE) 25 TONNES

RETRO THRUSTER ACCELERATION 12 EARTH G

MAIN THRUSTER ACCELERATION 23 EARTH G

CREW 1

GUN MOUNTINGS 1+F

MISSILE PYLONS 0

ALLEGIANCE INDEPENDENT

TIGER TRADER

HULL MASS 80 TONNES

MASS (FULLY LADEN) 400 TONNES

INTERNAL CAPACITY (NO DRIVE) 320 TONNES

RETRO THRUSTER ACCELERATION 5 EARTH G

MAIN THRUSTER ACCELERATION 12 EARTH G

CREW 5

GUN MOUNTINGS 1+F

MISSILE PYLONS 1

ALLEGIANCE FEDERATION

TRANSPORTER

HULL MASS 40 TONNES

MASS (FULLY LADEN) 200 TONNES

INTERNAL CAPACITY (NO DRIVE) 160 TONNES

RETRO THRUSTER ACCELERATION 4 EARTH G

MAIN THRUSTER ACCELERATION 9 EARTH G

CREW 3

GUN MOUNTINGS 1

MISSILE PYLONS 2

ALLEGIANCE INDEPENDENT, FEDERATION

VIPER DEFENCE CRAFT

HULL MASS 15 TONNES

MASS (FULLY LADEN) 65 TONNES

INTERNAL CAPACITY (NO DRIVE) 50 TONNES

RETRO THRUSTER ACCELERATION 10 EARTH G

MAIN THRUSTER ACCELERATION 24 EARTH G

CREW 1

GUN MOUNTINGS 1+F

MISSILE PYLONS 4

ALLEGIANCE INDEPENDENT, FEDERATION, EMPIRE

KESTREL AIRFIGHTER

HULL MASS 5 TONNES

MASS (FULLY LADEN) 20 TONNES

INTERNAL CAPACITY (NO DRIVE) 15 TONNES

RETRO THRUSTER ACCELERATION 6 EARTH G

MAIN THRUSTER ACCELERATION 25 EARTH G

CREW 1

GUN MOUNTINGS 1

MISSILE PYLONS 2

ALLEGIANCE FEDERATION

HAWK AIRFIGHTER

HULL MASS 5 TONNES

MASS (FULLY LADEN) 18 TONNES

INTERNAL CAPACITY (NO DRIVE) 13 TONNES

RETRO THRUSTER ACCELERATION 6 EARTH G

MAIN THRUSTER ACCELERATION 27 EARTH G

CREW 1

GUN MOUNTINGS 1

MISSILE PYLONS 2

ALLEGIANCE FEDERATION