

FTCII QL INSTALLATION

Always ensure that the QL is in its reset condition before loading the programme. It is not 'SAFE' to have ANY other tasks running alongside FTC as a clash of interests will almost certainly occur. It is also unnecessary and unwise to have routines loaded that speed up text displays and graphics etc. Most of the FTC display is in any case produced using its own, very fast, display drivers.

Do NOT WRITE PROTECT programme copies as the installation routines expect to be able to write data to the copy.

Should your Backup or Master copies of the programme become corrupt contact DI-REN for assistance.

START

Ensure the programme copy is in Drive 1 ensuring that it remains there until the game is ready to start. Press F1 or F2 in the normal manner when ready.

If loading from MDV's ensure that Programme copy 1 is in MDV1 and programme copy 2 is in MDV2. You will be given a prompt when to remove the MDV2 copy. The copy in MDV1 must remain there until the programme is ready to run.

The first display to be produced on the screen is the DI-REN Copyright Default Screen at which point you will be invited to press any key to continue.

The programme will now load some default files and then perform a SCREEN CHECK. This checks the location of the screen display.

Should the screen check fail (an unlikely but possible event in non standard QL systems) you will be asked to enter the screen address. This will normally be provided with the system documentation. If entering the address in HEX the number must be preceded with a '\$' (Dollar sign).

If you have to enter a screen address it is advisable to invoke the 'SAVE DEFAULTS' option as described later.

BACKUPS

If you have not previously made the two backups per master allowed, a prompt will appear BACKUP REQUIRED Y/N ?. Selecting 'Y' will take you to the backup routines. Refer to 'BACKUP ROUTINE' Page 9.

PROGRAMME IN GENERAL:

FTCII is written entirely in 68008 machine code and does not require any toolkits of any description to be installed.

The Installation programme and Modem Utility are in Superbasic compiled with Digital Precision's TURBO Compiler.

FILES SUPPLIED:

BOOT	FTC's Boot File
FTCII QL BOOT	FTC's Secondary Boot File
FTCII QL MAIN	Main Programme Task
FTCII QL KEY	Secondary Programme Task
FTCII QL SCR	FTC's Bridge Display File
FTCII QL PVP	Player V Player Task
FTCII QL FONT	Standard QL Font
FTCII QL EXTS 1	Turbo Runtime Toolkit
FTCII QL EXTS 2	FTC's Toolkit
FTCII QL INSTALL	FTC's Installation Programme
FTCII QL VARS	Programme Variables
FTCII QL DEFS	Programme defaults
FTCII QL MODEM	FTC's Modem Code & Data
SYSTEM BIN System	Data Dump Utility

SUPERVISOR:

If for any reason the programme does not draw the bridge display to the screen after the INSTALL Option has been selected from within the Programme Install routine then it is possible that the computer has an incorrect Screen Address.

To enforce Screen address and font loading press <CTRL>+<S> from within the installation programme. This will be followed by a 'SUPERVISOR' Prompt. Enter 'screen' or 'font' as required.

SYSTEM BIN

Should the programme not proceed past the installation routine or fail to run over the QL-QL network system (having first proved this is operational) this machine code utility has been supplied so that essential system information may be made available to us for debugging purposes.

To run the programme reset the computer and when ready:

EXEC W FLP1 SYSTEM BIN

When the routine is ready you will be asked to place a spare disk in FLP1. Press <ENTER> when ready.

Apart from dumping Channel header information to the disk the utility also locates the QL-QL Network driver and sends several bytes saving the result to disk.

Due to a problem with the QL-QL Network Driver. The Utility may not be able to return to Superbasic upon completion. If this is the case ensure the Disk has stopped and then reset the machine. The disk should be forwarded to us with a description of the problem for evaluation.

SELECTING DEFAULTS

Upon successful completion of the screen test the 'FTCII QL INSTALLATION BOARD' will appear.

Use the <UP> & <DOWN> cursor keys to scan around the display and <ENTER> to action or change an option default.

The current default line header is displayed as black ink on a white background. Defaults that can be changed are in white ink on a red stipple background, non changeable defaults being in red ink.

The prompt '** Select' denotes that this default MUST be changed before the programme can be installed. The option to INSTALL the programme is not available if a '** Select' prompt is showing.

It is possible to set the defaults as required and save them using the 'SAVE DEFAULTS' option. This saves the bother of having to reset the defaults every time the programme is loaded. Simply use the cursor keys to move to the SAVE DEFAULTS option and press the <ENTER> key.

DEFAULT OPTIONS

GAME TYPE:

To select the required game type press <ENTER> then repeatedly press the <SPACE BAR> to select. When the appropriate selection has been made press the <ENTER> key.

Options: SINGLE USER
 NETWORK
 PLAYER V PLAYER
 COMPUTER V PLAYER

It should be noted that the PLAYER V PLAYER (PVP) and COMPUTER V PLAYER (CVP) options will only appear on expanded machines.

It is possible to load any previously saved game type to another option. For instance a previously networked game can be loaded as Player V Player.

Computer V Player

This option at the time of printing has yet to be developed. When developed it will come in the form of a separate file, which will be loaded in the same manner as the PVP option.

FLEET:

This gives you the option of selecting either the MARLBOROUGH or SAN STEFANO fleets. Simply press the <SPACE BAR> to select. It is important to note that if networking each player should SELECT A DIFFERENT FLEET otherwise the programme will not run.

If two fleets are displayed the fleet displayed to the left will be the first fleet to appear on game start up.

SAVE DEVICE:

This default allows you to change the default device to which you wish the current game to be saved to. 4 digits need to be entered e.g., FLP1, MDV1, WIN1 etc.

SCENARIO:

Upon selection you will be given the option to select new or old (games previously saved) scenarios. If <N>ew is selected simply enter the name you wish to give to the game file (12 digits maximum). If the file already exists, you will be asked to confirm overwrite.

When <O>ld has been selected a list of previously saved scenario's on the default save device will be displayed. Enter the name of the scenario required.

If the Player V Player option has been selected, and new scenario's are required you will be asked to enter two scenario names.

Should old scenarios be required both scenarios should be located on the default save device. Entering one name will automatically load both scenarios.

When using PVP or CVP options and loading previously saved scenarios, BOTH scenarios must be located on the same disk/mdv.

Scenario ID

When loading previously saved scenarios a number will be displayed along with the scenario name. This number is the scenario ID.

With the exception of the Single User Option the ID for any game saved is the same on both yours, and your opponents files. This can be used to check that the games being loaded are compatible.

NETWORKING:

Upon selection the following options will be displayed

- 1 QL - QL
- 2 Ser1hr
- 3 Ser2hr
- 4 Modem
- 5 Other

QL - QL Option

This option utilises the standard network lead supplied with the QL's and when selected requires no further parameters.

Ser1 & Ser2

REFER to SERIAL PORT/BAUD RATES - QL INSTALL Page 8.

If connecting QL to QL check the leads are correctly installed. The suppliers of the connecting lead should give full information regarding connection.

It is possible to connect QL's to other machines using direct serial links. In all cases, the higher the Baud Rate, the faster the programme will run.

When selecting serial link options you must confirm the BAUD rate required.

Modems - Refer to QL Install Page 10

PRINTER:

- Options
- 1 Off
 - 2 Ser1hr
 - 3 Ser2hr
 - 4 Other

Refer to the Serial Port/Baud Rates - Install page 8

When the output port has been selected the following options will require answering.

Baud rate:

Normally 9600 - select as required by pressing the <SPACE BAR> - <ENTER> when selected.

Printer Initialisation

This allows a string of bytes to be output to the printer on start up. The default is set as 27,64 which is the Epson & compatibles reset code. To initialise a sheet feeder for some Epson printers the code 27,64,27,25,52 should be entered. Up to a maximum of 8 characters can be handled.

If more complex codes are required they should be sent to the printer before loading the programme and the programme initialisation string should be set to 0.

Printers running fanfold or quick laser printers are the only sensible way of outputting hard copy from the game.

Form Feed:

Normally CHR\$(12). Enter new number if required

Signals to printer:

Pressing 'Y' will redirect signals to the printer. May be changed within the programme.

Number of line feeds:

If you require extra line feeds between printed signals the number of lines required should be entered here. This is re-definable from within the game.

If Miracle Systems 'TRUMP CARD' is installed it is sensible to use the PRT USE option for the output port thus buffering output and smoothing programme operation.

AUTO SWAP/DIFF LEVEL:

Auto Swap:

If running the PVP option and require the programme to automatically swap between fleets a number from 1-999 representing a period of time in 'game time minutes' can be entered. Entering '0' will switch the AUTO SWAP command off.

Difficulty level:

If running the CVP option a figure of between 0-10 should be entered with 10 being the greatest level of difficulty.

SAVE DEFAULTS:

Saving the set up defaults using this option to the game loading media is a very useful way of saving time and effort when reloading an existing game. Simply press the <ENTER> key.

If you are reloading an existing game and have previously saved the set up defaults, assuming the scenario previously saved is in the correct loading device the programme will automatically go to the INSTALL option. Pressing <ENTER> will continue to load the programme.

INSTALL:

When all is ready press <ENTER> to install the main programme. The Installation routine at this point checks that all is in order.

If a problem exists you will be re-routed back to where the problem originates.

When the main programme is ready to run a prompt '<ENTER> to start' will appear. At this point only is it safe to remove the Programme copy from drive 1.

<ENTER> when ready and good luck !

LOADING & TK2

Unless you have TK2 fitted to both QL's when the network option is selected the programme will have to be loaded separately to each machine.

The programme does not need TK2 to operate over the QL-QL network.

If TK2 is fitted to both machines it is possible to load the programme from Disk Drives (or MDV's) on one machine to the other machine using TK2's FSERVE option (File Server).

Procedure:

Machine to be loaded from:

**NET 1
FSERVE**

Machine to be loaded to: (This assumes that the programme is in FLP1)

**NET 2
NFS USE FLP,N1 FLP1 ,N1 FLP2
LRUN FLP1 BOOT.**

The programme copy being loaded to machine NET 2 should be ready to run, i.e., INSTALLED before any further action is to be taken on machine NET 1.

When all is ready on the NET 1 machine:

**RJOB SERVER
LRUN FLP1 BOOT**

DO NOT Under any circumstances try to save games over the network.

When the programme is installed over the network it should be noted that both machines will use the same set of DEFAULTS.

FTCII INFORMATION, OPERATION & CONTROL

INTRODUCTION

This section of the FTC Manual contains a considerable amount of information regarding FTC and its usage. It is highly unlikely that you will be able to assimilate all the information in one go!

We suggest that you try out each section whilst learning how to use the programme and maybe even take notes as you go.

Reference should be made to the "Fleet Tactical Commander's Handbook" which includes a COMMAND Reference List, Ships' Details, General Consumption Rates and other information that is required for FTC day to day usage.

A calculator, although not essential, is an ideal accessory to have available for computing consumption rates, etc.

There are no "tricks" in FTC. All relevant commands and programme details are fully documented.

We have made every effort to explain the many intricacies of the programme in a clear, concise and interesting manner and hope that you have as much fun learning about and using FTC as we have had developing it.

Don't burn too much midnight oil !!!

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Authors - FLEET TACTICAL COMMAND II - DI-REN

ATTITUDE

FTC has been designed to cover most eventualities regarding unreasonable behaviour between opposing fleets. For instance, firing upon ships moored in a neutral port meets with disapproval from the neutral port authorities and the offending ship is bombarded. We cannot, however, cover every eventuality and actions such as purposely ramming an opponent's ship whilst moored in a neutral port is unreasonable behaviour and not in the spirit of the game.

GRAPHICS DISPLAY

Unlike most other animated graphics orientated programmes that spend most of their time drawing to the screen display, FTC has to continuously update, calculate, check and control around 30,000 variables. This is quite apart from handling network data.

It therefore stands to reason that the graphics display has to be a trade-off between possible processor power available and visual impression requirements.

It is interesting to note that when a scenario is being enacted, the user's attention is focused almost entirely on the instrumentation and command console output.

MACHINE VERSIONS

The (ms) notation throughout this manual indicates that the option/operation is only applicable to some machine specific versions of FTC.

TIME

All references to time within this manual, unless specifically referred to as REAL TIME, mean SHIP'S TIME.

The ship's clock is situated at the top right hand side of the display and has the following 24 hour format : HOURS : MINUTES : DAYS (i.e. 15:04:2 would represent 4 minutes past 3 on the second day).

All relevant timing operations within the programme directly relate to the ship's clock. For instance, the tide changes every six and a half hours, sunset is at 22.30hrs and sunrise is at 06.30hrs. FTC enables the user to plot courses and, using the ship's clock, accurately estimate the time of arrival unless inclement weather conditions prevail.

BRIDGE WINDOW

During daylight hours and near jetties you will be able to see, through the bridge window, ships that are within 25 miles of your current position. The further away they are, the smaller they appear.

It is essential to grasp the fact that the bridge window displays some 180 degrees of vision, i.e. anything that is displayed to the left of the window is in fact on your left hand side.

In the bottom centre of the window is a triangular shape that represents the bow. If the anchor is lowered, a white line will be seen crossing the bow. This is the anchor chain.

MARKER BUOYS

With the exception of Penhale Shoal, marker buoys surround most areas of very shallow water at approximately 4 mile intervals. Being on the "right" side of the marker buoys, however, does not mean that you will not run aground. Consult the charts.

If you are close enough, all marker buoys are visible during daylight hours. They are usually detected by the tactical radar display within about 20 miles.

If you run aground within a buoyed area, on the tactical display, the ship will be surrounded by marker buoys.

SHIP'S ROUTINE

Unless at ACTION STATIONS, the ship's daily routine is broadcast throughout the ship at regular intervals. A "Flashing" prompt indicates what would normally be broadcast.

The ship's routine is broadcast to ensure the crew are aware of what they should be doing at any given time, e.g. HANDS TO DINNER, HANDS TURN TO.

The normal ship's routine is discontinued when at ACTION STATIONS.

WEATHER

The range of weather conditions is from CALM through to VIOLENT STORM (Force 11). The "Force" descriptions used within the programme are accurately derived from the Beaufort Scale supplied to us by the Meteorological Office, London.

As in real life, the movement of the sea affects the ship's helm. During bad weather conditions you can clearly see the rudder indicator moving as the helmsman struggles to keep the ship on course. In more severe weather conditions the ship's speed will also be affected. Anchor chains will break away in bad weather and ships in unsheltered harbours may suffer some damage or experience other problems.

The "swell" of the sea during inclement weather will sometimes re-float ships that are aground if the total depth of water is greater than the ship's draught. The echo sounder read-out (DEPTH, top left hand side of screen display) will reflect the increase/decrease in depth.

NETWORK

When using FTC over a network, it may happen that a problem with the network link occurs. This will be reported by one of two prompts. A NETWORK TIMEOUT ERROR arises when the programme has exceeded its wait state for contact with the other machine. NETWORK DATA CORRUPTION is issued when a data integrity check fails.

If three consecutive networking errors occur, the programme will be brought to a halt and will give you the option to <Q>uit/Save or <R>etry. The Retry option should only be considered if the problem is resolved.

Networking problems are NOT a normal feature and should be investigated if they are experienced frequently.

(ms) **Data Integrity check.**

Issuing the command **DATA CHECK ON/OFF** will enable or disable data integrity checking. Data integrity checking performs a checksum on incoming data.

COMMANDS

A reference list of the commands to operate FTC and their abbreviations and key press short cuts can be found in the Fleet Tactical Commander's Handbook.

Although these commands might appear slightly awesome at first, especially to those with no "sea going" experience, you will soon become familiar with them.

Commands are entered from the keyboard and, with a few exceptions, are typical of the spoken commands issued aboard naval ships.

The command keyword parser only looks for elements within keywords and consequently overlooks some spelling mistakes. For instance, **HHHARSSTARR** would be correctly interpreted as **HARD TO STARBOARD**.

A minimum of four characters for commands and three characters for compartment/ machinery specifications is normally required, i.e. **FIGH HEL** will be interpreted as **FIGHT FIRE IN HELM COMPARTMENT**.

Commands are described in their full context in this section. In practice, however, abbreviations and single key short cuts are available for most commands. These are described in full in the FTC Handbook.

Short cut key presses and abbreviations are necessary because it would be impractical for even the most experienced keyboard user to type in **HARD TO STARBOARD**, for instance, in the middle of a hectic battle.

More than one command may be entered on the command line as long as each command is separated with a comma (,), i.e. **WEIGH,FULLAHEAD,045**.

If you have typed a command without <ENTER>ing it, the command line will be automatically <ENTER>ed after a few minutes and the message **** COMMAND LINE AUTO <ENTER>ED **** will appear. This will also happen if you have typed over the end of the command line.

It is not necessary to enter spaces between command parameters or numbers, as they are ignored by the parser.

The programme does not require any negative figures to be input by the user and therefore, the "-" minus sign is ignored.

Throughout FTC documentation "arrow keys" are referred to as "cursor keys". The <RETURN> key is referred to as the <ENTER> key.

The parameter (num) is frequently referred to in the manual. (num) indicates that a numeric quantity is required. For instance, the command, TAKE ON (num) CREW would be entered as **TAKE ON 20 CREW** (assuming you require to take on 20 crew members).

COMMAND LINE ERRORS

Command errors are reported if the command is not recognised (BAD COMMAND) or if, for instance, a parameter is not correct, e.g. OUT OF RANGE. Check the abbreviations as listed in the Fleet Tactical Commander's Handbook.

PARDON SIR generally means that the command is correct but issued in the wrong circumstances. The command REFIT, for instance, would receive this response if the ship is not docked.

Out of range errors are normally generated through selecting ship numbers greater than 15 (there is no ship number 16!) or giving bearings greater than 359 degrees.

Some items of equipment or parts of the ship require extra parameters such as **FWD** or **AFT**, e.g. **REPAIR FWD SWITCHBOARD**. If these essential parameters are not included, an error message will be generated.

PROGRAMME ERRORS

Whenever possible, the error trapping routines will display the programme's state when the error occurred. Whenever an error occurs, please inform Di-Ren and give us the details that are displayed along with, the circumstances under which the error was invoked, i.e. firing guns, docking, etc.

(ms) If possible, the programme will report the following error conditions:

Error	Description	Problem
00	Zero Divide	Attempted division by zero
01	O/S Critical Error	Operating system error trap
02	NMI Error	Hardware or Interrupt problem
03	Network Compatibility	Usually Slave V Slave
04	Network Compatibility	Usually Master V Master
05	Programme Code Error	Corrupt Programme Data
06	Invalid Opcode	Corrupt Programme Code
07	Invalid Call	Corrupt Programme Code
08	Programme Integrity Error	Corrupt Programme Data

Action to be taken:

Errors 00,01,02,06,07 Reload the programme and try again.

Errors 03,04 Networking options must run in Master V Slave Mode.

Errors 05,08 The programme will probably need to be re-installed.

QUITTING/SAVING

Entering **QUIT** will display the following options:

- 1 Continue only
- 2 Quit without saving
- 3 Save then quit
- 4 Save then continue

Press key 1-4 as required. If a QUIT option is selected a further prompt will appear asking you to confirm your choice.

Notes:

If saving to removable media, it is advisable to keep it in the default drive throughout the duration of the game. This precaution is necessary in case your opponent decides to save/quit the game without letting you know.

If networking, only one player should give QUIT/SAVE commands. If both players give the command simultaneously, a programme lockup could occur.

When a player issues a QUIT/SAVE command, the command is transmitted to the opponent's computer. There will be a delay whilst the programme is brought to a suitable standstill. The opponent's computer will signal your computer when all is ready. Saving/quitting sequences will then automatically commence. The time taken to save/quit will depend on the storage devices in use. Some storage mediums are much slower to access than others. When networking, both machines will only restart when the slowest saving operation is complete, i.e. there may be some delay after the drive access has finished before normal operation is resumed.

If using PVP or CVP options the programme will save both games automatically.

(ms) If the tactical display is in the PLOT mode, the plot will be cleared.

(ms) **PROGRAMME SPEED**

In all but networking modes the command **SLUG** (num) may be issued to control programme speed. The default (num) of 10 gives an optimum running speed of around *60 real time. On slower machines, this will prove to have little effect. The programme will, in all cases, only allow a minimum factor of 1 (even though 0 is accepted by the command parser).

When networking, programme speed, is controlled by the slowest machine.

Increasing the programme speed can make it difficult to use. Decreasing the programme speed is ideal when learning how to use FTC.

Entering **SLUG 20** will significantly slow down the programme.

(ms) **TEXT DISPLAY SPEED**

The speed at which text is displayed in the command console, can be controlled by entering **TEXT** (num). Increasing (num) slows text display down, e.g. entering **TEXT 40** will considerably slow down output.

The default is 10.

(ms) **TILT**

The TILT option may be changed within the programme as well as within the installation procedure.

TILT 0 = Tilt Off
TILT 1 = Simple Tilt
TILT 2 = Full Tilt

These options are described in the installation procedure. Remember that the **FULL TILT** option requires considerable processing power and will substantially decrease operation speed on slower machines.

CHANGING SHIPS

To change from ship to ship enter **CHANGE TO SHIP** followed by the ship number required. If using the single key press option, the prompt **CHANGE TO SHIP** will be written to the command line. Enter the ship number required.

Ships are numbered from 0-15.

You cannot change to a ship that has sunk or is sinking.

PLAYER V PLAYER OPTION

The Player Versus Player option allows two players to use FTC on one machine. This is an ideal option if the users do not have access to two machines.

Files saved from the PVP mode may be re-loaded and run in network mode if two machines are available and, conversely, files saved from network mode may be re-loaded and run in PVP mode if necessary.

Relevant commands:

SWAP: When the Player V Player on one machine option has been selected upon programme installation, the SWAP command is enabled. This command may be entered at any time in Player V Player mode and will swap the display and keyboard control to the opposing fleet.

AUTO xx: The command AUTO followed by a number up to 999 will cause the programme to automatically swap fleets, i.e. **AUTO 40** will result in control swapping every 40 minutes (by the ship's clock). The time remaining to the current operator will be displayed in the top right hand corner of the command console. Both opponents should agree on the AUTO time parameter, which may be changed at any time.

AUTO 0: The command AUTO 0 will turn off the Auto Swap facility. The hidden fleet will continue to operate in the background until a **SWAP** command or **AUTO** and time command is executed.

Notes:

When swapping between fleets the programme will stop, the display will be blanked and will prompt ANY KEY TO CONTINUE at which point your opponent should take over and press a key.

If the "hidden" fleet has not been outputting signals to a printer, a list of all relevant signals will be displayed before the programme continues. The display speed of these signals, may be increased by pressing the <SPACE> bar. If there are no signals outstanding, the prompt NO SIGNALS OR REPORTS WAITING, ANY KEY TO CONTINUE will be displayed.

The fleet swapping routines are deliberately designed to bring the action to a definite stop, and pause for the opponent to take control of his or her fleet in a sensible manner. The keyboard type-ahead buffer is emptied prior to the ANY KEY TO CONTINUE prompt being displayed so that opponents do not disrupt each other's commands when swapping.

TOWING SHIPS

Commands: **ENGAGE TOW** (ship number) Issued by towing ship
 DISENGAGE Issued by either ship

The prerequisites to successful engagement of a tow are as follows:

1. The ship that requires towing should be astern (behind) your ship at a relative bearing (taken from the IFF computer) of between 135 and 225 degrees.
2. The distance between the two ships must be less than 1 mile.

To engage a tow, obtain a **REAR** view, set the ship's computer to display the details of the ship that is going to be towed and set the tactical radar range to 4 miles. Back the towing ship up to the ship to be towed.

Upon engaging the tow, both ships should both have approximately the same heading. If the headings of the ships involved are substantially different, this will almost certainly result in the tow parting.

When the tow is engaged, slowly increase the speed of the ship towing. Speeding up too quickly or turning too sharply will result in the tow rope breaking.

Towed ships are likely to overrun and collide with the towing ship so any changes of speed should be gradual.

As submarines have a shallow draught, in calm weather it is possible for them to access any part of the plot at tide levels of 5 meters and above. It is therefore possible, with some difficulty, to tow any ship off of ground.

Adverse weather conditions are liable to make towing very difficult.

The tow rope is not always successfully engaged at the first attempt.

During daylight hours the tow rope can be seen from both ships.

SOUND

Entering the command **SOUND** will toggle the programme's sound switch ON or OFF. A prompt will follow this command confirming the switch made.

(ms) **SONAR SOUND**

Entering the command **SONAR** will toggle the programme's sonar sound switch ON and OFF. This is only applicable, of course, with ships that have sonar fitted.

When the sonar "sends", a clearly defined "blip" will be heard. The return echo is "muffled". The time lapse between the "send" and "return" sounds indicates the distance of the sonar contact. Multiple echoes are sometimes due to aquatic conditions as opposed to multiple contacts.

If you have disabled sound output with the **SOUND** command switch, this command will report INVALID COMMAND OPTION.

ALARM

To cancel the ACTION STATIONS alarm enter **CANCEL ALARM** or **ALARM**.

SCUTTLE SHIP

Entering **SCUTTLE** will sink the ship (if you really want to !!)

SHIP SPEED

FULL AHEAD

Entering **FULL AHEAD** at the keyboard will result in the ship speeding up until it reaches its maximum speed (as specified in the SHIPS' DETAILS section). The ship speeds up much more quickly than it would if a conventional speed command were issued and also uses substantially more fuel.

FULL ASTERN

The ship will attain its maximum speed astern as quickly as possible, again using much more fuel than it would if a conventional speed command was issued.

HALF AHEAD and **HALF ASTERN**

The ship will attain half its maximum forward speed (or astern speed) in the most economical manner.

SLOW AHEAD and **SLOW ASTERN**

The ship will attain approximately one quarter of its maximum speed in either direction in the most economical manner.

(0-max) **KNOTS**

The ship will attain the specified speed, if it is capable of it, in an economical manner. Negative numbers are not permitted.

CRUISING SPEED

CRUISING SPEED is the most economical speed at which a ship can travel. Different classes of ships have different cruising speeds. The greater the difference between actual speed and cruising speed, the greater the relative fuel consumption.

STOP ENGINES

Entering **STOP ENGINES** will stop all engines and bring the ship slowly to a halt. The ship will, however, continue to drift with the current if not at anchor or aground.

<UP> & <DOWN>

Cursor keys may be used as a convenient method of adjusting a ship's set speed. The speed will be attained gradually unless the set speed reaches the maximum ahead or astern speed, in which case it will be treated as an emergency **FULL AHEAD** or **FULL ASTERN** command.

In all cases, ships will take longer to reach their set speed if the anchor is down (until the anchor is weighed or the anchor chain breaks) and it should be noted that larger ships will accelerate or decelerate more slowly than smaller ships.

HELM

PORT (0-30) and STARBOARD (0-30)

The helm will turn until the desired degrees of rudder are set. The rudder will stay set and the ship will continue to turn until another helm command is issued. The <LEFT> and <RIGHT> cursor keys adjust the degree of helm set directly.

HARD TO PORT and HARD TO STARBOARD

The helm will turn more rapidly than above to its maximum port or starboard setting. The ship will continue to turn until another helm command is issued.

STEER (0-359)

If travelling ahead, the helmsman will turn the rudder until the desired compass course (0-359 degrees) is set. On smaller craft, some oversteer may be experienced but the helmsman will correct this without further commands being necessary. Weather conditions may cause the heading to veer with the force of the sea but the helmsman will automatically take appropriate corrective action.

It is not necessary to enter the keyword **STEER** as long as a 3 digit course (e.g. 015) has been entered as a specific command.

The **STEER** command is restricted by the fact that it will only work successfully in FORWARD MOTION.

MIDSHIPS

The rudder will be set to the Dead Ahead position and once this has been achieved, the resulting course will be held. Again, the wind may cause the heading to veer and the helmsman will correct as necessary.

All helm commands issued will immediately override any previous commands.

Ships turn in the opposite direction to the helm when moving astern and larger ships have a substantially greater turning circle than smaller ships. If a ship is stationary, the rudder will have no effect.

ANCHOR

WEIGH ANCHOR The anchor will be raised.

DROP ANCHOR An anchor will be lowered (if the ship has any left!).

The time taken for weighing and dropping anchor will be greater in deeper water. The anchor is operative to a maximum depth of 100 metres. If an anchor is dropped in deeper water it will have no effect until shallower water is encountered.

Ships can make way slowly whilst their anchor is down, but they will consume more fuel as the anchor drags. As speed increases, the anchor chain will break and the anchor will be lost unless it is weighed in time.

Adverse weather conditions may cause anchors to drag and foul weather will result in anchors being lost as the chains break.

Whilst at anchor, ships will slowly swing until they are facing into the prevailing current.

All ships are fitted with two anchors. It is only possible to replace the anchors at refits. As submarine anchor winches are fitted internally, it is possible to raise and lower anchors when the vessel is submerged.

STATES OF READINESS

HARBOUR STATIONS

(State 4)

The ship's crew will be relaxed and at ease and all but essential machinery will be shut down. Engine rooms, etc. are not manned. This is a ship's lowest state of readiness and unless in a neutral or home port, the ship will be extremely vulnerable to attack. A ship's Captain will automatically send the crew to **HARBOUR STATIONS** once the ship is docked.

CRUISING STATIONS

(State 3)

This is the minimum state of readiness at which normal ships' functions can take place. The Helm and Engine Rooms are manned and the signalman is on duty on the Bridge. The ship can make way and steer. This is the normal state for a ship at sea that does not anticipate contact with the enemy.

DEFENCE STATIONS

(State 2)

Suitable for situations where contact with an enemy is possible but not imminent. The ship is not able to engage an enemy as weapons are not manned, watertight doors are not all sealed, etc.

ACTION STATIONS

(State 1)

A ship should be at **ACTION STATIONS** whenever an engagement is imminent. The crew are on full alert. All watertight doors and hatches are sealed. Damage control parties and gun crews are closed up.

State of readiness commands may be issued in full or abbreviated to **HARSTAT**, **CRUSTAT** etc. Short Cut key presses are also available for these commands.

It takes time to change to different states of readiness. The larger the ship, the longer it takes. When at **ACTION STATIONS**, the normal ship's routine is abandoned, and normal sleeping and eating arrangements are not implemented. Long periods at **ACTION STATIONS** and to a lesser degree, at **DEFENCE STATIONS**, are likely to create unrest amongst the crew. Machinery is more liable to break down due to lack of maintenance and crew fatigue. As the situation deteriorates, acts of sabotage are bound to occur.

At **ACTION STATIONS**, all watertight doors and hatches are closed to reduce the risk of fire and flooding spreading to other compartments.

Vessels' captains will automatically issue the **ACTION STATIONS** command under certain circumstances, such as:

- An enemy vessel comes into tactical range.
- A sonar contact is made.
- An unidentified periscope is spotted.
- The vessel is under attack.
- A collision is imminent.
- The emergency **BLOW ALL TANKS** or **DIVE DIVE DIVE** command is issued.

To avoid unnecessary problems, the lowest sensible state of readiness should be kept at any time.

SUBMARINES

As a result of their ability to operate beneath the surface, submarines have more handling features than surface ships.

DIVE (metres) or (Number) METRES

The submarine will dive to the depth specified in metres. If the optional depth figure (metres) is omitted, the submarine will crash dive until it receives another depth command (or hits the sea bed!). METRES may also be spelled METERS.

DIVE DIVE DIVE

Crash dive until instructed otherwise.

SURFACE

The submarine will surface. If the periscope is up it will be lowered prior to executing the manoeuvre.

BLOW MAIN TANKS

Emergency surface. May be abbreviated to **BLOW**.

PERISCOPE DEPTH (PERISCOPE LEVEL)

The submarine will dive or surface as appropriate until the periscope depth of 14 metres is reached. The periscope cannot be used at any other depth.

NB : Any depth command will automatically lower the periscope if it is up.

UP PERISCOPE

Raise the periscope if at periscope depth. May be abbreviated to **UPPERI**.

DOWN PERISCOPE

Lower the periscope. May be abbreviated to **DOWNPERI**.

Note: Periscope rotation.

The periscope may be rotated left or right by the key presses described in the FTC handbook. The periscope is always raised facing dead ahead (000 degrees).

It is important to remember that the FWD torpedo tubes face dead ahead (000 degrees) and the AFT torpedo tubes face dead astern (180 degrees).

The DAWL meter displayed on the bridge instrumentation (top left hand side) gives the height of water above the vessel's water-line.

When submarines are diving they can come to rest on the sea bed without coming to grief. If you are underway and crash into the sea bed, however, expect the worst! The maximum time you can remain submerged is 20 hours. When surfaced or when the periscope is raised, the diesels will cut in and battery charging will automatically take place.

The sonar equipment fitted to surface ships is only effective to a depth of about 127 metres. Therefore, if you are able to dive to a depth greater than 127 metres, surface ships will be unable to locate you.

Charging flat batteries takes 5 hours. The captain will give the order to SURFACE when battery power runs out or when a submarine that is not currently the Flagship has a very low Operational Capacity.

Some users might notice an anomaly regarding the "fuel" consumption in that when a submarine is submerged, the fuel consumption decrements in the same manner as when making way on the surface. Rather than further complicating matters by increasing fuel consumption when charging batteries and stopping fuel consumption when on battery power, the standard fuel decrementation factor is used.

A submarine's maximum speed when surfaced is greater than when submerged and consequently, the vessel's **CRUISING SPEED** rate is different. Remember to readjust the speed as necessary. Submarines that are submerged are not affected by prevailing weather conditions.

IFF COMPUTER

(ms) To enable the computer handler enter **COMPUTER**. The handler will automatically disengage if left for more than a few minutes.

For computer operation refer to the FTC Handbook.

Depending on the setting the computer will display:

- Enemy ship details
- Your ship details
- Sonar contacts

In normal operation the ship's position, speed, present heading, and depth above water-line (DAWL) are displayed.

BRG is the bearing of the other ship relative to your own. If the ship is dead ahead, the bearing will be 000. If, however, the ship is directly to port (on your left) the bearing will be 270. An analogue display in the form of a compass is incorporated in the computer display to simplify matters. The needle points to the ship in question relative to your bow (which is 000 degrees).

The ship's computer is automatically fed information from all your other ships. This means that all your own ship's details are continuously updated.

If an enemy ship is within range of ANY of your ships, this information will also be available on the computer.

NO INFORMATION displayed on an enemy ship's read-out indicates that no contact has been made since the commencement of the game.

A read-out of LAST/CNT (last contact) followed by the time and day will be made if contact has been subsequently lost. This will also happen if a submarine has dived and cannot be detected.

The sonar option is only available on ships fitted with sonar and displays any current sonar contacts. Data on craft submerged to a maximum of 127 metres and within approximately 8 miles of any of your sonar ships will be shown.

If the computer displays SHIP SUNK and still displays full details regarding the ship, it is likely that the ship is not fully submerged.

TRACKING

To track another vessel using the ship's computer simply adjust your course until the relative bearing (BRG) displayed on the computer is 000 degrees.

The ship in question will then be directly ahead of you.

TACTICAL / PLOT DISPLAY

TACTICAL (range) - Enables Tactical Display or changes range.

PLOT (dot size) - Enables the Plot Display.

TACTICAL RADAR DISPLAY NOTES

The tactical display range can be selected from 32, 16, 8 or 4 miles. Close range displays are ideal for manoeuvring etc.

The ship's computer is an integral part of the tactical display, which cannot function without it.

All ships on the display are identified by their first letter, e.g. "D" for a destroyer.

Your ships are in green and the enemy's are in white.

White dots represent marker posts.

White oblongs represent jetties.

If vessels are fitted with sonar, any submerged vessels' positions will be shown on all vessels' tactical displays within that area.

Sonar contacts are shown as white diamond shapes on the tactical display.

Spotted periscope contacts (daytime only) are shown as white crosses.

Submerged submarines will automatically switch to sonar.

If a submarine's periscope is raised, its normal tactical radar display is restored. This is because the radar scanner and aerials are raised along with the periscope.

Sonar range is approximately 8 miles.

The arrow symbol in the centre of the tactical display points to your current heading. The current viewing angle, i.e. **LEFT/RIGHT/FRONT/REAR**, can easily be determined by the lines that dissect the arrow symbol.

The circles within the display can be used to judge distance. If the range is set to 32 miles, each division represents about 8 miles; if set to 4 miles, each division represents 1 mile.

Although you are not able to physically "see" marker buoys until within a few miles, the tactical radar is far more sensitive.

For accurate distances it is necessary to access the ship's computer.

PLOT NOTES

The plot display covers the whole scenario area. It should be imagined that a member of the crew is keeping the plot up to date.

The "dot size" parameter is optional and can be increased for clarity. The dot sizes can be selected between 1-3, with 3 being the largest. The dot default size is 1.

If the plot display is invoked it will remain so even when changing ships. Ships' movements can be traced if left in the plot mode for any period of time. To clear the plot display simply re-enter **PLOT**.

All of your ships, enemy ship contacts and last contact points are plotted.

Enemy ships and sonar contacts are shown in white, your ships are in green.

SENDING SIGNALS

Enter the command **DUTY SIGNALMAN**. This will call the signalman to your attention. If the ship is at **HARBOUR STATIONS**, it will take the duty signalman few minutes to get to the bridge.

When the signalman is ready, the prompt SIGNAL TO SHIP will appear.

The following options are available :

ALL SHIPS The signal will be sent to all ships in your fleet.
SHIP (num) The signal will be sent to the ship or ships as defined in (num).
If sending the signal to more than one ship, the ship numbers should be separated by a comma (i.e. **4,5,3,11,2** will send the signal to the ships noted).
ENEMY If networking, the signal will be sent to the enemy flagship.

The next prompt to appear will be MESSAGE. The command(s) or message to be sent should now be entered.

Notes:

Signals may take some time to arrive at their destination. When signal traffic between ships is heavy, incoming signals may be delayed. This frequently occurs if you are busy controlling an engagement.

Signals should be sensible. For example, sending the signal **FULL AHEAD** is perfectly valid whereas the signal **PLOT** is not.

Some further invalid signals are :

Any Armament Commands, Except **CEASE FIRE**
Any Replenishment Commands Except, **BREAKAWAY**

For example, you cannot send a **FUEL SHIP** signal.

It is important to note that command signals are not vetted for errors.

When networking, signals can be sent to the enemy flagship. Whatever ship your opponent happens to be on, this purely textual signal will be received.

Submerged submarines cannot receive COMMAND signals or send ANY signals unless their periscope is raised.

You cannot send signals if electrical power is not available to the signals room.

INCOMING SIGNALS

Most signals received are self-evident. For example, SIGNAL FROM SHIP 03, ENEMY IN TACTICAL RANGE means precisely what it says - that an enemy ship has entered ship 03's tactical radar range.

HOLD / VIEW SIGNALS

Up to 100 signals can temporarily be stacked by entering the command **HOLD SIGNALS**. This facility is useful when leaving the game unattended for a few minutes.

Should the stack limit be exceeded, excess signals will be released.

A prompt will be periodically displayed confirming the HOLD command.

Entering **VIEW SIGNALS** will negate the hold command and allow stacked signals to be displayed.

Signals cannot be held if being sent to a printer.

HARBOURS

Neutral harbours Durrenberg and Port Shepstone both have four berths available. Home ports Marlborough and San Stefano have eight.

The harbour pilot is always located at number 1 dock which is always the dock nearest the centre of the plot. Refer to the FTC Handbook for harbour details.

Neutral ports have a 50 mile exclusion zone inside of which no acts of aggression should be carried out. If you commit any aggressive act, your ship will be bombarded. All of your ships within the exclusion zone will then be ordered to leave and will be prohibited from returning for a 72 hour period. Failure to comply with this order will lead to further bombardment.

Entry to the enemy's 50 mile exclusion zone will lead to automatic bombardment by the enemy's shore batteries UNLESS an offer to negotiate surrender terms is current. Furthermore, a signal to inform the enemy that you have attempted to enter their exclusion zone will be made.

Large ships cannot berth at Durrenberg during low tide. It is perfectly safe, however, to enter the harbour at high tide and allow the ship to settle during tide changes. Ships cannot leave the dock whilst aground. All other jetties are in deeper water.

All ports, with the exception of Port Shepstone, are sheltered from prevailing weather conditions. In bad weather at Port Shepstone, ships are liable to break away from the dockside and be damaged.

ENTERING DOCK

Slowly approach number 1 dock from the south. It is recommended that your approach speed does not exceed 3-4 knots or the harbour pilot may have difficulty bringing the ship to a halt before the ship docks.

Within 2 miles of the jetty, give the order **DOCK**. The local Harbour Pilot will then take over and dock the ship. Hands will go to **HARBOUR STATIONS** when the ship is docked.

LEAVING DOCK

Ensure the ship is afloat.
Ensure the crew are at cruising stations or above.
Ensure all relevant machinery is operational.
Ensure the helm is amidships.

Give the command **HALF ASTERN** and then **CAST OFF**.

The ship will now slowly move astern. When clear of the jetty, assume the course and speed required.

Consideration should be given to the effect of local currents on the ship when manoeuvring in harbours.

Any ship docked at a neutral port for an unreasonably long time will be requested to leave by the port authorities. If the ship does not cast off it will be set adrift and refused access for a further 72 hours.

REPLENISHING SHIPS

At the beginning of a new game, all ships' fuel, stores and armament are at maximum capacity. Warships can carry enough stores for about six days at sea. Stores consumption is dependent on the number of crew members. No stores mean bad tempered crew members!!

Fuel consumption is dependent on the speed of the ship, current weather conditions and whether or not the ship is towing or dragging its anchor.

For maximum fuel/distance economy, **CRUISING SPEED (CRUISE)** should be used. When a ship runs out of fuel all power is lost. It is very difficult to refuel a stationary ship.

REPLENISHMENT AT HARBOUR

Fuel is available from your home port and Durrenberg. When alongside, simply enter the **command FUEL SHIP**.

Stores are available from your home port and Port Shepstone. The command is **STORE SHIP**.

Armament is only available from your home port. The command is **AMMUNITION SHIP** or **AMMU**.

REPLENISHMENT AT SEA (RAS)

Replenishment of fuel and stores may take place on both the port and starboard sides of supply ships whilst underway. It is therefore possible to have 2 ships replenishing at the same time.

RAS takes considerable skill. The following suggestions may be of help:

Set the supply ship on a steady course and speed.

Replenishment takes some time so ensure that the course is free of obstructions.

Change to the ship that requires replenishing.

Switch the IFF computer to display the supply ship's details.

It is helpful to reduce the tactical range to 4 miles.

Gradually bring your ship up to one side of the supply ship, finally matching your course and speed to theirs.

Ensure that the distance between the ships is no greater than .4 of a mile and no less than .2 of a mile.

Closer will result in collision.

Ensure that the relative bearing (BRG) as shown by the IFF computer is either 270 or 090 degrees. A variation of 3 degrees is acceptable.

When all is ready enter **FUEL SHIP** or **STORE SHIP** as required.

Replenishment will now commence.

Replenishment at sea in bad weather can be very hazardous.

It is much easier to align ships that are underway than to align stationary ships.

In all cases, replenishment will automatically cease when maximum capacities are achieved.

An appropriate signal will be sent to the Flagship.

Entering **BREAK**away will stop replenishment. Should your ship move off whilst replenishing, the signal **OPERATION ABORTED** will be made.

BASE STORES/FUEL

Stores and fuel have to be supplied to your home port. Daily reports are issued to keep you informed of your base stores levels. If your base stores or fuel level should drop to zero, the enemy will be invited to attend negotiations and your home port shore batteries will no longer defend your anchorage. Should this happen, it is imperative that you replenish your base before your enemy is able to reach it. Should the enemy succeed in docking at your base and enter the command **NEGOTIATE**, your home port will capitulate and you will have lost.

When the supply ship is docked, issue the command **DISCHARGE (num) STORES** (or **FUEL**). (num) represents tons of Stores/Fuel and if greater than that which is aboard will generate an error.

It is not wise to discharge all stores or fuel as some will almost undoubtedly be required for the next voyage.

It is possible to discharge stores/fuel from any ship.

Base details etc. are available from the Fleet Tactical Commander's Handbook.

THE CREW

You are liable to lose crew as a result of floods and fires etc. If the crew is not at full complement it will take longer to perform certain actions such as repairing machinery. On the other hand, fewer stores will be consumed. Crew can be transferred between your ships and be taken on at your home port. It is also possible to pick up survivors if spotted.

TAKE ON (num) CREW (num) is an optional parameter and if not quoted will result in a maximum of twice the normal complement being taken aboard.

PICK UP SURVIVORS If survivors are in the area and the ship is stationary, survivors will be taken aboard. When the SURVIVORS SPOTTED signal is made, the ship should stop immediately. Failure to do so will result in the survivors being lost to view.

The number of survivors and the length of time they can remain on the surface depends entirely upon prevailing weather conditions. It is not likely that all crew members will have escaped a sinking ship.

To transfer crew from another ship, both ships should be alongside in the same manner as for RAS'ing and the command **TAKE ON (num) CREW** should be issued.

It should be noted that it is NOT possible to Discharge Crew!!

DAMAGE / BREAKDOWNS

How damage might be incurred :

- 1 Running aground will almost undoubtedly damage the ship. If you are lucky, the ship will re-float when the tide changes.
- 2 Collisions at speed are almost invariably fatal. At low speeds, damage is likely.
- 3 Machinery can be sabotaged by unhappy crew members.
- 4 Equipment/machinery is not 100% reliable and can break down at any time.
- 5 Damage can result from fires/floods etc.
- 6 Shock damage causing machinery to go off-line can result from depth charges (mortars) exploding within one 1 mile of a ship.

OP / CAP (Operational Capability) :

OP/CAP is displayed on the bridge instrumentation at the top of the display and indicates the current condition of the ship. 100% indicates that the ship is problem free. At less than 1%, the ship will sink.

OP/CAP is directly affected by the type of damage/problem encountered. The less serious the problem, the less OP/CAP is affected.

For example, a fire in the FWD Magazine will reduce OP/CAP by some 24% whereas a substantially less serious problem of flooding in the seamen's mess will only reduce OP/CAP by 3%.

OP/CAP points are not regained until the problem is resolved. Therefore, it is important to initiate the necessary damage control/repair procedures as soon as possible.

DAMAGE CONTROL

Reports and signals are issued whenever a problem occurs. DAMAGE and MACHINERY reports can also be obtained.

CURRENT PROBLEM:	YOUR RESPONSE:
FLOODING	PUMP OUT.....
FIRE	FIGHT FIRE IN.....
DAMAGE/FAULTY/SABOTAGED/SEIZED	REPAIR.....
E.g.	PUMP OUT BOILER ROOM FIGHT FIRE IN ENGINE ROOM REPAIR HELM MACHINERY

The length of time taken to resolve damage control problems depends on how serious the problem is and how many crew you have left. In the case of repairs, an estimate of how long the repair is likely to take will be given.

It is quite often the case that after a fire or flood, damage to machinery will become evident, e.g. HELM MACHINERY DAMAGED. Signals/reports relating to these further problems will be made.

Once repairs have been effected it should be possible to **START** the equipment/machinery.

ELECTRICAL POWER PROBLEMS

It is always advisable to consult the power layout diagram in the FTC Handbook to see exactly how power is routed throughout the ship.

Power failures are usually attributable to one or more of the following having a problem:

Main, FWD or AFT switchboards
Main or auxiliary generators
Ship's wiring

If, for some reason, the main generator is out of action, try **START AUX**. In the event of both being out of action, you have a problem!

Assuming one of the generators is on-line and no other damage to power supplies exists, try **RESTORE POWER**.

If the ship's wiring or switchboards are damaged then **LAY EMERG CABLES**. Laying emergency cables will temporarily supply power to critical machinery/equipment.

When power problems are resolved, issuing the command **RESTORE** will restore power wherever possible throughout the ship.

Points to note:

- * When power is restored, emergency cables are automatically cleared away.
- * Machinery/equipment will usually require **START**'ing when power is restored. Obtain a machinery report to clarify the situation.
- * Computer/tactical displays do not always go blank if faulty.
- * Electric evaporators are fitted in vessels' engine rooms and supply the vessel with fresh water. Serious morale problems occur without fresh water! Check that they are running.

DOCKYARD REPAIRS / REFITS

Refit facilities are available at all jetties and allow all damage to be repaired and all destroyed machinery to be replaced.

Simply enter **REFIT SHIP**. A report will be made estimating the time to complete the refit.

Over a period of time, a refit will cure ALL machinery/compartment problems upon the ship. Compartments are dealt with first, followed by the machinery. If it is essential that you proceed to sea before the refit is completed and if the ship can move, it may be possible to have the crew solve the remaining problems at sea. Destroyed machinery cannot, of course, be repaired or replaced at sea.

Upon successful completion of a refit, all power will be restored and machinery will be started.

DAMAGE REPORTS

Damage reports and signals are displayed whenever a problem occurs. To help you keep track of the situation, report commands may be issued at any time. Appropriate reports will be generated and displayed in the command console. For instance, if a ship has sustained damage during an engagement and you cannot remember what has yet to be repaired, a **DAMAGE REPORT** command may be issued. This will result in a list of all damaged compartments and equipment, the presence of any fires and whether they are being fought, and the current state of any repairs being displayed.

MACHINERY REPORTS

Machinery reports are given on request and inform you of any machinery off-line, such as generators, engines, evaporators, etc. and the state of repair of any damaged equipment or machinery.

Damage, machinery, crew and status report commands may be sent to other ships with the **SIGNAL** command.

When the signalman responds SIGNAL TO SHIP, the ship numbers to which you wish to send the command should be entered. When the MESSAGE prompt is displayed, enter your command. The ship(s) receiving your signal will send you the relevant report but the volume of signal traffic outstanding at that time may cause some delay.

It should be noted that if you have sent a signal requesting damage reports etc., these reports will be made to the current flagship (the ship you are "on").

DAMAGE and **MACHINERY** report listings to the screen display may be speeded up by pressing the <SPACE BAR> or aborted by pressing the <ESC> key.

SHIP REPORT COMMANDS

DAMAGE REPORT Displays the damage status and equipment under repair. May be abbreviated to **DAMA**.

STATUS REPORT Displays the operational capacity, fuel and stores. May be abbreviated to **STAT**.

MACHINERY REPORT Displays any machinery "Off-Line" or under repair. May be abbreviated to **MACH**.

CREW Displays the number of crew on the ship, together with the number of its normal full complement.

PRINT is an optional prefix to the above commands (not available in PVP mode) which will result in reports being sent to the printer if it is on-line, i.e. **PRINT DAMA**. If signals have been redirected to a printer, the above reports will also be made to the printer.

GENERAL REPORT COMMANDS

BASE TONNAGES will display the tonnage of stores and fuel at your home base.
May be abbreviated to **BASE**.

CURRENT TIDE or **TIDE** will display the state of the tide, i.e. whether incoming or outgoing, and the current tide depth in metres. When navigating in shallow water the figure quoted should be added to the mean-low-water figures as stated on the charts, and compared to the ship's draught, which is quoted in the ships' details section. This report does not take into account the "swell".

WEATHER will display the shipping forecast and the current state of the weather.

TOTAL GAME TIME or **TIME** will show the REAL time elapsed since the start of the game. Not to be confused with ship's time displayed in the top right corner of the bridge display.

PRINTER COMMANDS

SIGNALS TO PRINTER or **SIGNPRI** will result in all inter-ship signals being rerouted to the printer.

SIGNALS TO SCREEN or **SIGNSCR** will reroute signals to the screen display.

Single key presses as described in the FTC Handbook will issue linefeed and form feed commands to the printer.

LINE (num) will give the number of line feeds as defined in (num) to be effected between signals.

PRINT (command) followed by a **SHIP REPORT COMMAND** (see above) will result in the report being routed to the printer.

Should the program be unable to access the printer for any reason (i.e. the printer is off-line or disconnected) the **SIGNALS TO PRINTER** will be aborted, and signals will be rerouted back to the screen. You may reroute signals back to the printer at any time once it is again on-line.

When using the printer to display signals, unless you have a large supply of paper it is suggested that you set the linefeed number between signals to 0. When you require to lift the report above the print head, issue the single keypress linefeed command a few times.

Important:

When running in PVP mode, only signals from the background fleet are directed to the printer. The **PRINT** command prefix is disabled.

VIEW COMMANDS

Change the field of view from the bridge display. Entering **FRONT**, **REAR**, **LEFT** and **RIGHT** will give you appropriate views of the surrounding area.

ARMAMENT COMMANDS

To utilise the ship's armament the ship must be at **ACTION STATIONS**.

The type and quantities of armament are displayed at the bottom right hand side of the screen.

Pressing the appropriate <F>unction key will enable the appropriate armament handler.

The following responses will be required:

4.5" & 16" Guns	Range Bearing <C>ontinuous or rounds >>>> FIRE <<<< or <M>anual	(miles) (degrees) <C> or number of rounds <SPACE> bar or <M>
Mortars (Depth Charges)	Range Bearing Depth <C>ontinuous or rounds >>>> FIRE <<<< or <M>anual	(miles) (degrees) (metres) <C> or number of rounds <SPACE> bar or <M>
Chaff Launchers	<C>ontinuous or rounds >>>>>> FIRE <<<<<<<	<C> or number of rounds <SPACE>
Sea Strike	Computer Lock Y/N if <N> : >>>>>> FIRE <<<<<<<	Range Bearing <SPACE>
Torpedoes	>>>>>> FIRE <<<<<<<	<SPACE>
Mines	Number to lay >>>>>> FIRE <<<<<<<	number <SPACE>

RANGE

Range is input in miles and points of a mile. Accurate range information is usually available on the ship's IFF computer.

Maximum ranges of all weapons are available from the ARMAMENT DETAILS section of the Fleet Tactical Commander's Handbook.

BEARING

The bearing is relative to your ship. You should imagine that your ship's bow is bearing 000 degrees. To fire directly astern, a bearing of 180 should be given. Conversely, to fire directly to the right, a bearing of 090 degrees is required.

Forward torpedo tubes always fire dead ahead (000 degrees) and aft tubes always fire directly astern (180 degrees). Be careful not to fire your forward tubes when at full speed or you may overrun your own torpedoes!

DEPTH (Mortars only)

You should enter the depth (maximum of 250 metres) at which you wish the mortars (depth charges) to explode. Should depth charges (mortars) explode closer than 1 mile to any ship, shock damage will occur knocking machinery OFF-LINE ! - BEWARE.

COMPUTER LOCK (Missiles only)

Pressing <Y> in answer to this question will automatically lock the missiles to the currently displayed ship on the computer, if it is working. Pressing <N> will then require normal range and bearing inputs.

<C>ontinuous or Rounds :

Either:

Press <C> to fire Continuously (Up to a maximum of 250 rounds will be fired).

Or :

Enter the number of Rounds to fire (Maximum 250).

>>>>> FIRE <<<<<< or <M>

Any other key pressed aborts the firing sequence.

All weapons: Press the <SPACE> bar to fire.

Guns and Mortars only : Pressing <M> commences fire under manual control and the range and bearing are shown in the armament display.

The range is displayed in tenths of a mile, i.e. a manual firing range displayed as 122 represents 12.2 miles.

Refer to the FTC Handbook for controlling key presses in this mode.

CHAFF LAUNCHERS

Launching chaff is intended to deflect incoming missiles. Chaff is not 100% effective and some missiles may get through your chaff decoy. Launchers will only fire at 2 to 3 minute intervals when firing continuously. Chaff stays airborne for some time so more frequent firing is unnecessary. Chaff may give limited cover to other ships that are within 4 miles of the firing ship.

MINES

Sensors on mines are activated a few minutes after launch. To avoid being blown up by your own mines, the ship laying mines should be travelling at high speed. During daylight hours, mines can be "seen" when at close range.

GUNS

To prevent blowing holes in the ship's superstructure, the following gun bearing restrictions are enforced :

FWD mounted Guns : firing bearings must be between 135 and 225 Degrees.

AFT mounted Guns : firing bearings must be between 315 and 045 Degrees.

ERRORS

If the range set for the weapon in question is too great, a prompt indicating this will be displayed. Erroneous key presses will result in the firing sequence being aborted.

CEASE FIRE

Issuing the **CEASE FIRE** command will cause all weapons to stop firing. The command may be sent as a signal to other ships if required.

NAVIGATION

A guide to the principles of navigation for use within FTC is given in the Fleet Tactical Commander's Handbook (Appendix A).

When navigating your way around Medusa South West, you need to take into account water depth levels, tide levels and the flow of the current.

Over the whole of Medusa SW the general current direction is flowing at approximately 135 degrees. The only exception is the Gulf Stream, which heads in a 045 degree direction. If you are alongside another ship (perhaps replenishing), moving into or out of the Gulf Stream can affect the ships' relative positions.

The current tide level returned by the command **TIDE** should be added to the mean low water depth readings on the chart. The ship's echo sounder, which displays a depth reading (top left of bridge display), gives you the actual depth of water at any particular point from your vessel's water-line (not the bottom of the hull - check the ships draught).

In all but very calm conditions, the depth read-out can be affected by the "swell" as the ship rises and falls.

As in real life, the tide changes approximately every six and a half hours. The difference between mean high tide and mean low tide is 6 metres.

Although it is not essential to PLOT courses using the charts, the travelling time between two points can be dramatically reduced if a course can be calculated. The chances of running aground at the unbouyed Penhale Shoal, for instance, are much reduced.

With some practice, plotting a course can be done very quickly and can make the difference between winning or losing.

END

FTC HANDBOOK (Extract)

INTRODUCTION

Contained within this manual are the Facts, Figures and General Data necessary for everyday usage of FTC.

For detailed explanations of operation and control the User Guide (Operation, Tactical, Analysis and Install sections) should be referred to.

HARBOUR DATA AND DOCK LOCATIONS

HOME PORTS

Maximum Store level 3000 tons

Maximum Fuel level 2000 tons

Level at which surrender offer made to enemy 0 tons (fuel or stores)
Level at which surrender offer retracted 1 hours supply minimum

NUMBER 1 DOCK LOCATIONS & MEAN LOW WATER DEPTH

	Eastings	Northings	Depth	Supply Availability
Durrenberg	066.0	959.5	008	Fuel
Shepstone	903.0	979.5	028	Stores
Marlborough	032.0	079.5	029	Stores/Fuel/Ammunition
Stefano	968.0	139.5	041	Stores/Fuel/Ammunition

TIDES, CURRENTS AND DEPTHS

When plotting your course, due consideration should be taken for the state of tide, prevailing current and depth of water. All craft, particularly larger ships, are liable to run aground and consequently suffer damage in shallow water. Once aground they may only be re-floated by towing, by incoming tides (if you are fortunate), or by the swell of the sea in bad weather. Unfortunately, heavy seas can pound ships repeatedly aground resulting in serious damage, so this should be avoided if at all possible!

The current **TIDE** level should be added to the depth of water indicated on the chart to give the depth of water at any point.

Be sure that the resultant depth is greater than the draught of the ship.

By consulting your charts, the depth indicator on the bridge display, checking the state of the tide and the draught of your ship, it is possible to avoid running aground altogether (unforeseen circumstances permitting!).

Care should be taken to avoid underwater obstacles such as sunken ships or submerged submarines. Superstructure heights are specified in the Ships' Details section and should be checked against the draught of your ship and the depth of the submerged craft whenever a collision is possible. Colliding with an underwater object can be disastrous.

Unfortunately, submerged craft do not show on radar, nor can they be seen by lookouts, so sonar contact may be your only warning of such a hazard.

It is worth noting that Submarines at periscope level cannot sail under anything other than small ships. Beware!

TIDE

The **TIDE** command will return a report of the current state of tide. The tide changes every 6½ hours and varies by six metres. Depths of water quoted on the charts are as taken at mean low water (when the tide is out) in a flat calm.

All depths are quoted in metres, as are the draughts of the ships quoted in the Ships' Details section of this handbook.

CURRENTS

Currents are indicated on the charts, which should be consulted whenever you are plotting a course. Current flows can result in you wasting time, fuel, and possibly running aground if they are not taken into consideration, as they can substantially affect your course.

Unless at anchor or docked all ships will drift with the current.

MACHINERY/COMPARTMENT ABBREVIATIONS

The Keyword Parser usually looks for 4 digits for commands and 3 digits for Machinery or Compartment Identification (2nd Parameters). This dramatically reduces the amount of Keyboard Input required although in a few instances, translation errors may occur if the full context is used. For instance, **TORPEDO** can be confused with **PROVISION STORE**. The digits **TOR** being first interpreted as **TORpedo**. It is recommended that the minimum, most easily remembered amount of data is input, i.e.: **TORP**, **PROV** etc.

Abbr	Extra Parameters			Full context
ENG				ENGINE room/Main ENGINes
HEL				HELM compartment/HELM Machinery
MAG	FWD	AFT		MAGazines
WAT	FWD	AFT		Fresh WATER Tanks
FUE	FWD	AFT		FUEl Tanks
STO				STOkers Mess
ELE				ELEctricians Mess
PRO				PROvisions Store
SIG				SIGNals Room
SWI	FWD	AFT	MAIN	SWItchboards
HEA				HEAdS
BOI				BOIlers/BOIlEr room
AUX				AUXiliary Generator/Compartment
SEA				SEAmens Mess
PO'				PO's Mess
OPS				OPS Room
GAL				GALley
WAR				WARdroom
WIR	FWD	AFT		ships WIRing
COM				COMputer
TAC				TACTical Display
EVA				EVAporators
ANC				ANChor Machinery
4.5	FWD	AFT		4.5" Turrets
16	FWD	AFT		16" Turrets
STR				Sea STRike Launchers
MIN				MINelaying gear
TOR	FWD	AFT		TORpedo Launching Gear
DEC				DECK Gun
MOR				MORTars
CHA				CHAff Launcher

COMMANDS for PC's AND COMPATIBLES

Where enclosures () are used, this denotes that parameters as described are required. It is not necessary to ENTER the enclosures on the command line.

Commands are noted in their full context followed by the minimum acceptable abbreviation (normally at least four digits) and Keypress options.

<UP>/<DOWN>/<LEFT>/<RIGHT> refers to CURSOR or ARROW keys.

<> Enclosures indicate key presses.

\$ Indicates that the command cannot be sent as a signal to another ship.

If NUM LOCK is enabled on your keyboard then the cursor keys on the numeric keypad are treated as <SHIFT>+<CURSOR KEY>. This function on a 101 style keyboard can be an advantage. On smaller keyboards NUM LOCK must be disabled.

COMMAND LIST

Where enclosures () are used, this denotes that parameters as described are required. It is not necessary to ENTER the enclosures on the command line.

Commands are noted in their full context followed by the minimum acceptable abbreviation (normally at least four digits) and Keypress options.

<UP>/<DOWN>/<LEFT>/<RIGHT> refers to CURSOR or ARROW keys.

<> Enclosures indicate key presses.

\$ Indicates that the command cannot be sent as a signal to another ship.

COMMAND LIST

Full context	Abbreviation	Key presses
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GENERAL COMMANDS

QUIT \$		
CHANGE TO SHIP (0-15) \$	CHAN (0-15)	<ESC>
SWAP \$		<CTRL>+<ESC>
AUTO SWAP (0-999) \$	AUTO (0-999)	
ENGAGE TOW (0-15) \$	ENGA (0-15)	
DISENGAGE TOW	DISE	
SOUND \$	SOUN	
CANCEL ALARM \$	ALAR	
SCUTTLE	SCUT	
DATA CHECK ON \$	DATA ON	
DATA CHECK OFF \$	DATA OFF	

SHIP SPEED COMMANDS

FULL AHEAD	FULAHEA	<CTRL>+<UP>
FULL ASTERN	FULASTE	<CTRL>+<DOWN>
HALF AHEAD	HALAHEA	
HALF ASTERN	HALASTE	
SLOW AHEAD	SLOAHEA	

SLOW ASTERN (0-max) KNOTS CRUISING SPEED	SLOASTE	
STOP ENGINES	CRUISE CRUSPEED STOP	<CTRL>+<S>

HELM COMMANDS

PORT (0-30)		<LEFT>
STARBOARD (0-30)	STAR (0-30)	<RIGHT>
HARD TO PORT	HARPORT	<CTRL>+<LEFT>
HARD TO STARBOARD	HARSTAR	<CTRL>+<RIGHT>
STEER (0-359)	(0-359)	
MIDSHIPS	MIDS	<CTRL>+<M>

ANCHOR COMMANDS

WEIGH ANCHOR	WEIG
DROP ANCHOR	DROP

STATES OF READINESS

HARBOUR STATIONS	HARSTAT	<CTRL>+<4>
CRUISING STATIONS	CRUSTAT	<CTRL>+<3>
DEFENCE STATIONS	DEFSTAT	<CTRL>+<2>
ACTION STATIONS	ACTSTAT	<CTRL>+<1>

SUBMARINE COMMANDS

DIVE DIVE DIVE	DIVE	<CTRL>+<D>
BLOW MAIN TANKS	BLOW	<CTRL>+
DIVE (0-255)		
SURFACE	SURF	
(number) **METRES	(number) **METR	
PERISCOPE LEVEL	PERILEV	
UP PERISCOPE	UPPERI	<SHIFT>+<UP>
DOWN PERISCOPE	DOWNPERI	<SHIFT>+<DOWN>

<SHIFT>+<LEFT> & <SHIFT>+<RIGHT> rotates periscope

** METRES may also be spelled METERS

COMPUTER COMMANDS

COMPUTER HANDLER \$	COMP	<CTRL>+<C>
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(The following options are available if the handler is invoked with the above command)

- <O> our ships
- <E> enemy ships
- <S> sonar contacts
- <UP> scroll list
- <DOWN> scroll list
- <ESC>ape

TACTICAL/PLOT COMMANDS

TACTICAL (4,8,16,32)* TACT (4,8,16,32)*
PLOT (1-3)* \$

SIGNAL COMMANDS

DUTY SIGNALMAN \$ SIGN

ALL SHIPS ALL
SHIP (number(s)) (number(s))
ENEMY FLAGSHIP ENE

HOLD SIGNALS \$ HOLD
VIEW SIGNALS \$ VIEW

CREW

TAKE ON (num)* CREW \$ TAKE (num)* CREW
PICK UP SURVIVORS \$ SURV

* optional parameter

REPLENISHMENT/DOCKING

DOCK \$
CAST OFF \$ CAST
DISCHARGE (tons) FUEL \$ DISC (tons) FUEL
DISCHARGE (tons) STORES \$ DISC (tons) STOR
FUEL SHIP \$ FUEL
STORE SHIP \$ STOR
AMMUNITION SHIP \$ AMMU
BREAKAWAY BREA

DAMAGE CONTROL

PUMP OUT (compartment) PUMP (compartment) <CTRL>+<P>
FIGHT FIRE IN (compartment) FIGH (compartment) <CTRL>+<F>
REPAIR (machine) REPA (machine) <CTRL>+<R>
START (machine) STAR (machine)
EMERGENCY CABLES CABL
RESTORE POWER REST
REFIT SHIP \$ REFI

REPORT COMMANDS

* DAMAGE REPORT DAMA
* STATUS REPORT STAT
* MACHINERY REPORT MACH
* CREW REPORT CREW

* PRINT is an optional command parameter to the above report commands.

BASE TONNAGES \$ BASE
TOTAL GAME TIME \$ TIME
CURRENT TIDE STATUS \$ TIDE
WEATHER REPORT \$ WEAT

PRINTER

(form feed)		<ALT>+<F>
(line feed)		<ALT>+<L>
LINE FEED (num of lines) \$	LINE (num)	
SIGNALS TO PRINTER \$	SIGNPRI	
SIGNALS TO SCREEN \$	SIGNSCR	

ARMAMENT

CEASE FIRE	CEAS
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To engage a weapons handler press the relevant <F?> function key.

To stop that weapon firing press <SHIFT>+<F?> function key.

Weapons under manual control where applicable.

<SHIFT>+<LEFT>	Traverse weapon left
<SHIFT>+<RIGHT>	Traverse weapon right
<SHIFT>+<UP>	Increase range
<SHIFT>+<DOWN>	Decrease range
<CTRL>+<L>	Increase depth (Mortars only)
<CTRL>+<H>	Decrease depth (Mortars only)
<TAB>	Cease/Resume fire (toggle switch - Prompts confirm)

VIEW ANGLES

LEFT VIEW \$	LEFT
RIGHT VIEW \$	RIGH
FRONT VIEW \$	FRON
REAR VIEW \$	REAR

END