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Manager, Business Co-ordination
The Australian Hydrographic Office
Locked Bag 8801
South Coast Mail Centre
NSW 2521

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1.0 Overview of C-Plot SF/Pro

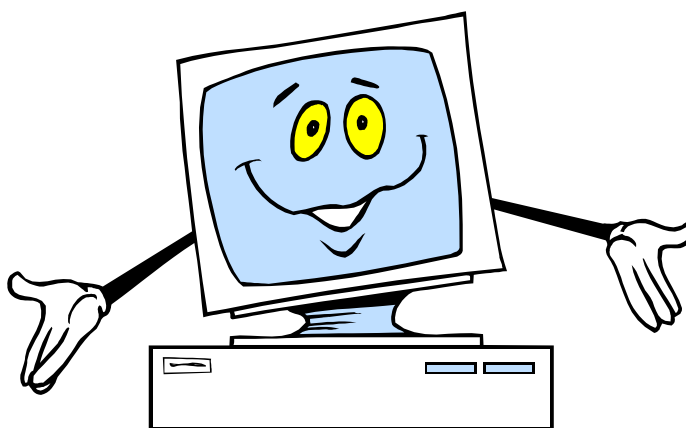
1.1 What is TMQ C-Plot SF/Pro for Windows 98/ME/NT?

C-Plot SF/Pro for Windows is a computerised chart display plotting system, designed and manufactured by TMQ International, Australia. C-Plot SF/Pro software enables you to view Seafarer, ARCS (also known as *HCRF* – Hydrographic Charts Raster Format), C-Map and TMQ encrypted electronic charts.

External devices can be interfaced with C-Plot, to supply it with a variety of data, provided that these devices are NMEA (National Marine Electronics Association) compliant. One such device is the C-Panel, which has been specifically designed to allow simple operation of the C-Plot application. This manual provides instructions for both C-Panel and Mouse/Keyboard users.


There are two distinct versions of the C-Plot application, one is the ‘SF’ version and the other is the ‘Pro’ version. This manual provides instructions for using both, with ‘Pro’ specific features clearly marked (See the Manual Style Conventions section).

1.2 Hardware Requirements



C-Plot SF/Pro operates under Microsoft Windows 98, Windows ME or Windows NT™ on IBM™ or compatible Personal Computers (PCs). The Minimum system requirements for C-Plot SF/Pro are:

- CPU: Intel™ Pentium Processor, 400MHz or better
- RAM: 64 Mb (minimum)
- Mouse or Trackball pointing device.
- 256 colour Windows compatible graphics system (800x600 screen resolution)
- At least 1 serial communications port
- At least 1 parallel or USB communications port (required for the security dongle)
- HDD: at least 1Gb of free space dedicated to C-Plot Pro
- CD-ROM Drive for installing C-Plot & assorted charts.

 *It is advisable to install a high impact hard disk drive (HDD) as most disk drives are designed to sit on a desktop, not a boat with constant motion.*

You should leave sufficient disk space for the electronic chart database (Seafarer and TMQ charts, User marks and track files). The more available space on your HDD for the electronic chart databases, the more charts your C-Plot SF/Pro can use and store.

1.3 Item Checklist

The following list details the items that you should have received as a part of the C-Plot SF/Pro product pack.

- ✓ 1 x CD-ROM Containing all the necessary files to install C-Plot SF/Pro
- ✓ 1 x Parallel Port (LPT) or Universal Serial Bus (USB) Security Key (Dongle)
- ✓ 1 x Authorisation Codes Document
- ✓ 1 x Table of Shortcut Keys




 *The TMQ Dongle must be plugged in at all times while using C-Plot SF/Pro.*

1.4 Manual Style Conventions

This manual follows several conventions for clarity and to help you find and understand information quickly and easily.

Bold – text is used to refer to Menus and Functions in the C-Plot SF/Pro application.

Italics – text is used to signify an important message. This text will also be found with the following symbol .



- This symbol is used when detailing features of the C-Plot application that are only included in the Pro version.

Access Sequences: - All access sequences describe how to navigate to a particular function from the **Normal Chart Display Mode**.



- This symbol is used when detailing how the C-Panel should be used to access a particular feature of C-Plot. More information on the C-Panel can be found in Appendix F.



- This symbol is used when detailing how the mouse should be used to access a particular feature of C-Plot.



- This symbol is used when detailing how the keyboard should be used to access a particular feature of C-Plot.



- This symbol represents clicking the ‘Left’ mouse button. If this symbol is not present and the sequence calls for a mouse button click, assume that this is a ‘Left’ mouse click. Mouse operations can be emulated using the C-Panel joystick. When using the C-Panel to emulate the mouse pressing ‘Select’ is equivalent to a ‘Left’ mouse button click.



- This symbol represents clicking the ‘Right’ mouse button.

→ - The arrow is used to indicate the next action to be performed in a sequence. This can be used for Mouse, Keyboard and C-Panel input devices.


+ - The 'Addition' operator is used when several actions should be performed simultaneously (i.e. Alt+M = The 'Alt' key and the 'M' key should be pressed simultaneously).


2.0 Installing C-Plot SF/Pro on a Computer

This section briefly outlines the installation procedure for the C-Plot SF/Pro application. More detailed installation procedures regarding charts and hardware devices can be found in the appendices. The items you will need to perform the installation of C-Plot SF/Pro on a PC are:

- ✓ C-Plot SF/Pro installation CD-ROM
- ✓ LPT or USB Security Key (Dongle)

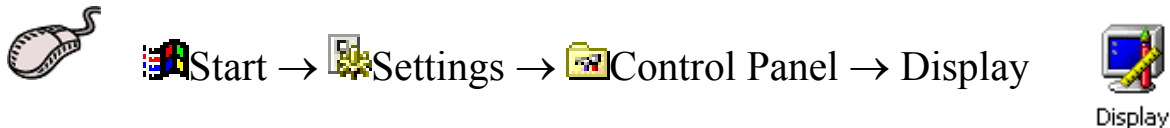
The following procedure outlines the steps required to successfully install C-Plot SF/Pro on a PC.

1. Turn the computer on and allow the Windows operating system to load. This should occur automatically. In case of any difficulties please consult the Windows operating system user manual.
2. Place the C-Plot SF/Pro CD into the CD-ROM drive of the computer and press close. The C-Plot SF/Pro installation menu will be displayed automatically.
 *You may have to wait up to 20 seconds for the Installation menu to be displayed.*
3. To commence installation of C-Plot Pro click on the **C-Plot Pro** button and wait for the installation box to appear. To commence installation of C-Plot SF click on the **C-Plot SF** button and wait for the installation box to appear.
4. C-Plot SF/Pro will automatically install all necessary components, when completed select Exit.
5. Insert the security Key (Dongle) into the LPT/USB port at the rear of the computer.
6. Run C-Plot by selecting the C-Plot icon from your Desktop.
7. Enter the TMQ Authorisation Key when prompted, see sections TMQ C-Plot SF/Pro Authorisation Codes, Entering Authorisation Codes.
8. Setup Com Ports configuration, refer to Appendix B, Page 149.

 *C-Plot SF/Pro will not function correctly without the dongle inserted into the LPT1/USB port. Always ensure that the dongle is plugged into this port.*

2.1 Configuring the Windows Display Settings

Once C-Plot SF/Pro has been installed on a PC, you should check the display properties to ensure that the properties are configured for optimum C-Plot performance. To access the display properties in Windows simply use the following sequence:



Once the Display Properties window appears, choose the Settings tab (See Figure 2.1). We recommend that the colours option is set to the highest possible number of colours available, by clicking on the drop down list. The 'Screen Area' setting should be at least '800 by 600 pixels'. To modify this setting, simply click-and-drag the sliding indicator until the screen area is '800 by 600 pixels' or larger.

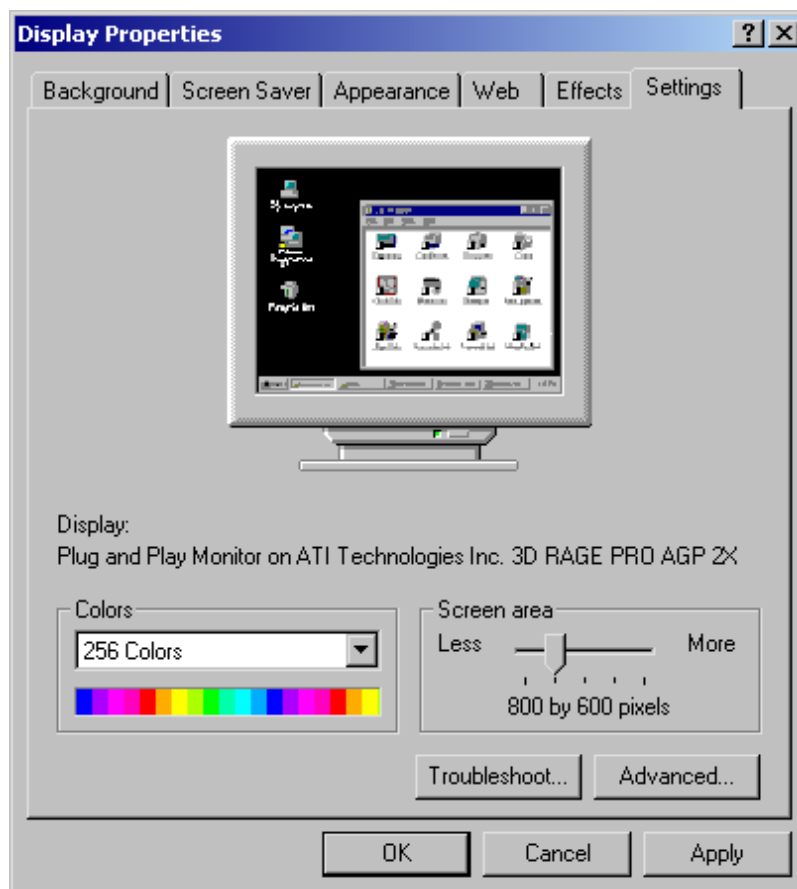











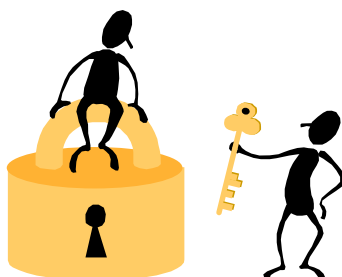
Figure 2.1

Restart your system as prompted after display properties altered.

2.2 Security Codes

The C-Plot SF/Pro system is for the use of registered owners of TMQ software and Chart products. For this reason there are several security measures employed to prevent illegal copying (Pirating), theft, and unauthorised use of the system. These measures include:

	Dongle	An electronic security key plugged into the computer
	TMQ Chart PIN Code	This number allows TMQ Charts to be used with C-Plot
	Seafarer PIN Code	This allows Seafarer Charts to be used with C-Plot
	Seafarer User Permits	This allows access to specific Seafarer Charts. Each chart requires a unique permit in order to be used with C-Plot
	ARCS PIN Code	This allows ARCS Charts to be used with C-plot
	ARCS User Permits	This allows access to specific ARCS Charts. Each chart requires a unique permit in order to be used with C-Plot
	Authorisation Key	TMQ Electronics system lock code
	C-Map User Code	Generated when C-Map charts are installed, it is required to get C-Map Authorisation Code from C-Map.
	C-Map Authorisation Code	Reported by C-Map. This allows selected C-Map charts to be used with C-Plot



2.2.1 The Electronic Security Key (Dongle)

The electronic security key is available in two styles, the LPT (Parallel Port) type and the USB Port type.



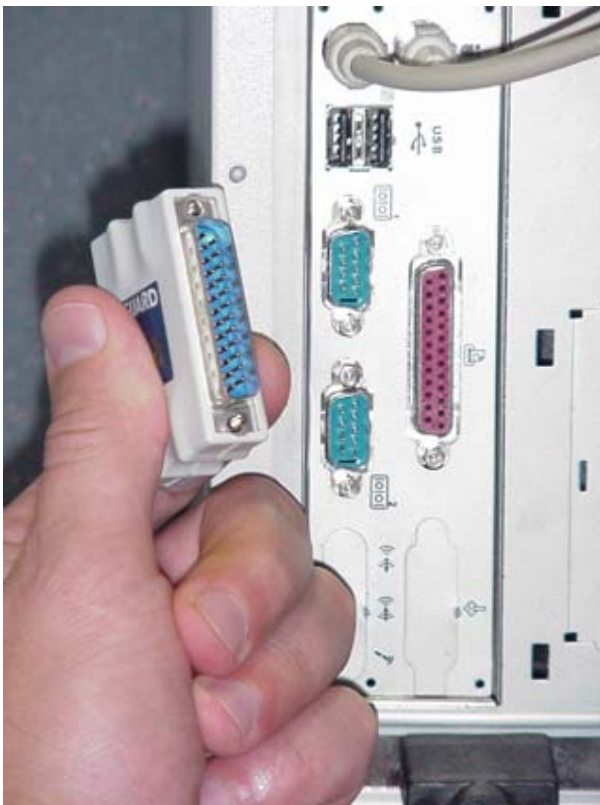
LPT (Parallel) Dongle



USB Dongle

i *C-Plot SF/Pro will not function correctly without the dongle inserted into the LPT1/USB port. Always ensure that the dongle is plugged into this port.*

2.2.1.1 Inserting the LPT (Parallel) Dongle




2.2.1.2 Inserting the USB Dongle




2.2.2 TMQ C-Plot SF/Pro Authorisation Codes

Included in the product pack is a laminated A5 sheet that contains all the codes necessary to use C-Plot. Please store the Authorisation codes document in a secure place.

TMQ C-PLOT SF Authorisation Codes	
Please store this document in a safe place. The numbers are essential for the operation of the C-Plot system	
TMQ C-Plot SF v3.01 Authorisation Key	
PIN and User Permit for Seafarer/ARCS Charts	
Your Seafarer/ARCS PIN and User Permit are:	
Dongle ID	Sample Only
PIN	
User Permit	
The PIN and User Permit are part of the Seafarer/ARCS chart security system. These identifiers are used in conjunction with your dongle and the chart permits to give you access to the charts you have ordered.	
The PIN is provided to you for your own protection. You should not keep this sheet with your system. The PIN number given to you cannot be changed.	
This PIN and User Permit can be used with TMQ C-Plot and the dongle supplied with this system. They will not work with any other systems. When you order charts you must provide both the PIN and User Permit.	

 *The page depicted here is only a **sample!!** The actual Authorisation Codes document is a laminated A5 sheet.*

 *These numbers are essential for the operation of the C-Plot system and this document cannot be replaced.*

2.2.3 Entering the Authorisation Code

The first time C-Plot SF/Pro is run a 'TMQ Authorisation' dialog box will appear. The 'TMQ Authorisation Key' is supplied in the product pack. Simply type the number you've been given in the 'TMQ Authorisation Key' field and click the 'OK' button.

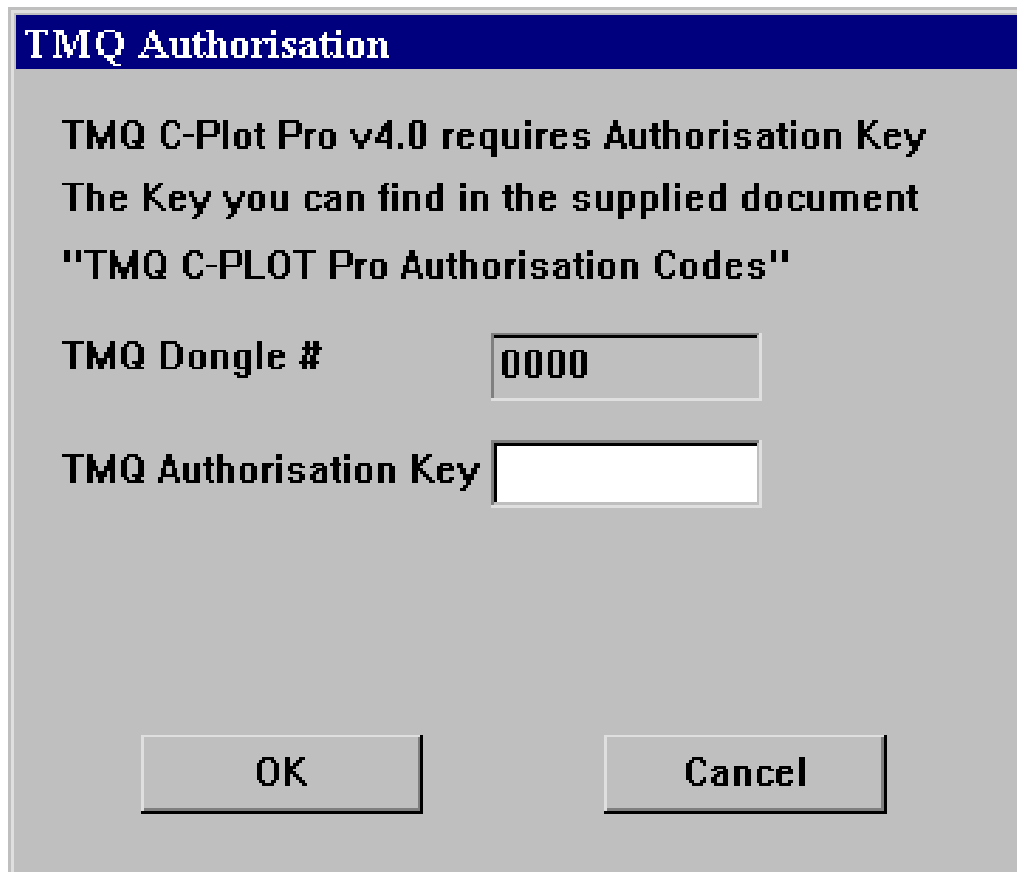



Figure 2.2

 *If an authorised TMQ dealer installed C-Plot, the 'Authorisation Key' will have already been entered. In such cases the 'TMQ Authorisation' dialog box will not appear.*

3.0 C-Plot SF/Pro Basics

3.1 The Main Chart Display Window

If C-Plot is to be used effectively, it is important to become familiar with the main display (See Figure 3.1). The following figure identifies the key aspects of the C-Plot main display, each of which are explained in more detail.

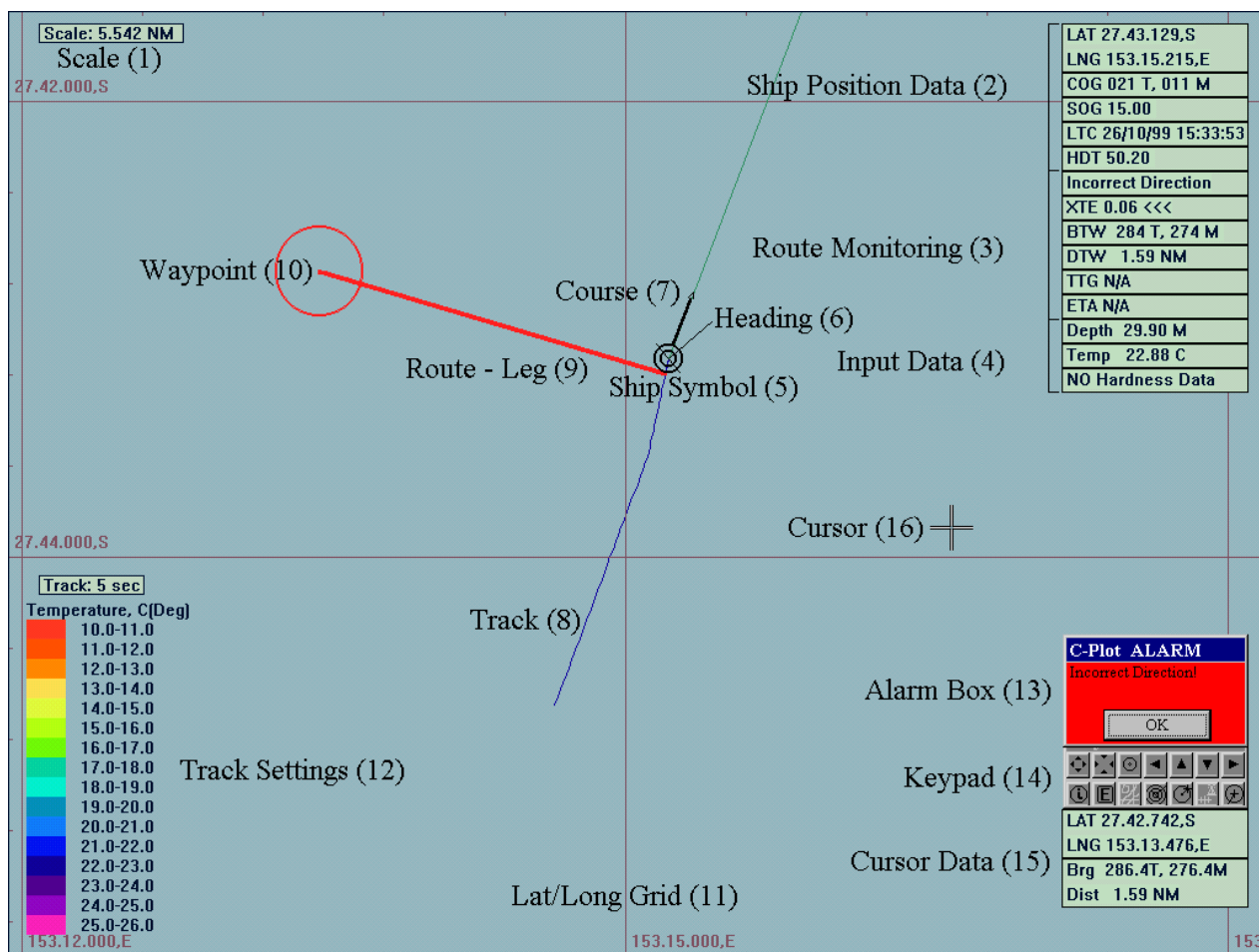


Figure 3.1

1. **Scale** – An indication of the scale of the display.
2. **Ship Position Data** – Information relating to the current position of the vessel. If these data fields appear RED this indicates that GPS input has been lost and C-Plot is now in 'Dead Reckoning' Mode (See Appendix H).

-
3. **Route Monitoring** – Information relating to the current leg of the vessel's route.
 - **XTE** – Cross track error, the distance between the vessel and the current leg of the selected route.
 - **BTW** – Bearing to waypoint, the bearing to the waypoint from the vessel.
 - **DTW** – Distance to waypoint.
 - **TTG** – Time to go, displays the estimated traveling time to reach a particular waypoint.
 - **ETA** – Estimated time of arrival to the final waypoint of the route.
 4. **Input Data** – Optional data gathered by the system. These include:
 - Temperature
 - Depth
 - Hardness
 5. **Ship's Symbol** – This circular indicator represents the current GPS position of the vessel on the chart.
 6. **Heading** – This black symbol, pointing directly out from the vessel position indicator, represents the orientation of the vessel.
 7. **Course** – The heavy black line indicates the current course of the vessel. The length of this line corresponds to the current speed of the vessel. The thin line extending to the edge of the screen is the extended course line.
 8. **Track** – A line indicating where the vessel has been. The track can be configured to show past input data (i.e. Temperature, Depth, etc). The key for a track configured like this is shown at point 12.
 9. **Route** – A pre-determined set of legs that represent the desired voyage of the vessel. This information can be transmitted to an autopilot (if installed) to provide a more integrated system.

-
10. **Waypoint** – The vessel will steer toward this waypoint when following a route.
 11. **Lat/Long Grid** – This details the latitude and longitude in the form of a grid. The labels around the bottom and left edges of the screen give the numeric details.
 12. **Track Settings** – These parameters display the current configuration of the track data. In this example the track is updated every 5 seconds, and the colour of the track represents temperature, which is colour coded as indicated by the coloured bar.
 13. **Alarm Box** – This is the area where visual alarm messages will appear.
 14. **Key Pad** – The Key Pad contains buttons that perform a number of common functions. This tool is discussed in greater detail in a later section.
 15. **Cursor Data** – This is information relating to the cursor, such as latitude, longitude, bearing and distance from the vessel's position.
 16. **Cursor** – The cursor is shown as a cross and represents the position of the pointing device (mouse, joystick, etc). Apart from selecting objects, the cursor has extended features. These are discussed in section 3.1.1.

3.1.1 Extended Cursor Features

The cursor is the primary tool for pointing and selecting objects, however it does possess extended features that allow C-Plot to be used effectively. Clicking the right mouse button at anytime can access these features. The first right button click enables the query mode of the cursor, transforming the cursor's appearance (Figure 3.2). Clicking the left mouse button in this mode allows information on the selected object to be displayed (See section 3.1.2). The second right button click activates the **Main Menu**.





 (Normal Cursor)  →  (Query Cursor)  → **Main Menu**

Figure 3.2

3.1.2 The Object Information Function

Object Information can be displayed by using any one of the following access sequences.

Access Sequences:

  →  On the desired object



 Press the 'Info' button on the desired object

 Press the 'Insert' button on the desired object

Any of these sequences will invoke an 'Object Information' dialog box.



The 'Object Information' dialog box displays the information relating to the object that was selected. The Object tree can be navigated as follows:

  Click the desired folder, or click the 'Prev Object' and 'Next Object' buttons.



Use the arrow buttons.



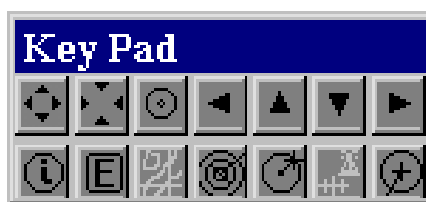
Use the arrow keys.










The 'Show Tides' button invokes the Tide Table dialog box. More information can be found on this utility in Appendix E.


3.1.3 The Key Pad Explained

The Key Pad is a tool that allows common functions of the main window to be accessed by simply clicking the appropriate button with the mouse cursor. The function performed by each of the buttons is explained below.



Symbol	Description	Function
	Zoom In	Decreases the scale of the chart
	Zoom Out	Increases the scale of the chart
	Home	Display the chart so that the vessel is centered.
	Arrow Keys	Move the chart 1/3 of the screen in desired direction.
	Information/ Main Menu	Changes the cursor to the Question Mark. Next click displays Main Menu
	Event	Place an event at the current vessel position.
	Load Chart	Load the most appropriate HCRF chart for a selected point. The cursor appearance will change () allowing the desired

		point to be selected by clicking on the chart area. The best chart for the selected point will then be loaded.
	Range Rings	Show adjustable range rings around the vessel. 
	Distance	Show the distance from a selected point. The cursor appearance will change (). Using this cursor, click on the point on the chart to measure 'From', then move the cursor to the point to measure 'To'. The distance will be shown in nautical miles (NM) and the bearing from the first point is shown in degrees. Click on the chart to return to normal cursor mode.
	Chart Updates	Clicking this button will temporarily (for approx. 2 seconds) display the charts without updates, and then return to the updated charts. If the current chart does not contain updates this button will not be accessible.
	Distance Ring	Shows adjustable distance ring from cursor. 

 For 'Range Rings' and 'Distance Rings' the radial distance can be modified using the following control that appears automatically when one of these functions is activated.

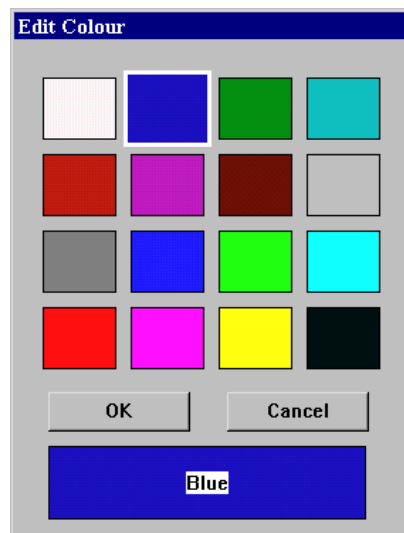


3.2 Selecting Colours and Symbols

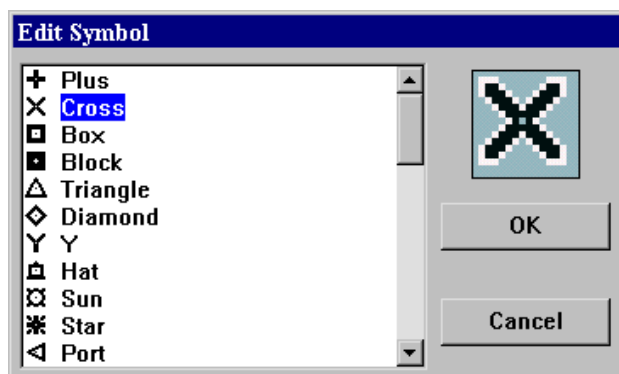
There are a number of functions in C-Plot that call for the selection of colours and/or symbols. The method for selecting these parameters is identical for all such functions.

3.2.1 Selecting a Colour

To select a colour simply click on the desired colour and click 'OK'. Clicking the 'Cancel' button will close the 'Edit Colour' dialog box without selecting a colour.



3.2.2 Selecting a Symbol



To select a symbol simply click on the desired symbol in the list and click 'OK'. Clicking the 'Cancel' button will close the 'Edit Symbol' dialog box without selecting a symbol.

3.3 Navigating the Menu System

A majority of C-Plot functionality is accessed through the use of menus and sub-menus. The menu system can be navigated with a mouse or joystick using a point-and-click approach or with a keyboard or C-Panel using numeric prefixes. The following section provides a detailed description of the menu structure of C-Plot along with easy to follow input sequences to provide carefree navigation.

3.3.1 The Main Menu

The **Main Menu**, as the name suggests, is the entry point to the menu system. All other menus are accessed through it. Accessing the **Main Menu** can be done several ways.



Right Click → Right Click.



Press the 'Menu' button.



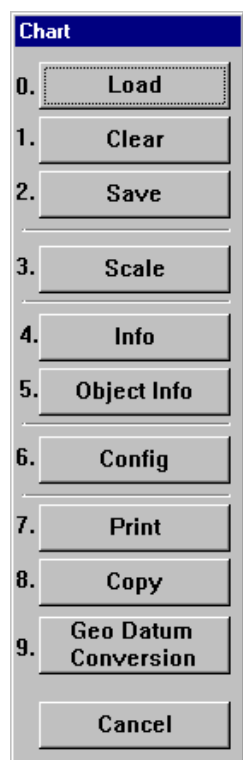
Press Alt+M

The **Main Menu** is simply a column of buttons; each button will invoke a sub-menu. Clicking the desired button with the mouse, or pressing the corresponding numeric prefix on either the keyboard or C-Panel can access the sub-menus. Clicking on the 'Cancel' button of this menu will return C-Plot to Normal Chart display mode.

4.0 Charts

4.1 The Chart Menu

C-Plot is able to display C-Map (Pro version), HCRF and TMQ Charts as the main chart. The **Chart Menu** facilitates access to all C-Plot functions pertaining to charts. It can be accessed from the main chart display using one of the following access sequences.



Access Sequences:



→ → → 'Chart'.



Press 'Menu' → 0.



Press Alt+M → 0.

Selecting a function from the **Chart Menu** is exactly the same as selecting a sub-menu from the **Main Menu**. Simply click the desired function with the mouse or choose its numbered prefix on the keyboard or C-Panel. The following sections deal with all aspects of the **Chart Menu**.

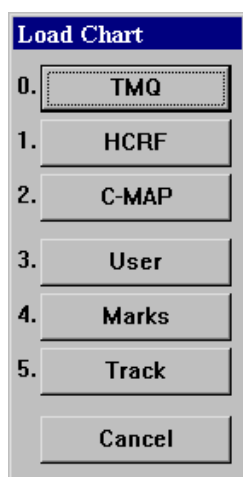
Before the charts can be loaded they must be installed on the Hard Drive of the computer.

Appendix A, Page 127 indicates the procedure required to install the HCRF (ARCS or Seafarer) and/or CMAP databases.

Charts cannot be loaded until the Databases are configured.

4.2 The 'Chart - Load' Function

This function enables Charts to be loaded for display as the main chart. The **Load Chart** menu can be accessed from the main chart display using any one of the following access sequences.



Access Sequences:



→ → → 'Charts' → 'Load'



Press 'Menu' → 0 → 0



Press Alt+M → 0 → 0

4.2.1 Loading TMQ Charts

This function will load TMQ Charts if they are installed on the system.

Access Sequences:



→ → → 'Charts' → 'Load' → 'TMQ'



Press 'Menu' → 0 → 0 → 0



Press Alt+M → 0 → 0 → 0

The 'Load Chart' dialog-box shown in figure 4.1 displays a list of the TMQ charts that have been installed. The top most data field displays the selected chart. In order to change the loaded chart, simply select the desired chart from the list of installed charts. The selected chart will now appear in the top most data field. Clicking on 'OK' will load the selected

chart, while clicking on ‘Cancel’ will return to the main chart display without loading the selected chart.

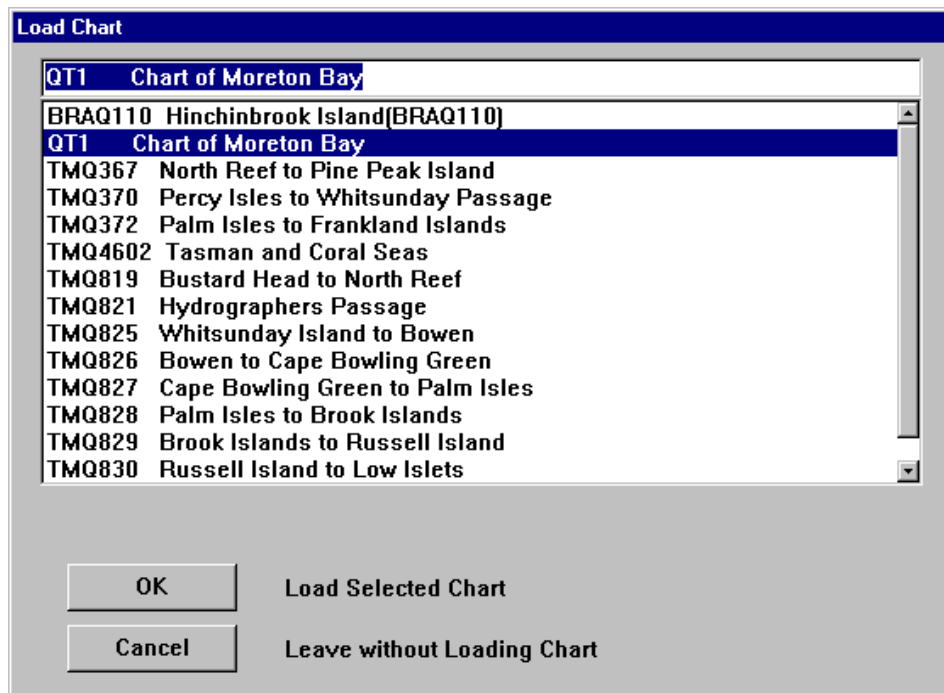
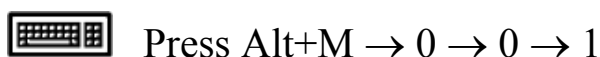
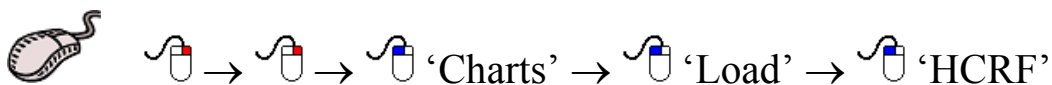


Figure 4.1

4.2.2 Loading HCRF Charts

This function will load HCRF Charts if they and the permits are installed on the system.

Access Sequences:



The ‘Load Chart’ dialog-box depicted in figure 4.2 displays a list of the HCRF charts that have been installed. The top most data field displays the selected chart. In order to change the loaded chart, simply select the desired chart from the list of installed charts. The selected chart will now appear in the top most data field. Clicking on ‘OK’ will load the

selected chart, while clicking on 'Cancel' will return to the main chart display without loading the selected chart. In 'Auto Loading' mode the system picks the best chart by vessel position. In 'Seamless Loading' mode the system selects the appropriate chart by center screen position and scale level. When either of these features are enabled there is no longer a need to load charts 'manually'.

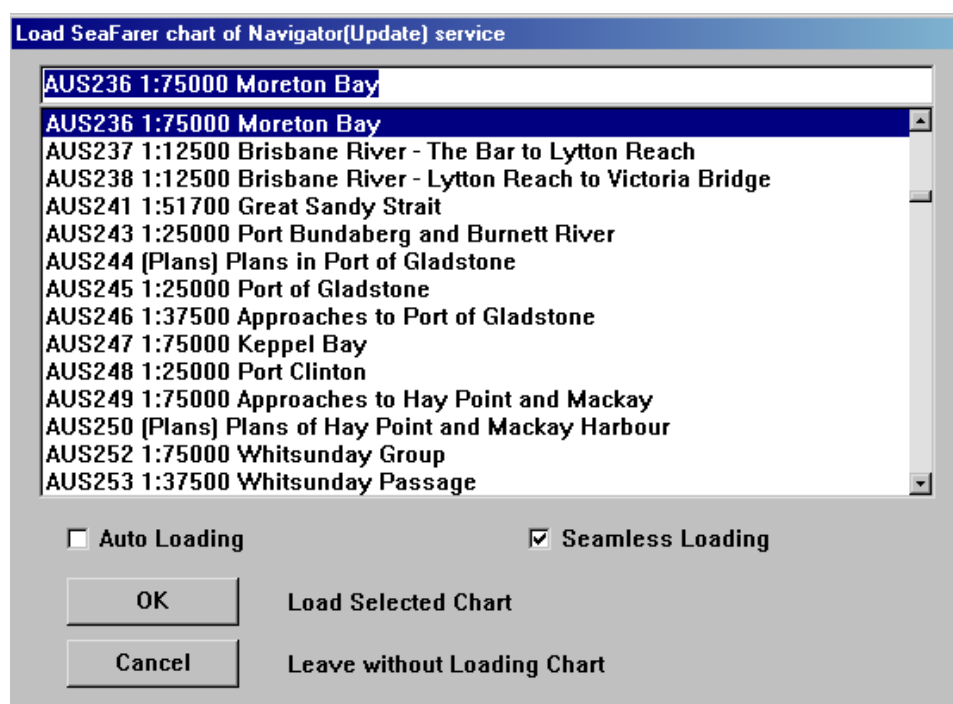


Figure 4.2



4.2.3 Loading C-Map Charts

This function will load C-Map charts if they have been installed on the system.

Access Sequences:



→ → 'Charts' → 'Load' → 'C-MAP'



Press 'Menu' → 0 → 0 → 2

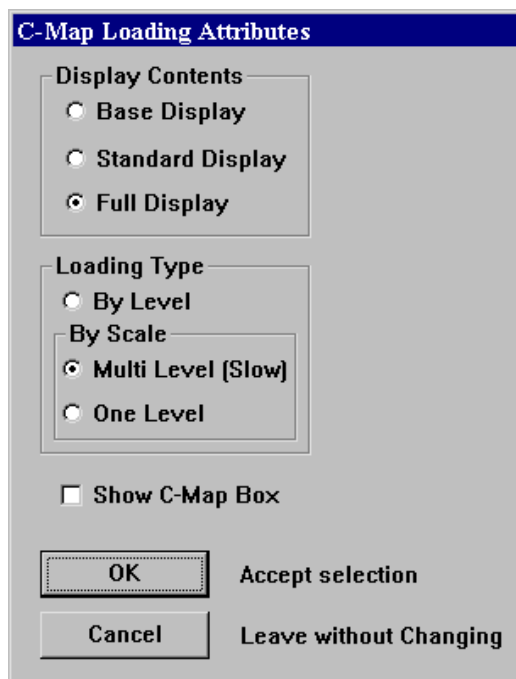


Press Alt+M → 0 → 0 → 2

 When using C-Map charts directly from the CD, please ensure that the appropriate CD is in the CD-ROM drive, before loading these charts.

C-Map charts are ‘Auto loading’ by default. However it is possible to configure the display properties of these charts. The ‘Display Contents’ choice box allows the amount of detail shown in the chart to be set. ‘Base Display’ shows little detail, while ‘Full Display’ shows all details.

The Loading Type section allows the loading of the charts to be configured to load by ‘Scale’ or ‘Level’. If charts are to be loaded by scale, a level parameter should be specified. One level provides fast performance, while multi-level provides greater detail at the expense of speed.



The ‘Show C-Map Box’ box enables the C-Map keypad to appear on the main chart display. When this box is checked (☒) the C-Map keypad will appear on the main display, when this box is unchecked (☐) the C-Map keypad will not appear on the main display.









4.2.3.1 The C-Map Keypad

The C-Map keypad appears on the main display when C-Map charts are loaded and the ‘Show C-Map Box’ box is checked (☒). The C-Map keypad enables trouble-free configuration of the C-Map charts.

The Basic C-Map Keypad performs the same functions as the circular selectors in the ‘C-Map Loading Attributes’ dialog box. The following table outlines the functionality of each button.







Symbol	Function	Description
	Charts by Level	Displays only charts of one level (see extended C-Map Keypad)
	Charts of one level by Scale	Displays charts one level at a time depending on the current scale.
	All Charts by Scale	Displays charts of all levels if it is visible at the current scale
	Base Contents	Displays the basic details of the chart
	Standard Contents	Displays the standard details of the chart
	Full Contents	Displays the full details of the chart

Extended C-Map Keypad:

The Extended C-Map Keypad appears when in 'Charts by Level' mode. Each of the extended C-Map Keypad buttons represents one 'Level'.



Symbol	Function	Description
	World Charts	1:3,500,000 to 1:1,500,000
	General Charts	1:1,500,000 to 1:500,000
	Coastal Charts	1:500,000 to 1:150,000
	Intermediate Coastal/ Approach Charts	1:50,000 to 1:50,000

E	Approach Charts	1:50,000 to 1:15,000
F	Harbour Charts	1:15,000 to 1:5,000
G	Plan Charts	Larger then 1:7,500
W	Global Charts	1:20,000,000

4.2.4 Loading User Charts

User charts contain additional objects that a user has placed on the main chart, such as Areas, Lines, Marks and Events.

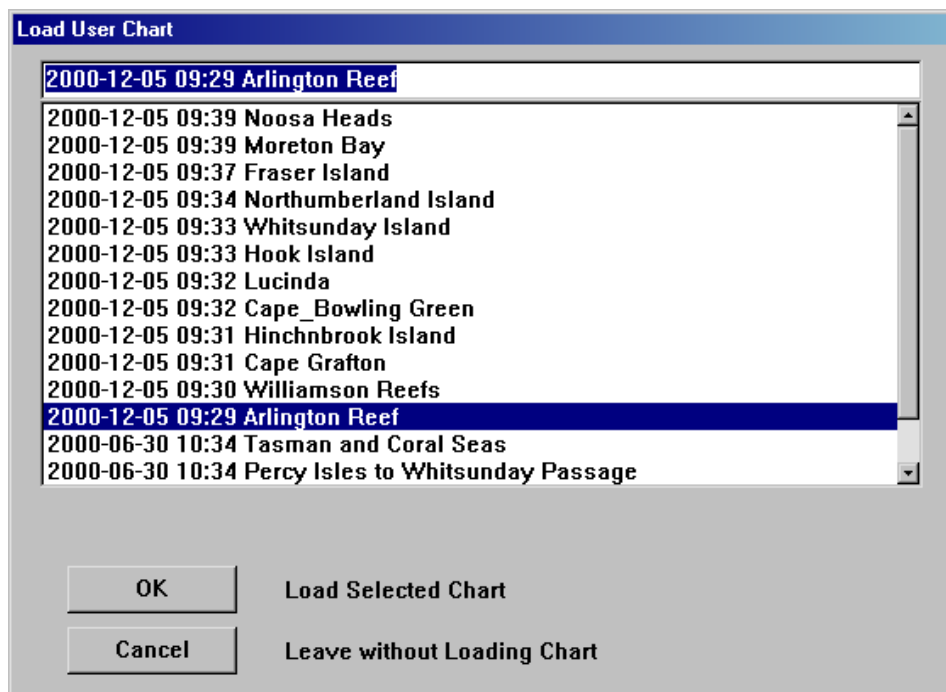



Figure 4.3

Access Sequences:

  →  →  'Charts' →  'Load' →  'User'

 Press 'Menu' → 0 → 0 → 3

 Press Alt+M → 0 → 0 → 3

4.2.5 Loading Marks Charts

Marks Charts contain only Marks and Events that have been placed on the main chart by the user.

Access Sequences:

 →  →  → 'Charts' →  → 'Load' →  → 'Marks'

 Press 'Menu' → 0 → 0 → 4

 Press Alt+M → 0 → 0 → 4

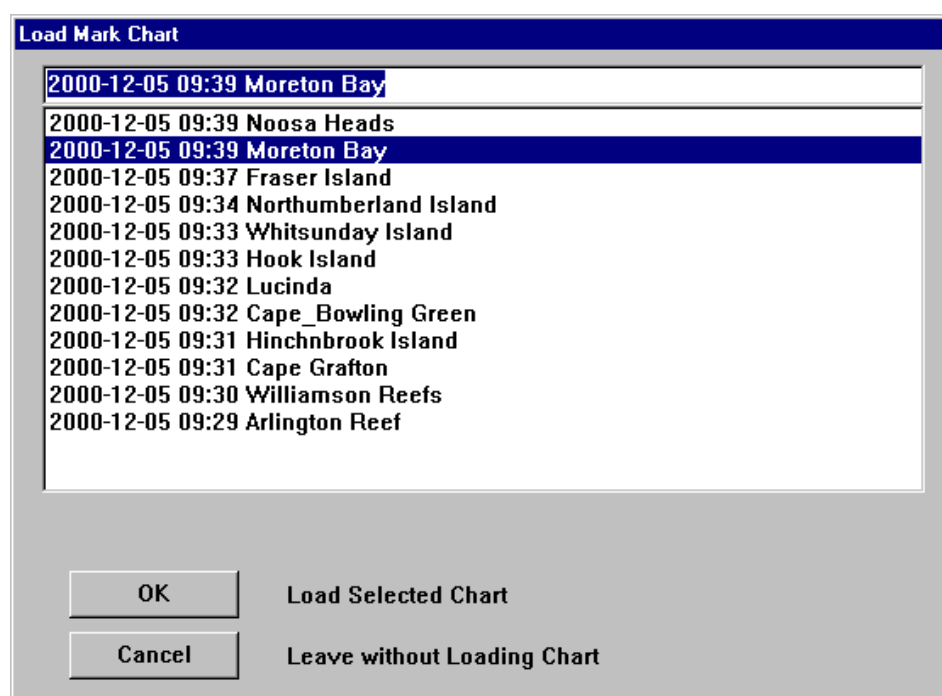


Figure 4.4


4.2.6 Loading Track Charts

Track charts contain one or more past tracks of the vessel. Previously saved track charts can be reloaded using this function.

Access Sequences:

  →  →  'Charts' →  'Load' →  'Track'

 Press 'Menu' → 0 → 0 → 5

 Press Alt+M → 0 → 0 → 5

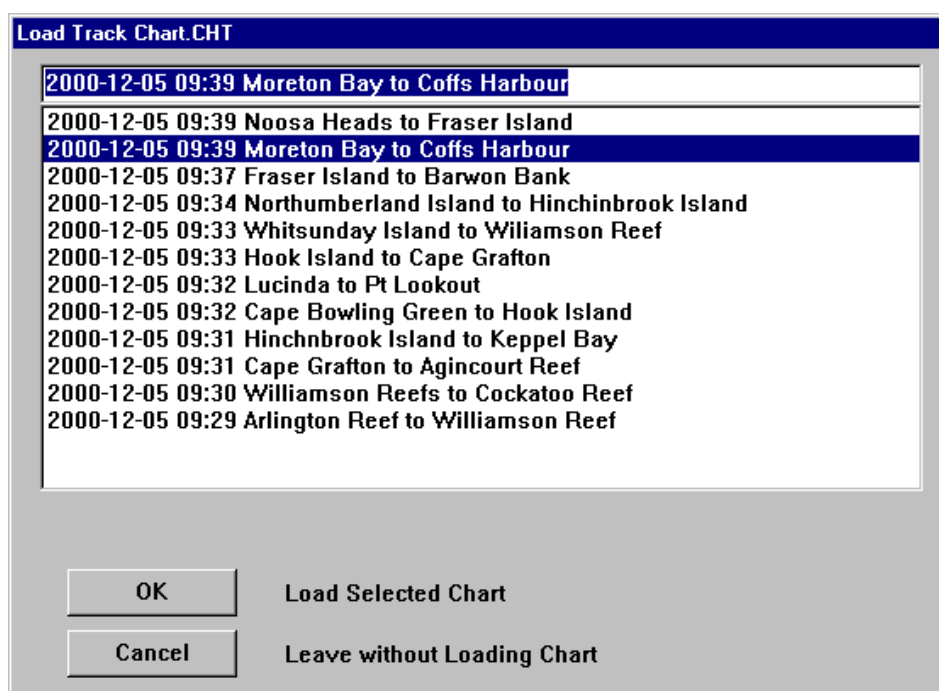
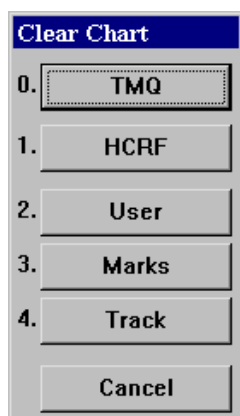







Figure 4.5

4.3 The 'Chart - Clear' Function



The **Clear** function removes displayed Charts from the main chart display. The **Clear Chart** menu can be accessed from the main chart display using any one of the following access sequences.

Access Sequences:

  →  →  'Charts' →  'Clear'



Press 'Menu' → 0 → 1



Press Alt+M → 0 → 1

4.3.1 Clearing TMQ Charts

Access Sequences:



→ → 'Charts' → 'Clear' → 'TMQ'



Press 'Menu' → 0 → 1 → 0



Press Alt+M → 0 → 1 → 0

This sequence will remove the currently displayed TMQ Chart. If no TMQ Charts are currently being displayed, this function will effectively do nothing.

4.3.2 Clearing HCRF Charts

Access Sequences:



→ → 'Charts' → 'Clear' → 'HCRF'



Press 'Menu' → 0 → 1 → 1



Press Alt+M → 0 → 1 → 1

This sequence will remove the currently displayed HCRF Chart. If no HCRF Charts are currently being displayed, this function will effectively do nothing.

4.3.3 Clearing User Charts


Access Sequences:

  →  →  'Charts' →  'Clear' →  'User'

 Press 'Menu' → 0 → 1 → 2

 Press Alt+M → 0 → 1 → 2

This sequence will remove the currently displayed User Chart. If some user data has not been saved it will not be cleared. Please ensure that all data is saved prior to clearing the chart. If no User Charts are currently being displayed, this function will effectively do nothing.

 *It is recommended that all saved charts be cleared before creating and saving new charts.*

4.3.4 Clearing Marks Charts


Access Sequences:

  →  →  'Charts' →  'Clear' →  'Marks'

 Press 'Menu' → 0 → 1 → 3

 Press Alt+M → 0 → 1 → 3

This sequence will remove the currently displayed Marks Chart. If some mark data has not been saved it will not be cleared. Please ensure that all data is saved prior to clearing the chart. If no Marks Charts are currently being displayed, this function will effectively do nothing.

 *It is recommended that all saved charts be cleared before creating and saving new charts.*

4.3.5 Clearing Track Charts


Access Sequences:

  →  →  'Charts' →  'Clear' →  'Track'

 Press 'Menu' → 0 → 1 → 4

 Press Alt+M → 0 → 1 → 4

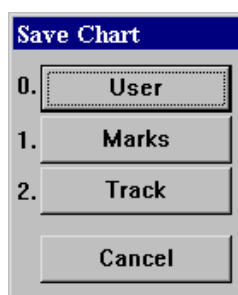
This sequence will remove the currently displayed Track Chart. If some track data has not been saved it will not be cleared. Please ensure that all data is saved prior to clearing the chart. If no Track Charts are currently being displayed, this function will effectively do nothing.






 *It is recommended that all saved charts be cleared before creating and saving new charts.*

4.4 The 'Chart - Save' Function

This function stores (saves) displayed Charts from the main chart display. The **Save Chart** menu can be accessed from the main chart display using any one of the following access sequences.

Access Sequences:




  →  →  'Charts' →  'Save'

 Press 'Menu' → 0 → 2

 Press Alt+M → 0 → 2

Save dialog boxes allow marks, events or tracks to be saved according to colour, only Marks can be saved according to time of creation. If all marks and events or tracks are to be saved, simply ensure that the 'All Colours' box is 'checked' and that 'All' has been chosen from the 'By time, for' drop down list. Clicking in the 'Colour' data field and choosing the desired colour from the palette can alter the colour selection criteria. The 'By time, for' selection criteria can be altered by choosing the desired time frame from the drop down list.

Example: If only 'Blue' coloured marks and events, created in the last hour are to be saved. Click in the 'Colour' data field and choose the colour 'Blue', then choose 'Last One Hour' from the 'By time, for' drop down list (See Figure 4.6).

 *In order to save marks and events of only one particular colour, ensure that the 'All Colours' box is not checked.*

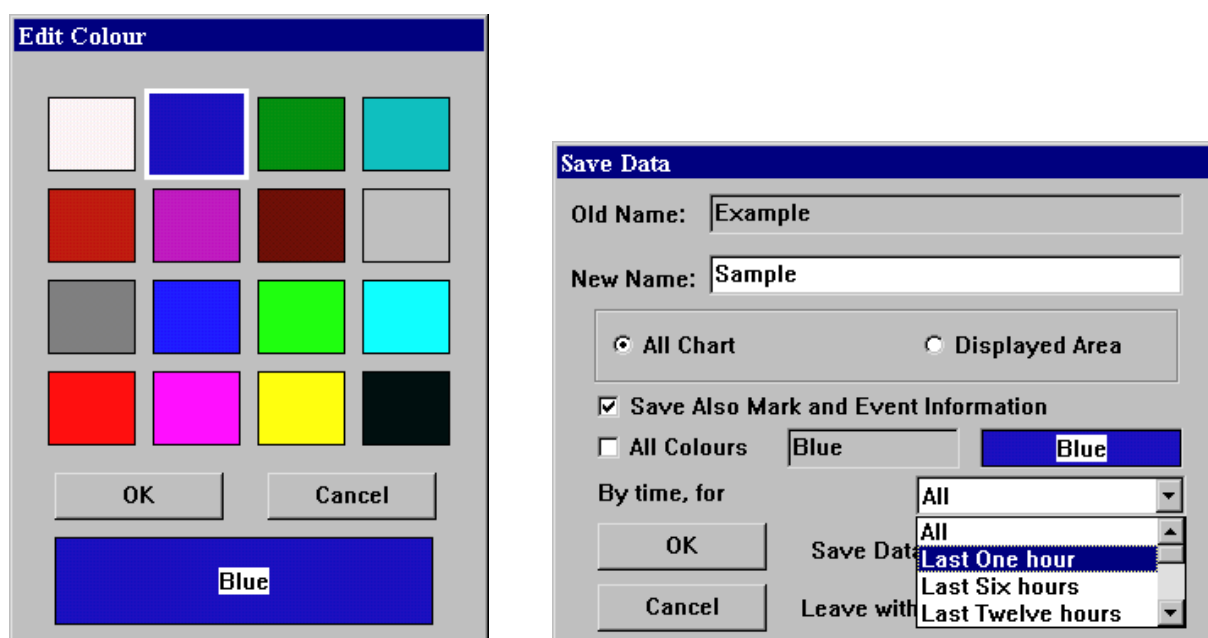


Figure 4.6

4.4.1 Saving User Charts

Access Sequences:



Press 'Menu' → 0 → 2 → 0





Press Alt+M → 0 → 2 → 0

User charts contain the following object information:


- Lines
- Areas
- Marks (Optional)
- Events (Optional)



When saving User Charts, the file that is created must have a meaningful name. If the chart is being saved over an old User file (i.e. one that is currently loaded) the name of that file will appear in the 'Old Name' data field. Simply type the desired name in the 'New Name' data field. The next choice box allows the whole chart or just the

currently displayed area to be saved. Checking the 'Save Also Mark and Event Information' box () will also save the marks and events as well as lines and areas for the selected area. Marks can be saved according to colour and events can be saved according to colour and creation time criteria. To select all colours ensure that the 'All Colours' box is 'checked' (). In order to choose objects of a particular colour click in the colour data field and choose the desired colour (See figure 4.6). Time criteria for event

objects can be chosen from the 'By time, for' drop down list (See Figure 4.6).

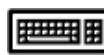
 *In order to save marks and events of only one particular colour, ensure that the 'All Colours' box is not checked (☐.*

4.4.2 Saving Marks Charts

Access Sequences:

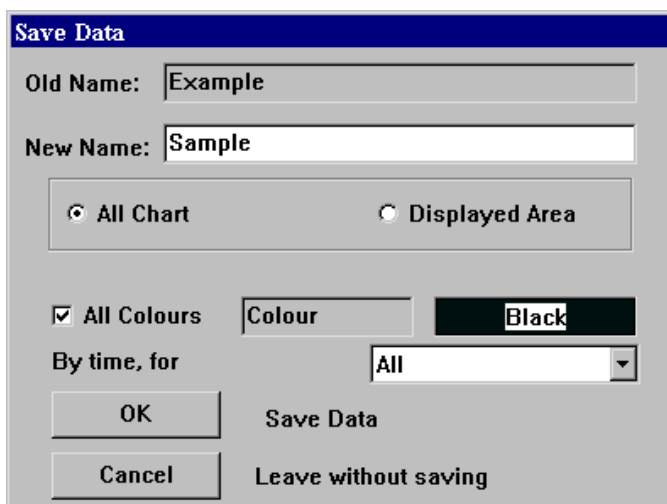
  →  →  'Charts' →  'Save' →  'Marks'

 Press 'Menu' → 0 → 2 → 1

 Press Alt+M → 0 → 2 → 1

Marks charts contain the following object information:

- Marks
- Events




The 'Save Data' dialog box has a title bar 'Save Data'. It contains two text input fields: 'Old Name:' with the value 'Example' and 'New Name:' with the value 'Sample'. Below these are two radio buttons: 'All Chart' (selected) and 'Displayed Area'. Further down is a checked checkbox 'All Colours'. To its right is a 'Colour' label and a black button labeled 'Black'. Below the checkbox is a 'By time, for' label and a dropdown menu currently showing 'All'. At the bottom are four buttons: 'OK', 'Cancel', 'Save Data', and 'Leave without saving'.

When saving Mark Charts, the file that is created must have a meaningful name. Simply type the desired name in the 'New Name' data field. If the chart is being saved over an old Marks file (i.e. one that is currently loaded) the name of that file will appear in the 'Old Name' data field. The next choice box allows the whole

chart or just the currently displayed area to be saved. Marks can be saved according to colour and events can be saved according to colour and creation time criteria. To select all colours ensure that the 'All Colours' box is 'checked' (☒). In order to choose marks and events of a particular colour,

click in the colour data field and choose the desired colour (See figure 4.6). Time criteria for event objects can be chosen from the 'By time, for' drop down list (See Figure 4.6).


 *In order to save marks and events of only one particular colour, ensure that the 'All Colours' box is not checked (☐.*

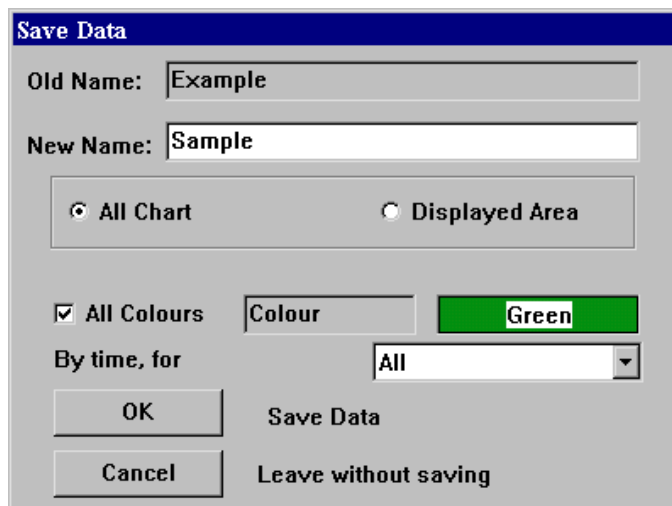
4.4.3 Saving Track Charts

Access Sequences:

  →  →  'Charts' →  'Save' →  'Track'

 Press 'Menu' → 0 → 2 → 2

 Press Alt+M → 0 → 2 → 2



The 'Save Data' dialog box has a title bar 'Save Data'. It contains two text input fields: 'Old Name:' with the text 'Example' and 'New Name:' with the text 'Sample'. Below these are two radio buttons: 'All Chart' (selected) and 'Displayed Area'. Further down are a checked checkbox 'All Colours', a 'Colour' field with a green button labeled 'Green', and a 'By time, for' dropdown menu currently set to 'All'. At the bottom are four buttons: 'OK', 'Cancel', 'Save Data', and 'Leave without saving'.

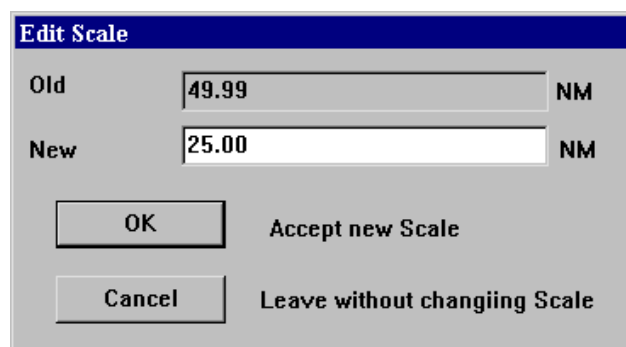
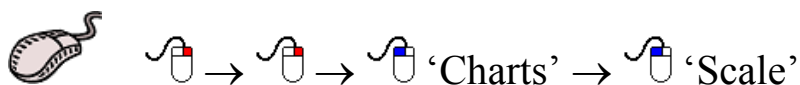
When saving Track Charts, the file that is created must have a meaningful name. Simply type the desired name in the 'New Name' data field. If the chart is being saved over an old Track file (i.e. one that is currently loaded) the name of that file will appear in the 'Old Name' data field. The next choice box allows the whole

chart or just the currently displayed area to be saved. Tracks can be saved according to colour and creation time criteria. To select all colours ensure that the 'All Colours' box is 'checked'. In order to choose marks and events of a particular colour, click in the colour data field and choose the desired colour (See figure 4.6). Time criteria can be chosen from the 'By time, for' drop down list (See Figure 4.6).

4.5 The 'Chart - Scale' Function

The **Scale** function allows adjustment of the scale of the chart currently being displayed. In effect it allows the chart to be zoomed in or out accurately.

Access Sequences:



The current scale of the chart being displayed is shown in the 'Old' data field. Simply type the desired scale in nautical miles in the 'New' data field. Click 'OK' to accept the new scale or 'Cancel' to return to the main chart display

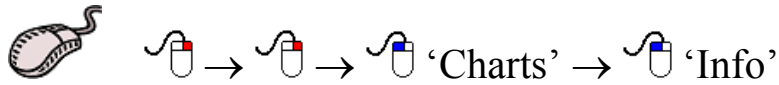
without changing the scale.

 *The **Scale** function cannot be used with HCRF charts.*

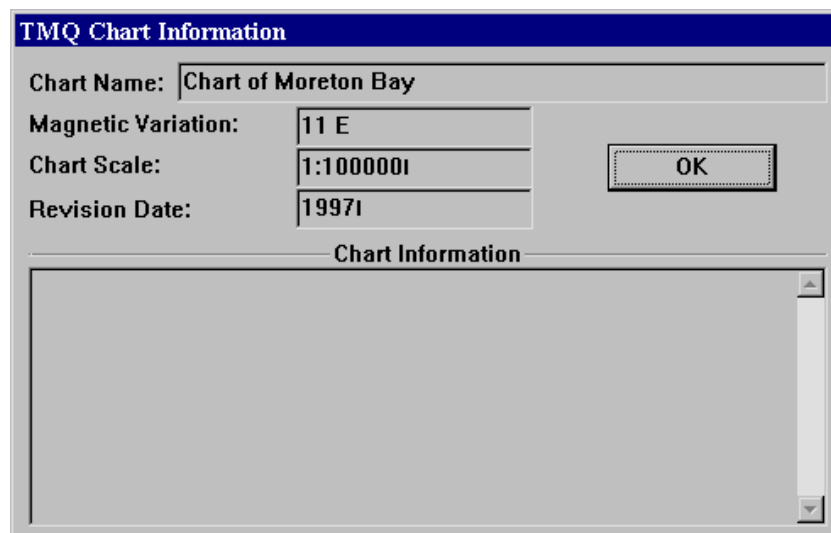
4.6 The 'Chart - Info' Function

The **Info** function allows chart information for the currently loaded chart to be displayed. Chart information can only be shown for TMQ charts and HCRF charts. The access sequences are identical for both types of charts, however the dialog box that is displayed is unique.

Access Sequences:



4.6.1 TMQ Chart Information



The dialog box titled "TMQ Chart Information" contains the following fields and controls:

Chart Name:	Chart of Moreton Bay
Magnetic Variation:	11 E
Chart Scale:	1:1000000
Revision Date:	1997

OK

Chart Information

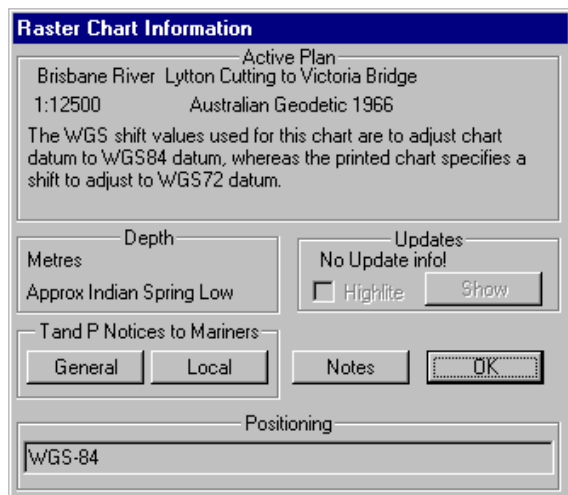
A large empty text area with a vertical scrollbar is located below the "Chart Information" label.

TMQ Chart information can be displayed for any TMQ chart that is currently loaded as the main chart. The dialog box that appears contains:

- Chart Name
- Magnetic Variation
- Chart Scale
- Revision Date
- Chart Information

Click 'OK' to return to the main chart display.

4.6.2 HCRF Chart Information



Raster Chart Information

Active Plan
Brisbane River Lytton Cutting to Victoria Bridge
1:12500 Australian Geodetic 1966

The WGS shift values used for this chart are to adjust chart datum to WGS84 datum, whereas the printed chart specifies a shift to adjust to WGS72 datum.

Depth
Metres
Approx Indian Spring Low

Updates
No Update info!
☐ Highlight

T and P Notices to Mariners

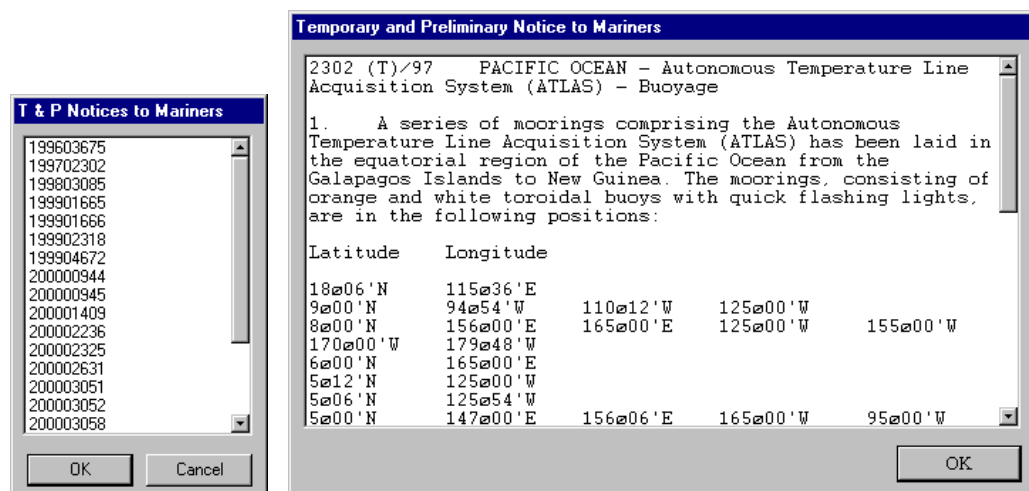
Positioning
WGS-84

HCRF Chart information can be displayed for any HCRF chart that is currently loaded as the main chart. The Raster Chart Information dialog box contains several buttons:

- Temporary Notices & Preliminary to mariners
 - o 'General'
 - o 'Local'
- 'Notes' (Chart Notes)

Clicking on any one of these buttons displays an appropriate list. Clicking on any item on the list will show the information corresponding to that item.

Temporary and Preliminary Notices to Mariners:



T & P Notices to Mariners

199603675
199702302
199803085
199901665
199901666
199902318
199904672
200000944
200000945
200001409
200002236
200002325
200002631
200003051
200003052
200003058

Temporary and Preliminary Notice to Mariners

2302 (T)/97 PACIFIC OCEAN - Autonomous Temperature Line Acquisition System (ATLAS) - Buoyage

1. A series of moorings comprising the Autonomous Temperature Line Acquisition System (ATLAS) has been laid in the equatorial region of the Pacific Ocean from the Galapagos Islands to New Guinea. The moorings, consisting of orange and white toroidal buoys with quick flashing lights, are in the following positions:

Latitude	Longitude
18°06'N	115°36'E
9°00'N	94°54'W
8°00'N	156°00'E
17°00'W	179°48'W
6°00'N	165°00'E
5°12'N	125°00'W
5°06'N	125°54'W
5°00'N	147°00'E
110°12'W	125°00'W
165°00'E	125°00'W
155°00'W	
156°06'E	165°00'W
95°00'W	

Chart Notes:

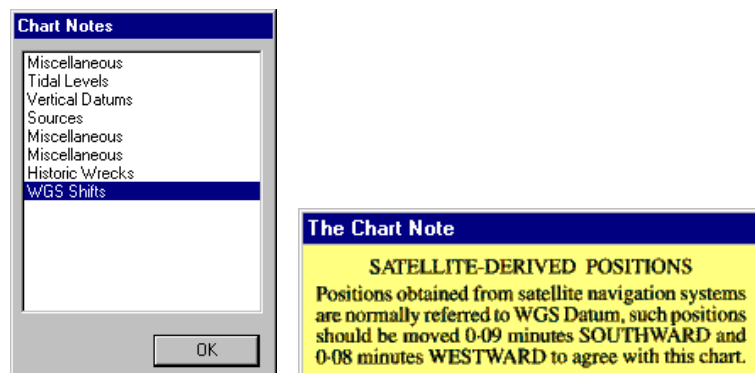


Chart Notes

Miscellaneous
Tidal Levels
Vertical Datums
Sources
Miscellaneous
Miscellaneous
Historic Wrecks
WGS Shifts

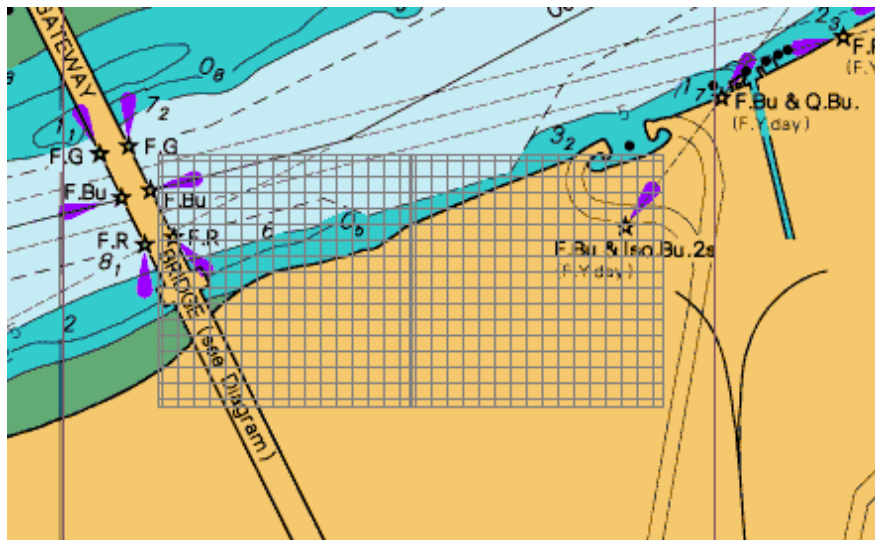
The Chart Note

SATELLITE-DERIVED POSITIONS

Positions obtained from satellite navigation systems are normally referred to WGS Datum, such positions should be moved 0-09 minutes SOUTHWARD and 0-08 minutes WESTWARD to agree with this chart.

The Updates Section:

This section allows the updated areas of the chart to be highlighted, so they can be easily found. Highlighted areas appear as square grids on the chart. To highlight the updated information check (☑) the 'Highlite' box. Clicking on the 'Show' button will temporarily (for approx. 2 seconds) display the charts without updates.



4.7 The 'Chart - Object Info' Function

The **Object Info** function allows information on marks or events to be displayed. The access sequences for this function are as follows.

Access Sequences:



→ → 'Charts' → 'Object Info'



Press 'Menu' → 0 → 5



Press Alt+M → 0 → 5

The **Object Info** function displays a coloured bar at the bottom of the screen. To display the information for a mark or event simply position the cursor over the desired object and click the left mouse button, or press

select on the C-Panel. To return to normal chart mode, click 'Cancel' on the coloured bar.

Coloured 'Object Info' bar:

OBJECT INFO. Place Cursor on Mark/Event, Press SELECT, or CANCEL to Exit Cancel

4.8 The 'Chart - Config' Function

The **Config** function facilitates modifying the database of C-MAP and HCRF charts. The following tasks can be performed through this function.

HCRF Charts:

- ✦ Installing and uninstalling charts
- ✦ Updating existing charts
- ✦ Loading removing, and editing of Chart Permits

C-Map Charts:

- ✦ Select C-Map Database
- ✦ Creating order 'User Code'
- ✦ Entering the C-Map 'Authorisation Code'
- ✦ Updating C-Map Limit Files

Access Sequences:



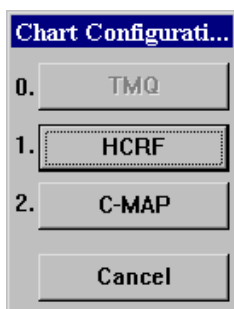
→ → → 'Charts' → → 'Print'



Press 'Menu' → 0 → 7



Press Alt+M → 0 → 7








The Chart configuration of C-Plot is a rather involved process and cannot be acceptably addressed in this section of the C-Plot User Manual. A detailed description of Chart Configuration, including easy-to-follow flowcharts, is provided in the accompanying appendices. Please consult these appendices when configuring charts.

4.9 The 'Chart - Print' Function


The **Print** function enables a hardcopy (On paper) to be made of the currently displayed chart.

Access Sequences:

  →  →  'Charts' →  'Print'

 Press 'Menu' → 0 → 7






 Press Alt+M → 0 → 7

 *The print job is sent to the default printer. If your default printer is not ready, or not set up correctly, the print function will fail. Consult Windows help if printing problems occur.*

4.10 The 'Chart - Copy' Function

The **Copy** function allows User, Marks and Track charts to be backed up on a floppy disk, or stored elsewhere on the computer's hard drive.

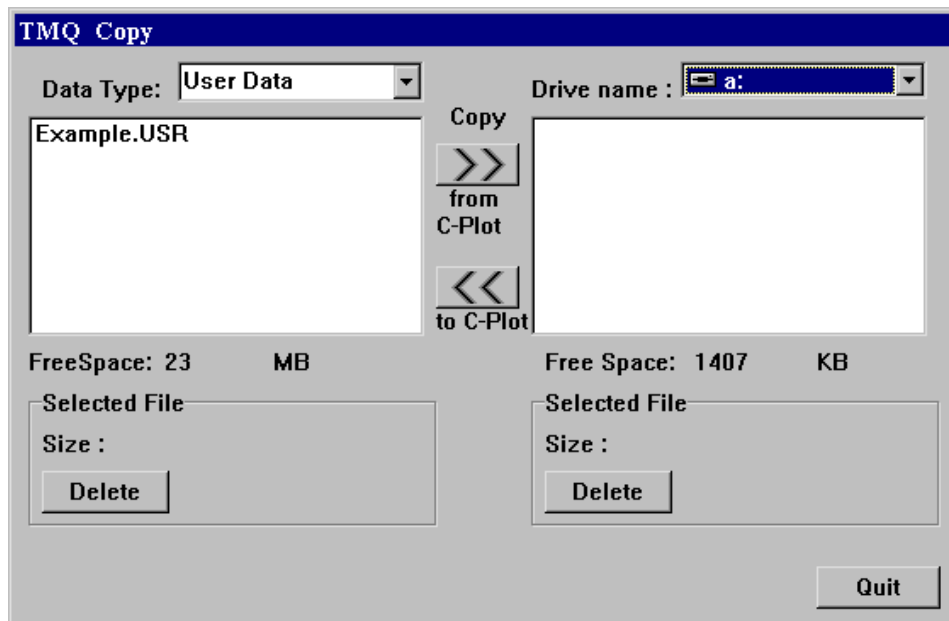
Access Sequences:

  →  →  'Charts' →  'Copy'

 Press 'Menu' → 0 → 8

 Press Alt+M → 0 → 8





The 'Data Type' can be selected by the use of the drop down list. The destination drive can be selected by use of the 'Drive name' drop down list. The list of files on the left-hand side of the dialog box shows the files of the selected 'Data type' that are stored in C-Plot. The list on the right-hand side of the dialog box displays the files in the currently selected drive. The 'Free Space' parameters display the amount of unused disk space in both the C-Plot and destination drives. The selected file section outlines the size of the file selected and provides a button for deleting the selected file.

File Backup procedure:

1. Select the desired 'Data Type'
2. Select the desired destination drive (Drive Name)
3. Select the file to be backed up from the left-hand list
4. Click the 'Copy from C-Plot' button (>>)
5. Repeat steps 3 & 4 until all desired files of this data type are backed up
6. Repeat Steps 1-5 until all desired file types are backed up

File Restoration procedure:

1. Select the desired 'Data Type'
2. Select the desired Source drive (Drive Name)
3. Select the file to be restored from the right-hand list

-
4. Click the 'Copy to C-Plot' button (<<)
 5. Repeat steps 3 & 4 until all desired files of this data type are restored
 6. Repeat Steps 1-5 until all desired file types are restored

4.11 The 'Chart – Geo Datum Conversion' Function

Access Sequences:

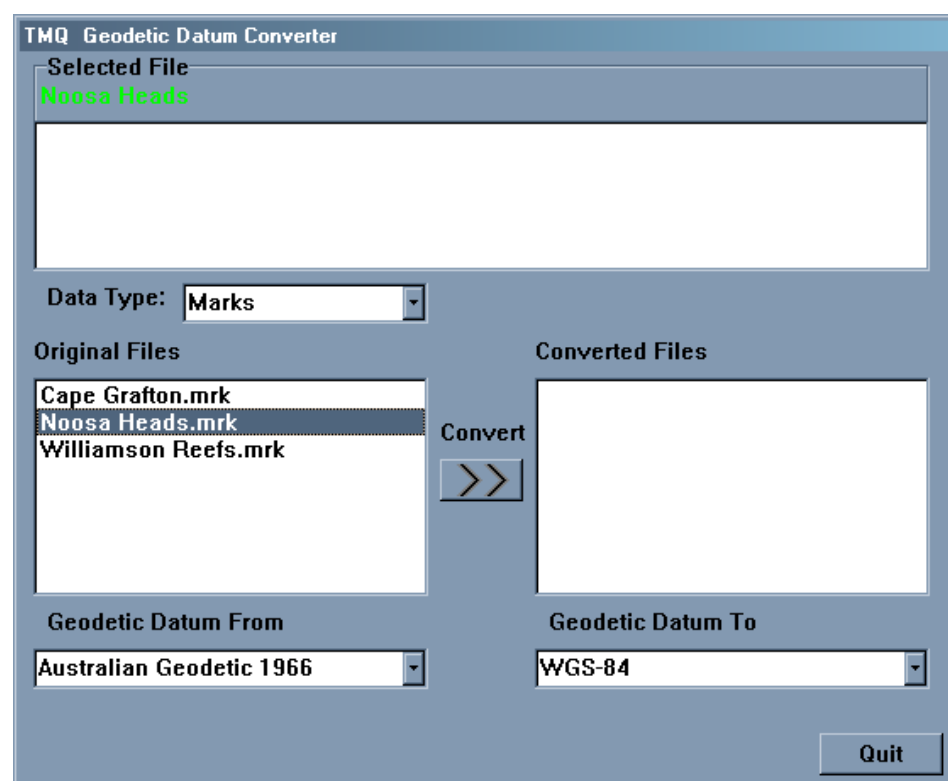
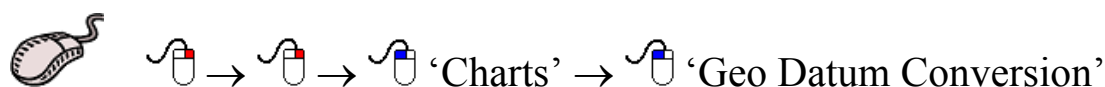



Figure 4.7

The **Geo Datum Conversion** function enables User Charts, Marks Charts and Track Charts to be converted from one Geodetic Datum to another (e.g. Australian Geodetic 1966 to WGS-84).

The TMQ Geodetic Datum Converter dialog box is similar to the TMQ Copy dialog box from section 4.10, and the manner in which they are used is also similar. The converter dialog box contains a section labeled 'Selected File' this section lists any previous conversion that may have been performed on the selected file. It can be seen from figure 4.7 that the 'Noosa Heads.mrk' Marks chart has not undergone any conversions.

The following sequence should be used when converting the geodetic datum of files.

1. Select the 'Type' of file that is to be converted from the 'Data Type' drop down list.
2. Select the desired file from the 'Original Files' section and choose the current geodetic datum for this file from the 'Geodetic Data From' drop down list.
3. Now select the geodetic datum that the selected file should be converted to, from the 'Geodetic Datum To' drop down list.
4. Click 'Convert'. The converted file will now appear in the 'Converted Files' section. (See Figure 4.8)
5. Repeat steps 2 – 4 until all desired files are converted.
6. Repeat steps 1-5 until all desired data types have been converted.

 *Whenever a file is converted a '^' symbol is appended to the filename. The details of the conversions that have been performed on such a file can be viewed in the 'Selected File' section of the converter dialog box, when the file is selected (see figure 4.9).*

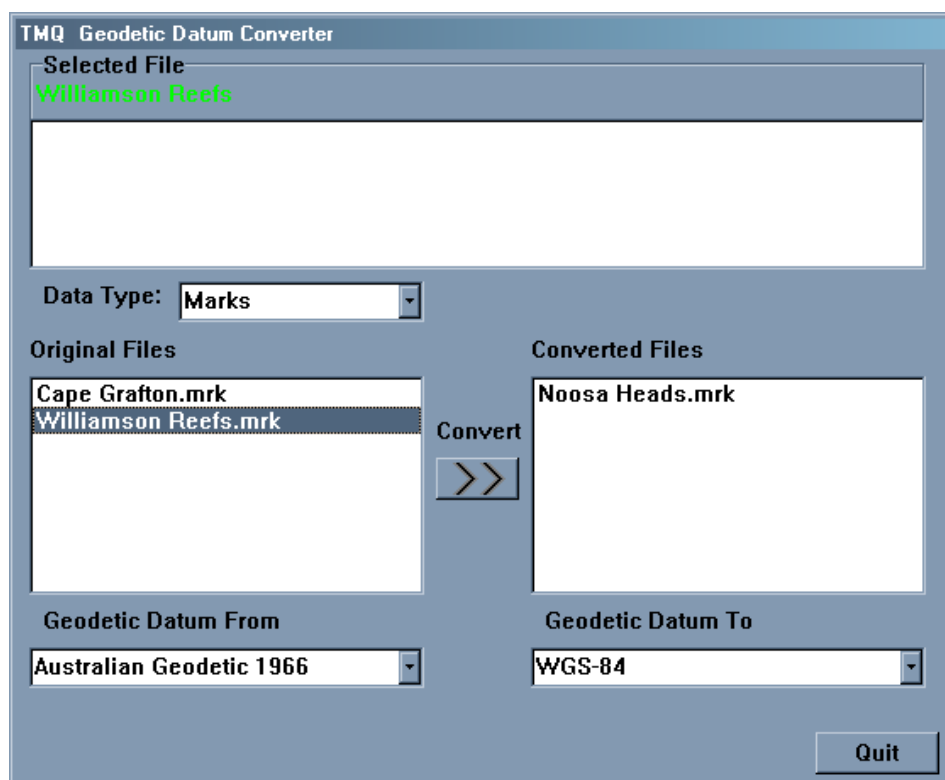


Figure 4.8

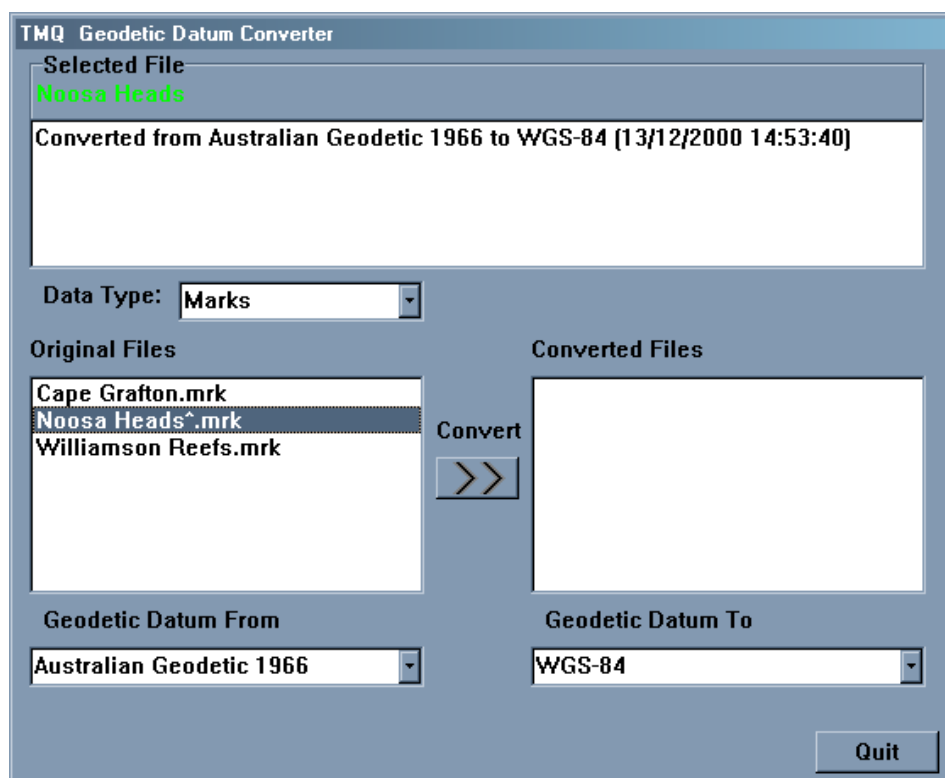


Figure 4.9

5.0 Marks & Events

5.1 The Marks/Events Menu

The **Marks/Events Menu** facilitates access to all C-Plot functions pertaining to marks and events. Marks and events are symbols that can be positioned on the main chart display to allow the user to record the position of relevant information (i.e. fruitful fishing areas, location of pots, etc). This menu can be accessed from the main chart display using one of the following access sequences.



Access Sequences:



→ → → 'Marks/Events'.

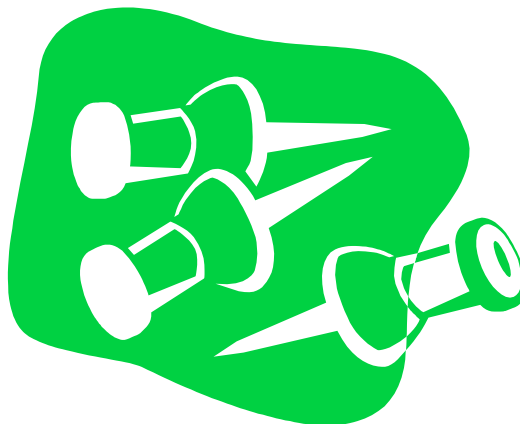


Press 'Menu' → 1.



Press Alt+M → 1.

Selecting a function from the **Marks/Events Menu** is exactly the same as selecting a sub-menu from the **Main Menu**. Simply click the desired function with the mouse or choose its numbered prefix on the keyboard or C-Panel. Clicking on the 'Cancel' button will return to the **Main Menu**.




5.2 The 'Marks – Add at Cursor' Function

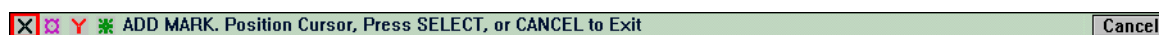
The **Add at Cursor** function enables marks to be added according to the position of the cursor.

Access Sequences:



Upon accessing this function a coloured 'ADD Mark' bar will appear at the bottom of the screen. To add a mark, simply position the cursor at the desired position of the mark and click the left mouse button. The symbol of the mark can be modified by choosing () one of the 4 symbols shown in the 'ADD Mark' bar. Once all desired marks have been added click the 'Cancel' button to return to normal chart display mode.

'ADD Mark' Bar:

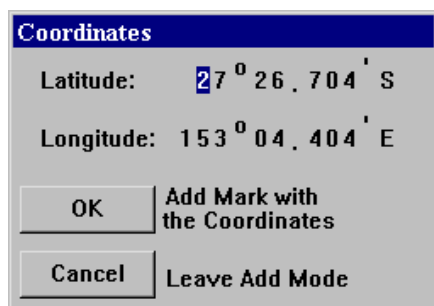


5.3 The 'Marks – Add at Lat/Lng' Function

The **Add at Lat/Lng** function enables marks to be placed on the main chart display according to Latitude and Longitude co-ordinates.

Access Sequences:





A dialog box titled 'Coordinates' with a blue header. It contains two input fields: 'Latitude:' with the value '27° 26.704' S and 'Longitude:' with the value '153° 04.404' E'. Below these fields are two buttons: 'OK' and 'Cancel'. To the right of the 'OK' button is the text 'Add Mark with the Coordinates', and to the right of the 'Cancel' button is the text 'Leave Add Mode'.

Upon accessing this function a dialog box will appear accompanied by an 'ADD Marks' coloured bar. To add a mark, input the geographic co-ordinates in the dialog box and click 'OK'. The symbol used to indicate the marks position can be selected from the 'ADD Marks' bar before the mark

is added. Click 'Cancel' to return to normal chart display mode.

The coloured 'ADD Marks' bar:



A horizontal bar with a green background. On the left, there are four small icons: a red 'X', a yellow 'Y', a green 'Z', and a red 'A'. To the right of these icons is the text 'ADD MARK. Enter Coordinates to Add Mark, Press OK, or CANCEL to Exit'.

5.4 The 'Marks - Delete Marks' Function

The **Delete Marks** function allows a mark, or collection of marks, to be removed. This function deletes both saved and unsaved marks i.e. it will delete marks from a loaded Marks Chart as well as marks that have not been saved. In order to remove marks permanently from a saved Marks chart, it is important to save the Marks chart once the desired marks have been deleted.

Access Sequences:



→ → → 'Marks/Events' → 'Delete Marks'



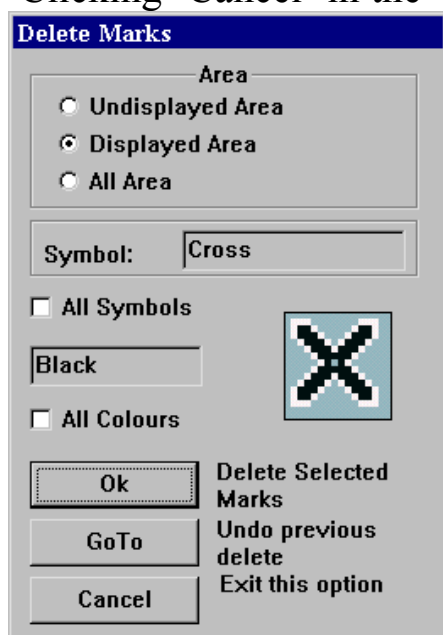
Press 'Menu' → 1 → 2



Press Alt+M → 1 → 2


Marks can be selected and deleted according to a number of selection criteria, position, symbol and colour. The **Area** section allows marks to be selected by position, simply click on the desired area type. The **Symbol** field allows the marks to be selected by symbol type. Clicking on the symbol field will invoke a symbol selection dialog. To select a certain symbol type simply click on the desired symbol type and click 'OK'.

Clicking 'Cancel' in the 'Edit Symbol' dialog box will return to the 'Delete



Marks' dialog box. Checking (🖱️) the 'All Symbols' box will select all symbol types. Marks can also be selected by colour. Clicking in the colour data field will invoke the 'Edit Colour' dialog box. Simply choose the desired colour and click 'OK' or 'Cancel' to return to the 'Delete Marks' dialog box. Checking the 'All Colours' box will select marks of any colour.

To accept the selection criteria and delete the selected marks, click 'OK'. Clicking the 'GoTo' button will undo the last delete that was performed, while clicking 'Cancel' will return to normal chart display mode.

 *The 'All Symbols' and 'All Colours' check boxes override any other symbol and colour selections. In order to select marks by only one symbol or colour, ensure that the appropriate check box is not checked (i.e. Does not contain a tick).*

5.5 The 'Events – Add at Ship' Function

The **Events – Add at Ship** function adds an event symbol at the vessel's current position. To perform this function use one of the following access sequences.

Access Sequences:



🖱️ → 🖱️ → 🖱️ 'Marks/Events' → 🖱️ 'Add at Ship'



Press 'Menu' → 1 → 3



Press Alt+M → 1 → 3

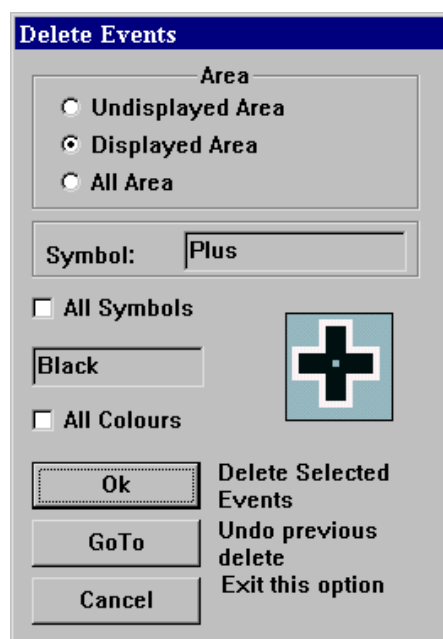
The symbol used for the event is a 'plus' symbol by default. Once an event has been positioned its properties can be altered using the **Edit** function outlined in section 5.7.

5.6 The 'Events - Delete Events' Function

The **Delete Events** function allows an event, or collection of events, to be removed. This function deletes both saved and unsaved events i.e. it will delete events from a loaded Marks Chart as well as events that have not been saved. In order to remove events permanently from a saved Marks chart, it is important to save the Marks chart once the desired events have been deleted.

Access Sequences:

  →  →  'Marks/Events' →  'Delete Events'




Press 'Menu' → 1 → 4




Press Alt+M → 1 → 4

Events can be selected and deleted according to a number of selection criteria, position, symbol and colour. The **Area** section allows events to be selected by position, simply click on the desired area type. The **Symbol** field allows the events to be selected by symbol type. Clicking on the symbol field will invoke an 'Edit Symbol' dialog box. To

select a certain symbol type simply click on the desired symbol type and click 'OK'. Clicking 'Cancel' in the 'Edit Symbol' dialog box will return to the 'Delete Events' dialog box. Checking () the 'All Symbols' box will select all symbol types. Events can also be selected by colour. Clicking in the colour data field will invoke the 'Edit Colour' dialog box. Simply choose the desired colour and click 'OK' or 'Cancel' to return to the

‘Delete Events’ dialog box. Checking the ‘All Colours’ box will select marks of any colour.

To accept the selection criteria and delete the selected events click ‘OK’. Clicking the ‘GoTo’ button will undo the last delete that was performed, while clicking ‘Cancel’ will return to normal chart display mode.

 *The ‘All Symbols’ and ‘All Colours’ check boxes override any other symbol and colour selections. In order to select events by only one symbol or colour, ensure that the appropriate check box is not checked (i.e. Does not contain a tick).*

5.7 The ‘Marks/Events - Edit’ Function

The **Edit** function allows the properties of Marks and Events to be altered.

Access Sequences:



 →  →  ‘Marks/Events’ →  ‘Edit’



Press ‘Menu’ → 1 → 5



Press Alt+M → 1 → 5

When this function is performed a coloured ‘EDIT MARK/EVENT’ bar will appear at the bottom of the screen.

‘EDIT MARK/EVENT’ Bar:

EDIT MARK/EVENT. Place Cursor on Mark/Event, Press SELECT, or CANCEL to Exit

Cancel

Now, simply move the cursor over the mark or event to be edited and left click on the mouse (‘Select’ on the C-Panel). Depending on which type of object was clicked, an edit dialog box will appear.

5.7.1 Editing Marks

The **Edit Marks** dialog box allows the following properties of marks to be modified:

- ✓ Latitude and Longitude of the mark's position
- ✓ The name of the mark
- ✓ The size (scale) of the mark's name
- ✓ The colour of the mark
- ✓ The symbol used to represent the mark
- ✓ A comment for the mark



To make changes to any of these properties simply click (🖱️) in the appropriate data field. In each case an edit box will appear displaying the current data ('Old Data') and a data field to input the 'New'. Click 'OK' to accept any changes or 'Cancel' to return to


the 'Edit Mark' dialog box. The colour and symbol properties are modified using the appropriate dialog box, which appears when either of those fields is clicked.

5.7.2 Editing Events

The **Edit Marks** dialog box allows the following properties of marks to be modified:

- ✓ The name of the event
- ✓ The size (scale) of the name of the event
- ✓ The symbol used to represent the event
- ✓ The colour of the symbol
- ✓ A comment for the event

Edit Event			
Symbol:	Anchor	Colour:	Black
Name:	Example		
Name Scale:	Maximum	NM	
Comments			
Anchor Point			
Latitude:	27.26.705,S		
Longitude:	153.04.404,E		
UTC:	22:53:15	19/11/00	
LTC:	08:53:15	20/11/00	
OK	Accept new Event details		
Cancel	Leave without changing Event		
Go To	Delete selected		



To make changes to any of these properties simply click (🖱️) in the appropriate data field. In each case an edit box will appear displaying the current data ('Old Data') and a data field to input the 'New'. Click 'OK' to accept any changes or 'Cancel' to

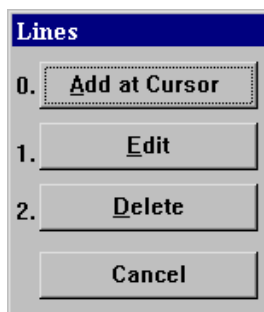
return to the 'Edit Event' dialog box. The colour and symbol properties are modified using the appropriate dialog box, which appears when either of those fields is clicked.

6.0 Lines

6.1 The Lines Menu

Lines are used to indicate boundaries or danger areas on any chart. Lines can also be converted into Areas and Routes. The **Lines Menu** facilitates access to all C-Plot functions pertaining to lines. This menu can be accessed from the main chart display using one of the following sequences.

Access Sequences



→ → → 'Lines'.



Press 'Menu' → 2.



Press Alt+M → 2.

Selecting a function from the **Lines Menu** is exactly the same as selecting a sub-menu from the **Main Menu**. Simply click the desired function with the mouse or choose its numbered prefix on the keyboard or C-Panel. Choosing 'Cancel' will return to the **Main Menu**.



6.2 The 'Lines – Add at Cursor' Function

The **Add at Cursor** function allows a line to be added to the main chart display using the cursor to position each segment.

Access Sequences



→ → 'Lines' → 'Add at Cursor'



Press 'Menu' → 2 → 0



Press Alt+M → 2 → 0

While in Line draw mode a coloured 'ADD LINE' bar will appear at the bottom of the screen. Position the cursor on the chart display where you want to begin drawing the line and click the left mouse button to draw. Continue moving the cursor and clicking the left mouse button until a satisfactory line has been drawn, then click the 'OK' button on the 'ADD LINE' bar to save the line, or 'Cancel' to return to normal chart display mode.

Coloured 'ADD LINE' Bar:

ADD LINE. Add Points with SELECT, to save Line press OK, or CANCEL to Exit

OK Cancel

6.3 The 'Lines - Edit' Function

The **Edit** function allows properties of a line to be modified. It also provides a means of converting Lines in to Areas or Routes.

Access Sequences



→ → Click 'Lines' → Click 'Edit'



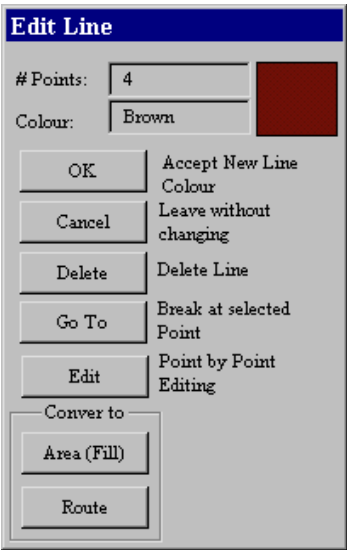
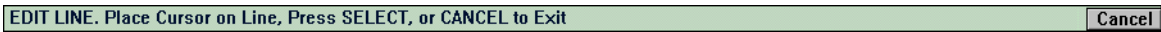
Press 'Menu' → 2 → 1



Press Alt+M → 2 → 1

Initially an ‘EDIT LINE’ Bar appears at the bottom of the screen. To select a line to edit simply position the cursor over the desired line and left click on the mouse (☞).

EDIT LINE Bar:











The ‘# Points’ field contains the number of points that are contained in the line; this value cannot be altered from here (see Section 6.3.1). Clicking on the ‘Colour’ field invokes an ‘Edit Colour’ dialog box. Choose a new colour and click ‘OK’ or click ‘Cancel’ to return to the ‘Line Edit’ dialog box. Clicking ‘OK’ in the ‘Edit Line’ dialog box will save the current line properties, while clicking ‘Cancel’ will return to normal chart display mode.

Clicking ‘Delete’ will remove the selected line from the chart. Clicking ‘GoTo’ will split the line at the selected point and create a new line. Clicking the Edit button will invoke a Point-by-Point Editing dialog box (See section 6.3.1). Clicking either of the buttons in the ‘Convert to’ area will convert the line to the appropriate object (Area or Route).

6.3.1 Point-by-Point Editing

Point-by-Point Editing enables precise editing of the selected line. The following table describes the functions performed by the ‘Line Edit Pad’.



Symbol	Function	Description
	Go Forward	This button causes the next point on the line to become the selected point.
	Go Backward	This button causes the previous point on the line to become the selected point.
	Drag & Drop	This button allows the position of the selected point to be changed using the cursor. Simply place the cursor on the new position for the point and click the left mouse button.
	Edit Lat/Lng	This button invokes a 'Line Editing Table' enabling the line to be edited by modifying the Geographic position of the start and end of each line section. (See Figure 6.1)
	Insert Forward	This button inserts a new section of line between the selected point and the next point. (i.e. Inserts a new point between the current point and the next point)
	Insert Backward	This button inserts a new section of line between the selected point and the previous point. (i.e. Inserts a new point before the current point)
	Delete Point	This button removes the selected point from the line.
	Undo Last	This button reverses the last operation performed on the line. This function can be repeated until all operations performed on the line have been reversed. When the button appears with light text in a darker box, there have been no operations on the line and therefore this button is disabled.

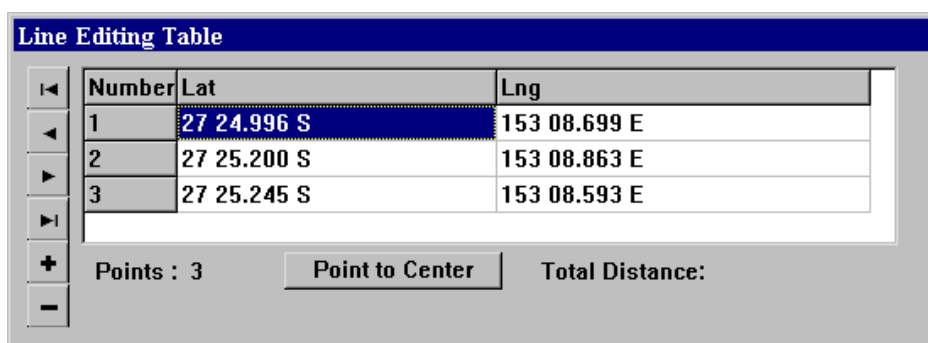


Figure 6.1

Symbol	Function	Description
	First Point	This button selects the First point in the list
	Previous Point	This button selects the Previous point in the list
	Next Point	This button selects the Next point in the list
	Last Point	This button selects the Last point in the list
	Insert Point	This button Inserts a new point before the selected point
	Delete Point	This button Removes the selected point

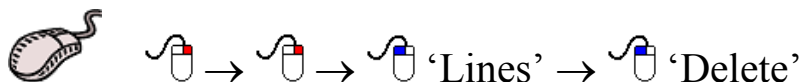
To modify the Latitude and Longitude of a point on the selected line, simply click the parameter to be changed in the table and type the new co-ordinates. The 'Point To Center' button shifts the chart display so that the selected point is in the center of the screen.

To accept changes to the line when in Point-by-Point Edit mode click 'OK' on the line Edit Pad. Clicking 'Cancel' will return to normal display mode without saving changes.

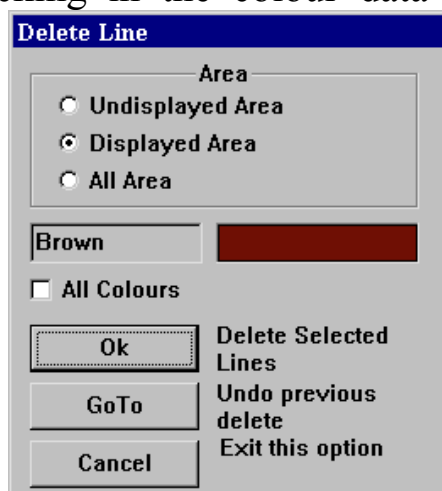
6.4 The 'Lines - Delete' Function

The **Delete** function allows lines to be deleted according to one or more of the following criteria, position and colour. It also allows the last delete operation to be reversed. This function deletes both saved and unsaved lines i.e. it will delete lines from a loaded User Chart as well as lines that have not been saved. In order to remove lines permanently from a saved User chart, it is important to save the User chart once the desired lines have been deleted.


Access Sequences



The **Area** section allows lines to be selected according to position. Clicking in the colour data field invokes an 'Edit Colour' dialog box, allowing lines to be selected by colour. Checking (☒) the 'All Colours' box will select all the lines in the selected area.



Clicking 'OK' performs the delete operation on the lines that meet the selection criteria. 'GoTo' reverses the previous 'Delete' operation performed on one or more lines. 'Cancel' returns C-Plot to chart display mode.

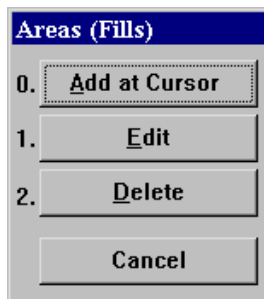
 The 'All Colours' check box overrides any other colour selection. In order to select lines by only one colour, ensure that the 'All Colours' check box is not checked (☐.

7.0 Areas & Fills

7.1 The Areas (Fills) Menu

Areas can be used to indicate restricted regions and danger zones on any chart. The **Areas (Fills) Menu** facilitates access to all C-Plot functions pertaining to areas and fills. This menu can be accessed from the main chart display using any one of the following sequences.

Access Sequences:



→ → → 'Areas (Fills)'.

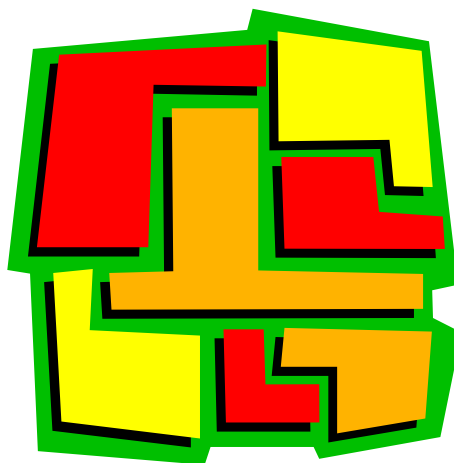


Press 'Menu' → 3.



Press Alt+M → 3.

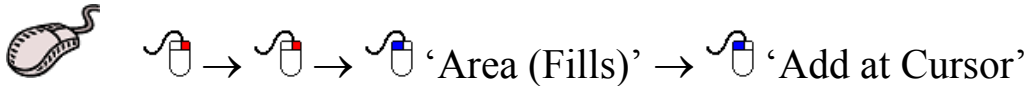
Selecting a function from the **Areas (Fills) Menu** is exactly the same as selecting a sub-menu from the **Main Menu**. Simply click the desired function with the mouse or choose its numbered prefix on the keyboard or C-Panel. Clicking the 'Cancel' button will return C-Plot to the **Main Menu**.




7.2 The 'Area – Add at Cursor' Function


The **Add at Cursor** function enables the cursor to be used to draw an area onto the chart display.

Access Sequences



While in Area draw mode a coloured 'ADD AREA (fill)' bar will appear at the bottom of the screen. Position the cursor on the chart display where you want to draw the area boundary and click the left mouse button to draw. Continue moving the cursor and clicking the left mouse button until a satisfactory area boundary has been drawn, then click the 'OK' button on the 'ADD AREA (fill)' bar to save the area, or 'Cancel' to return to normal chart display mode.

 *When drawing an Area, C-Plot automatically joins the start and the end of the boundary to ensure that the area is closed.*

 *If an area is added with a 'Red' or 'Maroon' border it is classed as a 'Prohibited Zone'.*

'ADD AREA (fill)' Bar:



7.3 The 'Area - Edit' Function

The **Edit** function enables the properties of existing areas to be modified.

Access Sequences



→ → → 'Area (Fills)' → 'Edit'



Press 'Menu' → 3 → 1

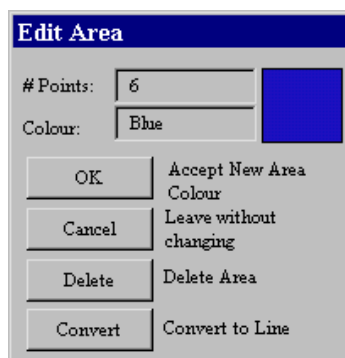


Press Alt+M → 3 → 1

Initially an 'EDIT FILL' Bar appears at the bottom of the screen. To select an area to edit simply position the cursor over the boundary of the desired area and left click on the mouse (🖱️). Clicking 'Cancel' will return C-Plot to normal chart display mode.

'EDIT FILL' Bar:

EDIT FILL. Place Cursor on Edge of Filled Area, Press SELECT, or CANCEL to Exit Cancel



The '# Points' data field contains the number of points contained in the boundary of the area. The 'Colour' field enables the boundary colour of the area to be set. Clicking the 'Colour' data field invokes an 'Edit Colour' dialog box. Simply choose the desired colour and click 'OK' or 'Cancel' to return to the 'Edit Area' dialog box. Clicking 'Cancel' returns C-Plot to normal display mode without changing the area properties. The 'Delete' button removes the area from the chart display. The 'Convert' button changes the boundary of the area into a line.

7.4 The 'Area – Delete' Function

The **Delete** function enables an area or group of areas to be removed from the chart display. Areas can be selected according to positional and colour criteria. This function deletes both saved and unsaved areas i.e. it will delete lines from a loaded User Chart as well as areas that have not been saved. In order to remove areas permanently from a saved

User chart, it is important to save the User chart once the desired areas have been deleted.

Access Sequences



→ → → 'Area (Fills)' → → 'Delete'

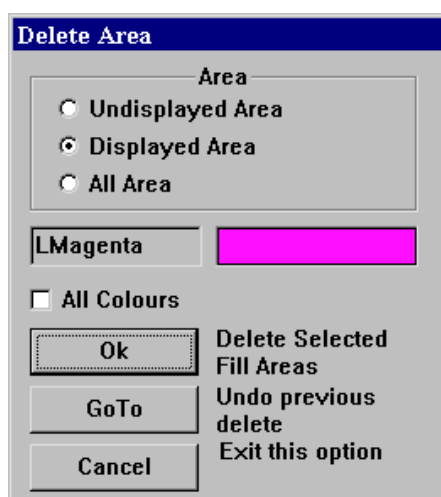


Press 'Menu' → 3 → 2



Press Alt+M → 3 → 2

The **Area** section allows areas to be selected according to position.



Clicking in the colour data field invokes an 'Edit Colour' dialog box, allowing areas to be selected by colour. Checking (☒) the 'All Colours' box will select all the areas in the selected area.

Clicking 'OK' performs the delete operation on the areas that meet the selection criteria. 'GoTo' reverses the previous 'Delete' operation performed on one or more areas. 'Cancel' returns C-Plot to chart display mode.

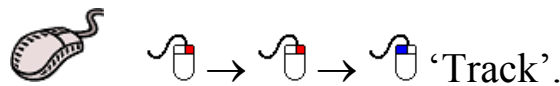
8.0 Track

8.1 The Track Menu

The track is the coloured line that indicates the past course of the vessel. It can be configured to display additional information such as temperature, depth, hardness, etc. The **Track Menu** facilitates access to all C-Plot functions pertaining to the vessel's track. This menu can be accessed from the main chart display using any one of the following sequences.



Access Sequences:

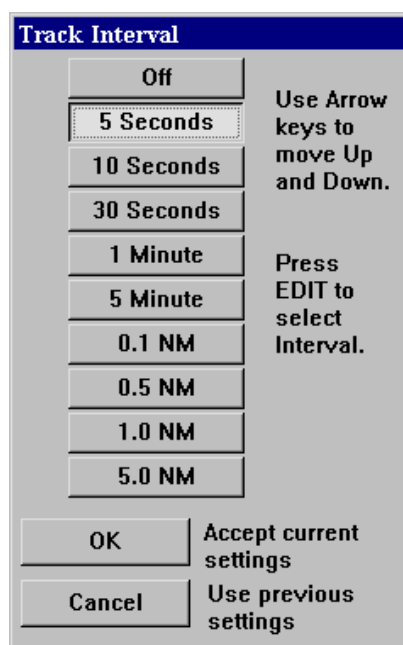
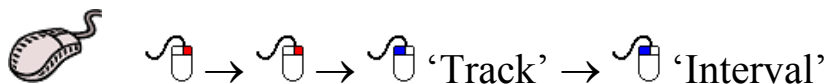


Selecting a function from the **Track Menu** is exactly the same as selecting a sub-menu from the **Main Menu**. Simply click the desired function with the mouse or choose its numbered prefix on the keyboard or C-Panel.



8.2 The 'Track – Interval' Function


Access Sequences:




The **Interval** function enables the rate at which the track data is saved to be set. For example: if the track interval is set to '5 seconds', track data will be saved every 5 seconds.

The track interval parameter can be set according to time elapsed or distance travelled. To change the track interval simply click on the desired setting.

 *Setting the track interval to 'OFF' will de-activate the track display. This means that no track information will be displayed/stored.*

 *The recommended setting for the track interval is '5 seconds'.*

 *The track is drawn on the screen at the same rate as the connected GPS antenna updates the positional information. If the screen is redrawn (i.e. the chart is moved), the track will revert to the saved data when it redraws.*

8.3 The 'Track - Colour' Function

The **Colour** function enables the colour of the current track to be modified.

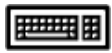
Access Sequences:



→ → → 'Track' → → 'Colour'



Press 'Menu' → 4 → 1



Press Alt+M → 4 → 1

This function invokes an 'Edit Colour' dialog box. In order to modify the colour of the current track simply click the desired colour and then 'OK' or 'Cancel' to return C-Plot to normal chart display mode.

8.4 The 'Track - Options' Function

The **Options** function allows the track to be configured to represent incoming data. The type of input data that can be represented by the track includes:

- Temperature
- Depth
- Hardness

Access Sequences:



→ → → 'Track' → → 'Options'



Press 'Menu' → 4 → 2




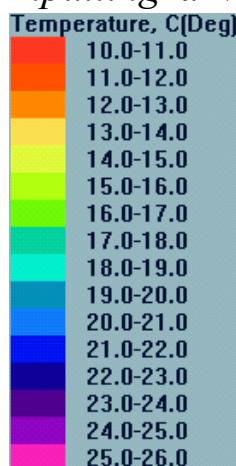
Press Alt+M → 4 → 2

The 'Set Shift' data field allows the lowest value, represented by the track, to be set. To modify this value simply click in the data field to invoke the 'Edit Value' dialog box. Enter the new value in the 'New Data' field and click 'OK' to accept the new value or 'Cancel' to return to the 'Track Display Options' dialog box without changing the value.

The 'Set Scale' data field displays the current value of the step-size between the values represented by the track. To modify this value simply click in the data field to invoke the 'Edit Value' dialog box. Enter the new value in the 'New Data' field and click 'OK' to accept the new value or 'Cancel' to return to the 'Track Display Options' dialog box without changing the value.

The 'Set Width' data field displays the current width (in pixels) of the track. To modify this value simply click in the data field to invoke the 'Edit Value' dialog box. Enter the new value in the 'New Data' field and click 'OK' to accept the new value or 'Cancel' to return to the 'Track Display Options' dialog box without changing the value.


 Temperature Mode Only: 1 unit = 0.1 °C - The 'Shift' and 'Scale' properties are multiplied by a factor of ten. This means that when the value of these properties is inputted it should be ten times the desired value (i.e. Inputting a value of 10 in the 'Set Scale' actually causes the step-size (scale) to be 1 °C).



The 'Set Mode' section allows the type of data that the track represents to be configured. The colour option simply displays the track as the selected colour (See section 8.3). While in colour mode only the 'Set Width' property can be modified.

When the 'Display Colour Table' box is checked (☒) , a coloured bar will appear in the bottom-left corner of

the main chart display (Track Display area). This Bar displays the type of input data being displayed and the colour which represents a certain range of values. (i.e. In this example the 'Magenta' colour (■) represents the range of temperatures from 25.0°C to 26.0°C).

 *The coloured bar is not displayed when the track has been set to 'Colour' mode.*

Once the desired modifications to the track options have been made click 'OK' to accept them or 'Cancel' to return C-Plot to normal chart display mode without changing the track options.

8.5 The 'Track - Edit' Function


The **Edit** function allows the current track and past tracks to be altered.

Access Sequences:

  →  →  'Track' →  'Edit'

 Press 'Menu' → 4 → 3

 Press Alt+M → 4 → 3

When this function is performed initially an 'EDIT TRACK' Bar appears at the bottom of the screen setting C-Plot into 'Track Select mode'. To select a track to edit simply position the cursor over the desired track and left click on the mouse (). Clicking 'Cancel' will return C-Plot to normal chart display mode.

'EDIT TRACK' Bar:

EDIT TRACK. Place Cursor on Track, Press SELECT, or CANCEL to Exit Cancel



The ‘# Points’ data field displays the number of points contained in the selected track. The ‘Colour’ data field displays the selected track’s colour. Clicking in this field invokes an ‘Edit Colour’ dialog box, simply click on the desired colour and then click ‘OK’ to accept the change or ‘Cancel’ to return to the ‘Edit Track’ dialog box.

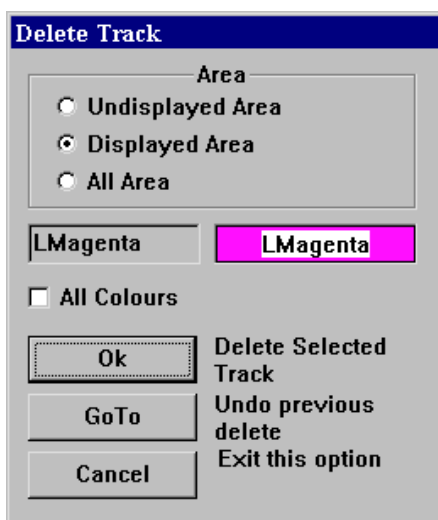
Clicking on the ‘Delete’ button will remove the selected track from the chart display. Clicking the ‘GoTo’ button will split the track at the selected point to become two separate tracks.

Click ‘OK’ to accept all modifications to the current track or ‘Cancel’ to return to ‘Track Select Mode’.

8.6 The ‘Track – Delete’ Function

The **Delete** function enables a track or group of tracks to be removed from the chart display according to the selection criteria. The selection criterion has two components, position and colour.

Access Sequences:



Press ‘Menu’ → 4 → 4



Press Alt+M → 4 → 4

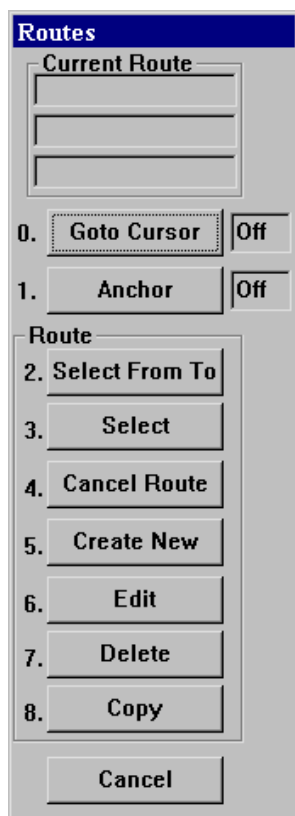
The **Area** section allows tracks to be selected according to position. Clicking in the colour data field invokes an ‘Edit Colour’ dialog box, allowing tracks to be selected by colour. Checking (☒) the ‘All Colours’ box will select all the tracks in the selected area.

Clicking 'OK' performs the delete operation on the tracks that meet the selection criteria. 'GoTo' reverses the previous 'Delete' operation performed on one or more tracks. 'Cancel' returns C-Plot to chart display mode.

9.0 Routes

9.1 The Routes Menu

A route is the desired path of the vessel. If an autopilot is connected to the system C-Plot can provide steering information to the autopilot so that the vessel will follow the route automatically. The **Route Menu** facilitates access to all C-Plot functions pertaining to routes. This menu can be accessed from the main chart display using any one of the following sequences.



Access Sequences:



→ → → 'Routes'



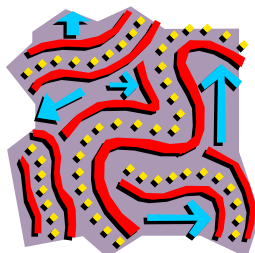
Press 'Menu' → 5



Press Alt+M → 5

Selecting a function from the **Routes Menu** is exactly the same as selecting a sub-menu from the **Main Menu**. Simply click the desired function with the mouse or choose its numbered prefix on the keyboard or C-Panel. Clicking 'Cancel' will return C-Plot to normal chart display mode.

The 'Current Route' section at the top of the **Routes Menu** displays information relating to the selected route. This information includes the name of the route, and the position of the current waypoint in the route to which the vessel is heading.



9.2 The ‘Routes - Goto Cursor’ Function

The **Goto Cursor** function enables a single waypoint to be placed using the cursor.

Access Sequences:



When this function is performed initially a ‘GOTO’ Bar appears at the bottom of the screen.

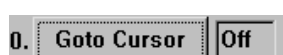
‘GOTO’ Bar:

GOTO. Position Cursor, Press SELECT

Simply position the cursor over the desired position of the waypoint on the chart and click the left mouse button. A waypoint will appear with a single route leg between the vessel’s current position and the waypoint (See figure 9.1). The **Route Menu** will show that **Goto Cursor** mode is ‘ON’ and the ‘Current Route’ section will display the position of the waypoint.



Selecting the **Goto Cursor** while it is ‘ON’ will disable **Goto Cursor** mode (i.e. Set it to ‘OFF’).



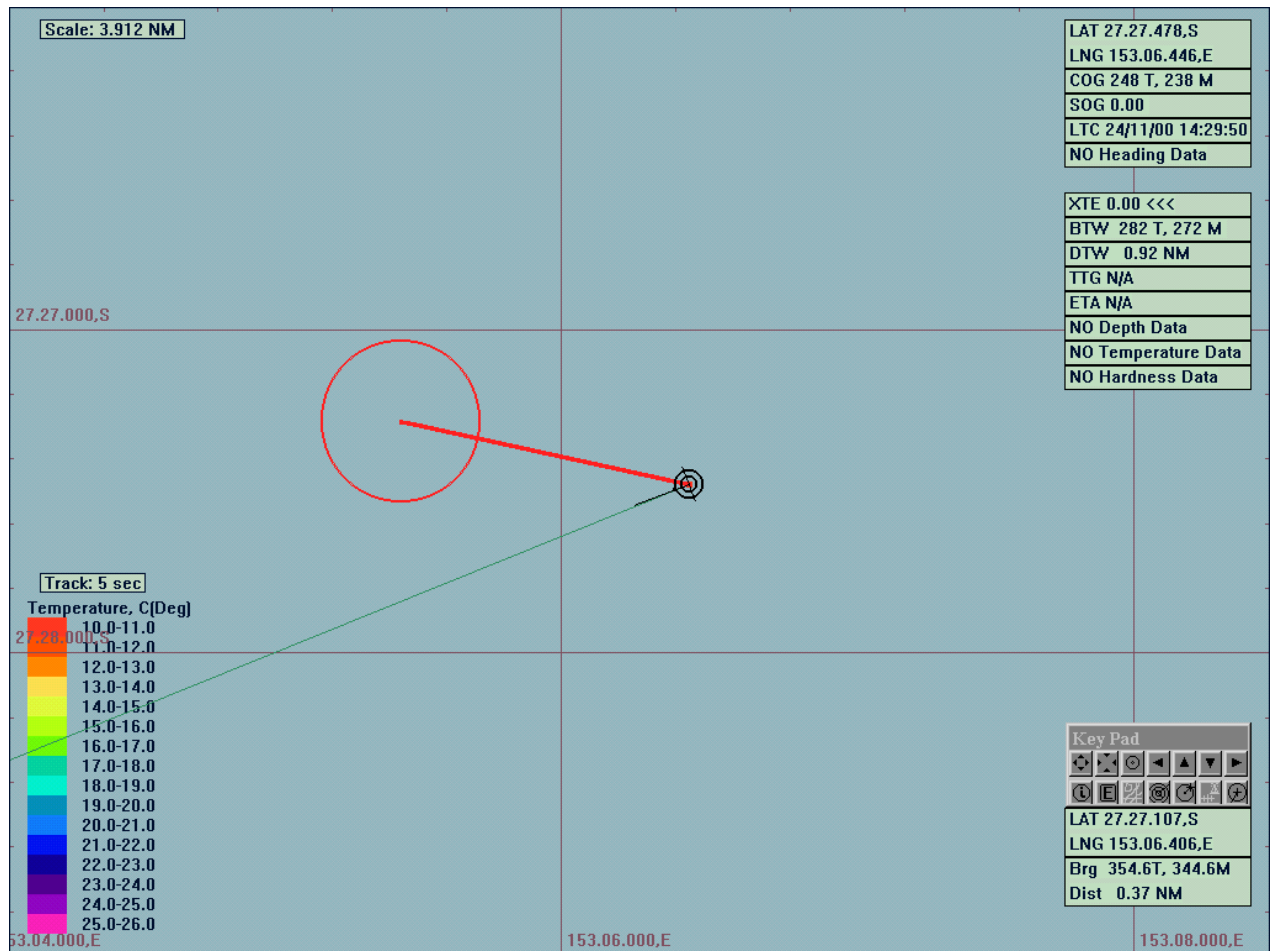


Figure 9.1

9.3 The 'Routes - Anchor' Function

The **Anchor** function sets C-Plot into **Anchor** mode.

Access Sequences:

  →  →  'Routes' →  'Goto Cursor'

 Press 'Menu' → 5 → 1

 Press Alt+M → 5 → 1

While in anchor mode an 'ANCHOR MODE' bar will appear at the bottom of the screen and a circular zone will be displayed on the main chart

display. This zone is the ‘Anchor Zone’ (See Figure 9.2). The size of the anchor zone can be set via the **Settings** menu (Section 10.6). While in **Anchor** mode, if the vessel strays outside of the ‘Anchor Zone’ an alarm will sound. To disable **Anchor** mode, simply click on the ‘Cancel’ button in the ‘ANCHOR MODE’ bar.

‘ANCHOR MODE’ Bar:

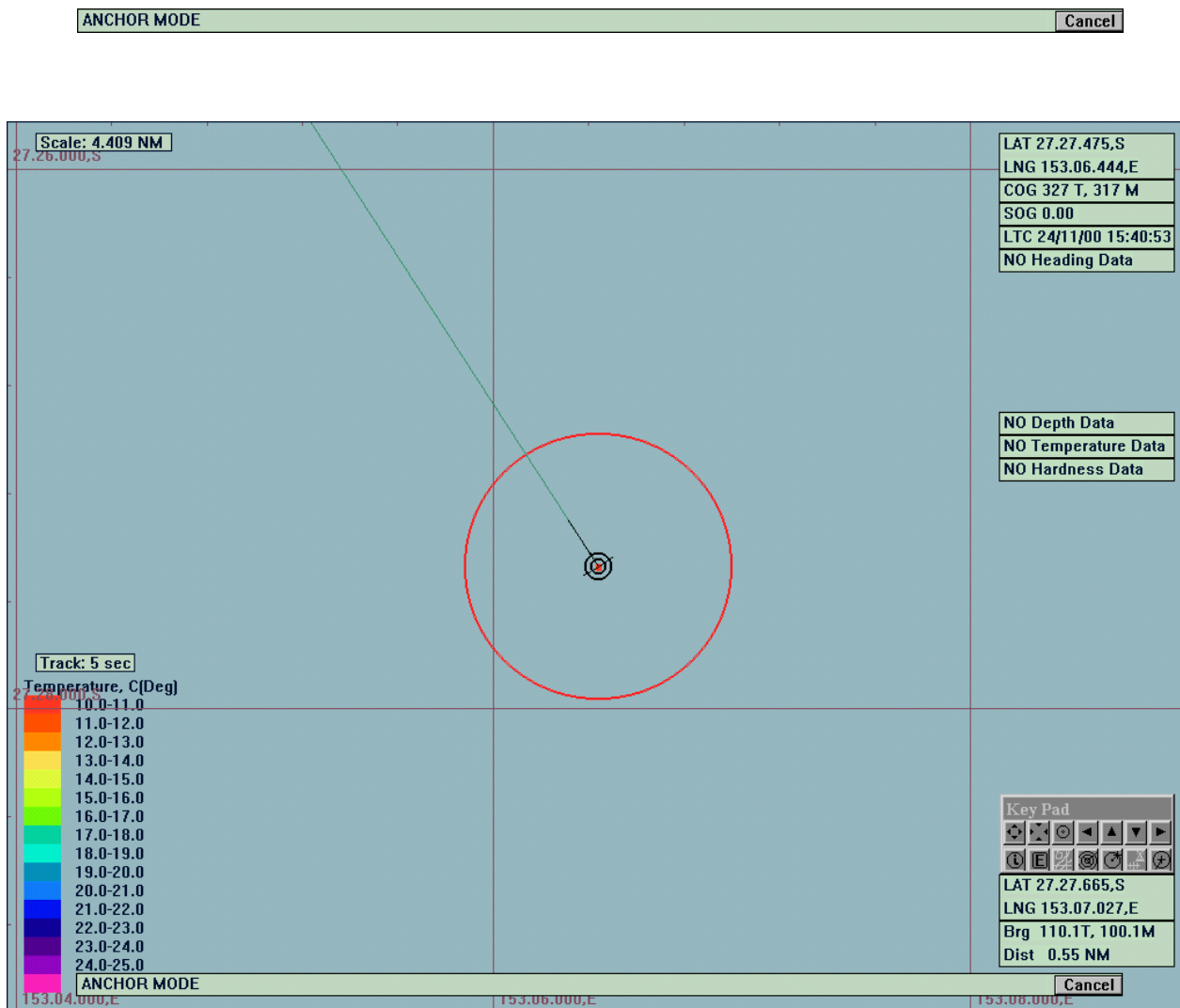


Figure 9.2

9.4 The ‘Routes – Select From To’ Function

The **Select From To** function enables a route, or portion of a route, to be traversed in either direction. This function also creates the first leg of the route between the vessel’s current position and the first chosen waypoint.

Access Sequences:



→ → 'Routes' → 'Select From To'



Press 'Menu' → 5 → 2



Press Alt+M → 5 → 2

Initially a 'Select Route' dialog box will be displayed. Select the desired route by clicking it, ensuring that it is highlighted, then click 'OK'. The desired route will now be displayed on the main chart display along with a 'SELECT START ROUTE WP' Bar at the bottom of the screen. Simply choose any waypoint on the route as the first waypoint to travel toward. Now a 'SELECT END ROUTE WP' Bar will appear at the bottom of the screen. Choose any waypoint on the route as the final waypoint.

After performing the above operations there are two details to notice:

1. The first leg of the route is from the vessel's current position to the first chosen waypoint.
2. The route will be traversed 'From' the first waypoint 'To' the last chosen waypoint, regardless of the initial route direction.

An example of the **Select From To** function can be seen in figure9.3.

'SELECT START ROUTE WP' Bar:

SELECT START ROUTE WP. Place Cursor on Start WP, Press SELECT, or CANCEL to Exit Cancel

'SELECT END ROUTE WP' Bar:

SELECT END ROUTE WP. Place Cursor on End WP, Press SELECT, or CANCEL to Exit Cancel

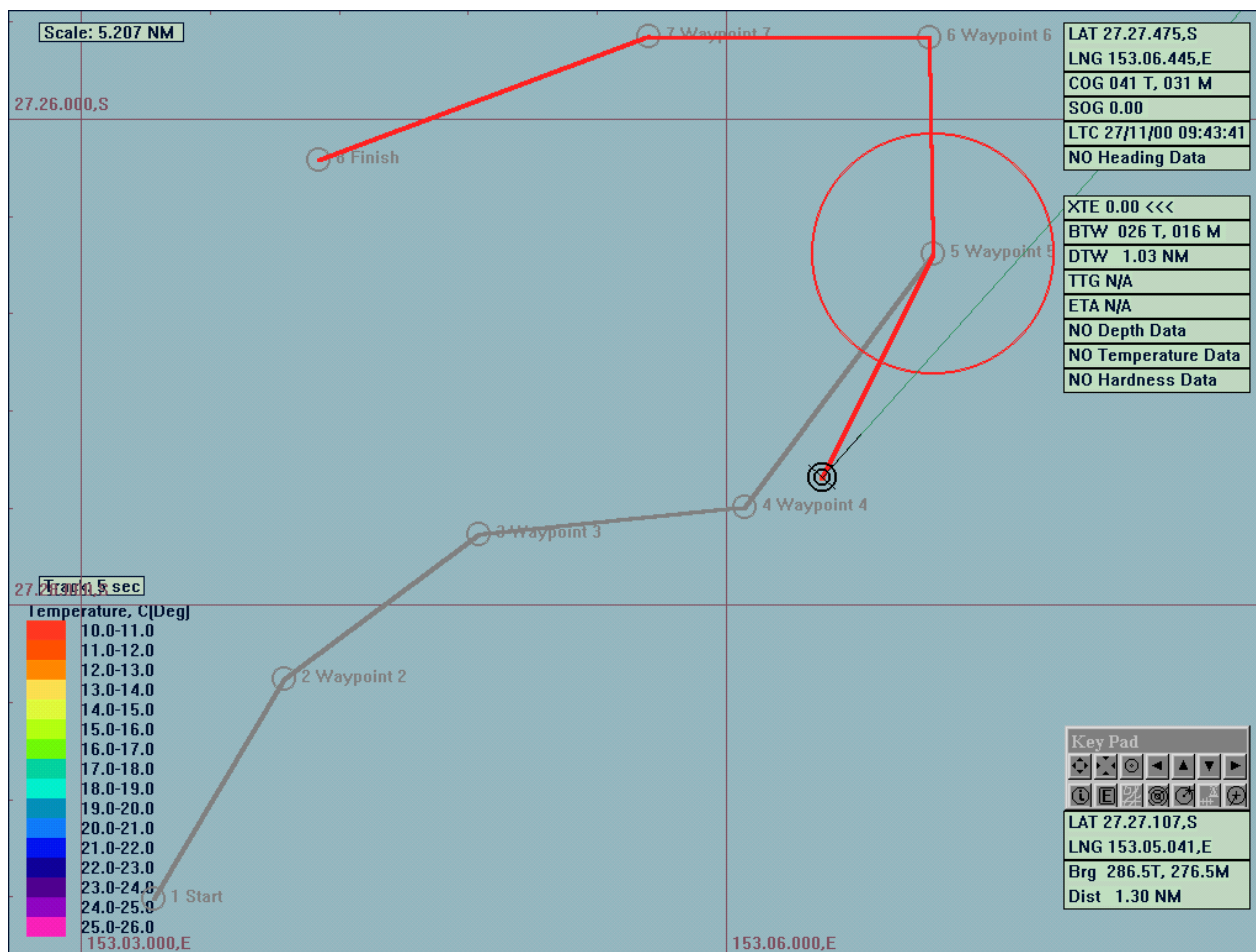







Figure 9.3

9.5 The 'Routes - Select' Function

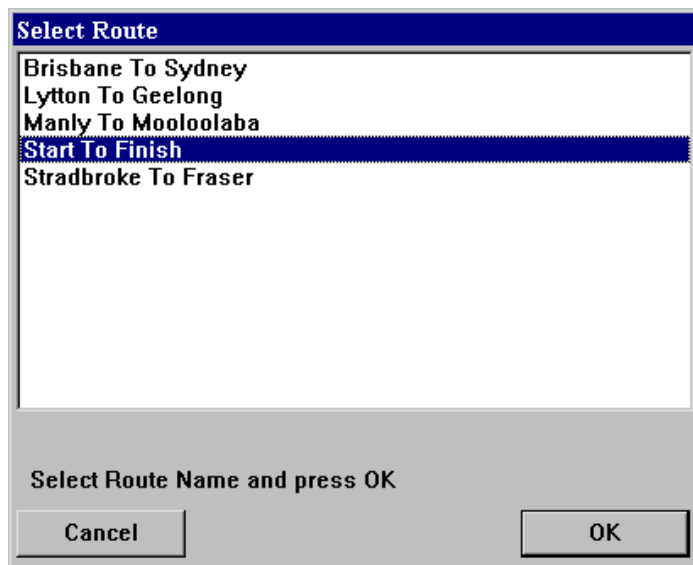
The **Select** function enables a route, or portion of a route, to be traversed in **ONLY** the forward direction. This function automatically selects the closest waypoint and includes the remainder of the forward route (See figure 9.4).

Access Sequences:

  →  →  'Routes' →  'Select'

 Press 'Menu' → 5 → 3

 Press Alt+M → 5 → 3



Initially a 'Select Route' dialog box will be displayed. Select the desired route by clicking it ensuring that it is highlighted, then click 'OK'. The selected route will now appear on the main chart display and C-Plot will automatically choose the closest waypoint in the forward direction as the first waypoint. The route will include all

waypoints from the automatically chosen one to the last waypoint.

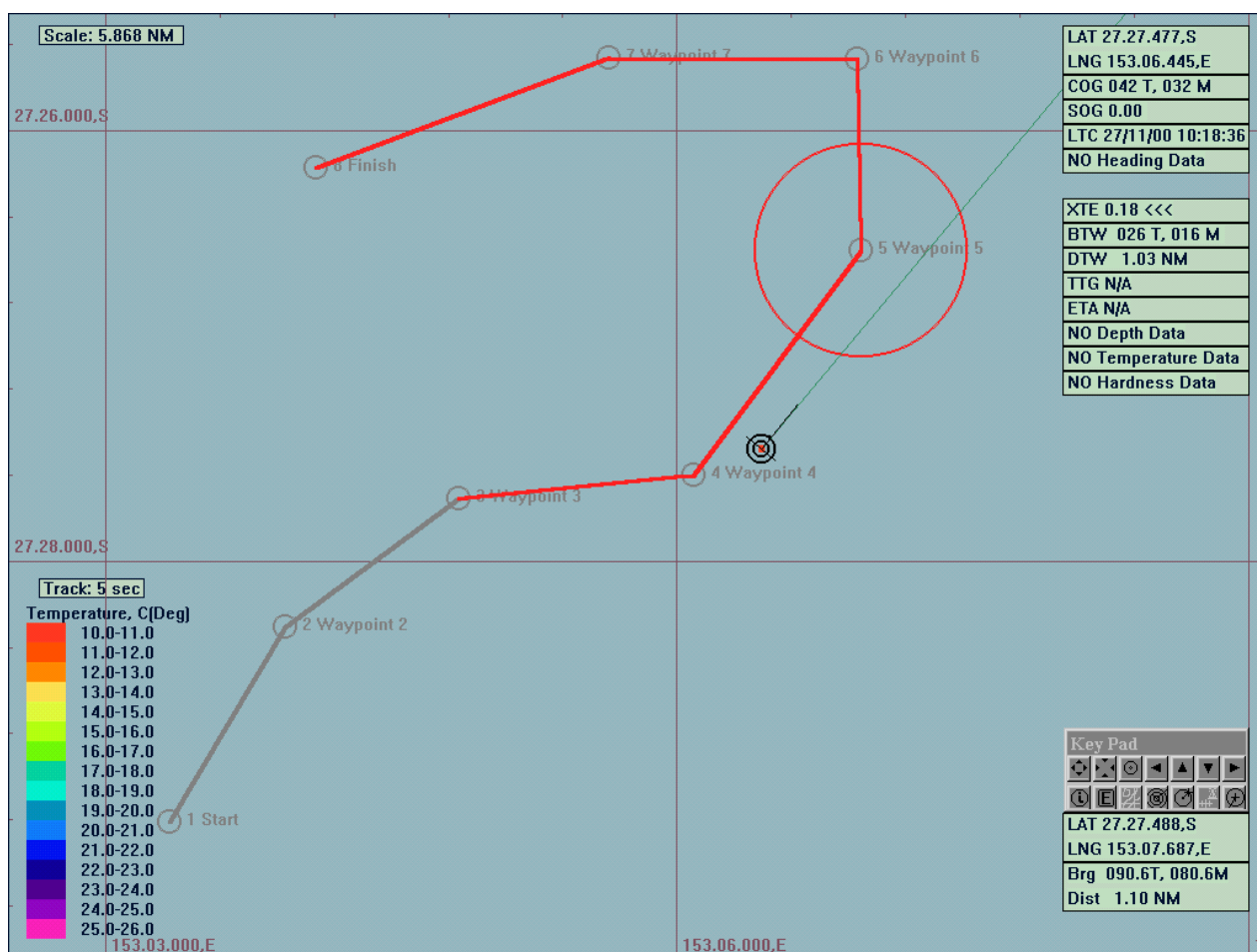


Figure 9.4

9.6 The 'Routes – Cancel Route' function

The **Cancel Route** function removes the currently selected route from the main chart display.

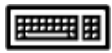
Access Sequences:



→ → 'Routes' → 'Cancel Route'



Press 'Menu' → 5 → 4



Press Alt+M → 5 → 4

9.7 The 'Routes – Create New' Function

The **Create New** function allows new routes to be entered into C-Plot.

Access Sequences:



→ → 'Routes' → 'Create New'



Press 'Menu' → 5 → 5

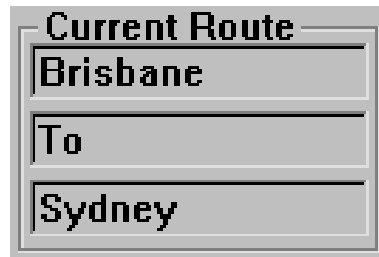


Press Alt+M → 5 → 5

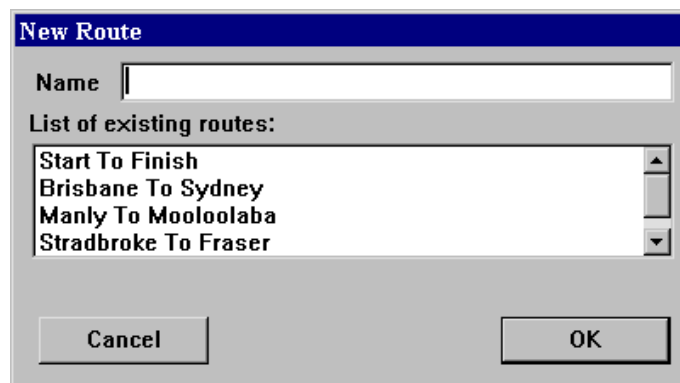
The first detail to be considered when creating a new route is its name. It is advised that the naming of a route abide by the following convention:

Start Point Name followed by the word 'To' then the Destination Name

For example: If the new route to be entered were from Brisbane to Sydney the appropriate route name would be – Brisbane To Sydney. Therefore when this route is selected, the name of the route will appear in the ‘Current Route’ area of the **Route Menu**.



To name the new route simply enter the desired name into the ‘Name’ field on the ‘New Route’ dialog box. A list of existing routes is provided so that identical route names can be avoided. Before entering the name for a new route it may be wise to check that the desired name for the new route isn’t already being used.



After choosing an appropriate name for the new route click ‘OK’, this will invoke an ‘ADD ROUTE’ Bar at the bottom of the screen. All that remains is to draw the route on the main chart display. To do this simply position the cursor over the point on the chart where a waypoint is desired and click the left mouse button. Continue adding ‘legs’ in this manner until all desired waypoints have been entered. Click ‘OK’ on the ‘ADD ROUTE’ bar to accept the new route or ‘Cancel’ to return to the main chart display without creating a new route.

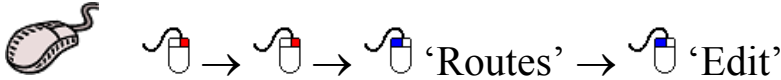
‘ADD ROUTE’ Bar:



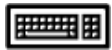
9.8 The 'Routes - Edit' Function

The **Edit** function enables existing routes to be modified.

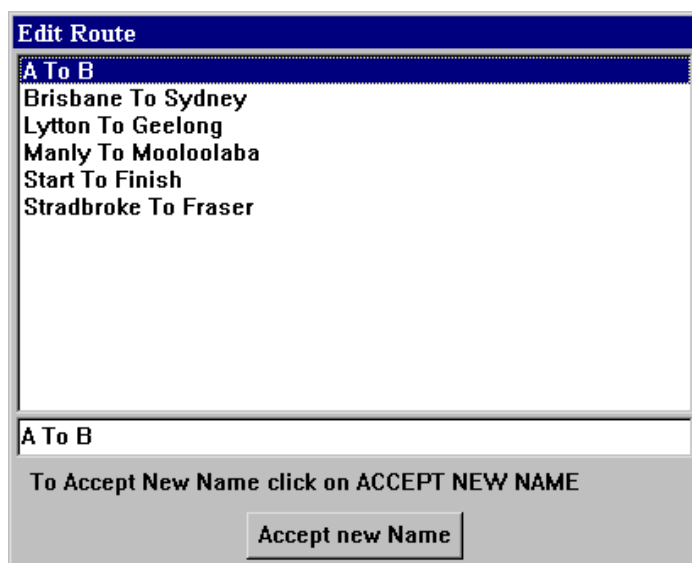
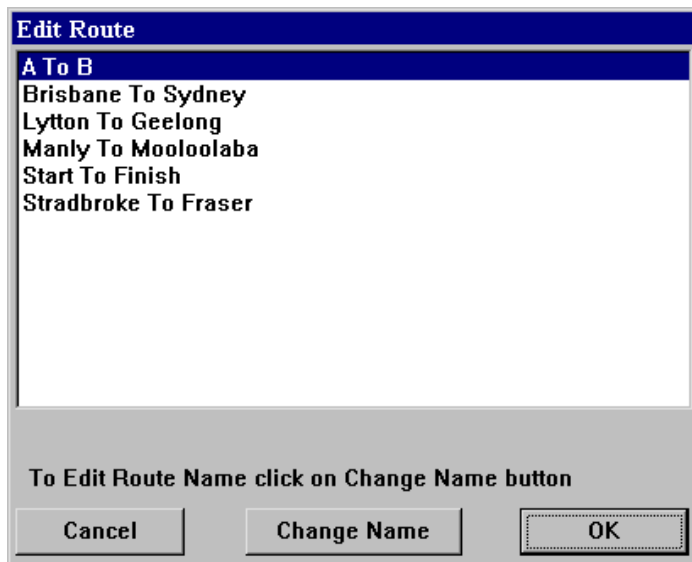
Access Sequences:



Press 'Menu' → 5 → 6



Press Alt+M → 5 → 6



Initially the **Edit** function invokes an 'Edit Route' dialog box. To select a route to modify, simply highlight the desired route and click 'OK'. Clicking cancel will return C-Plot to normal main chart display mode. If the name of the route is to be changed, this can be done from the 'Edit Route' dialog box by clicking on 'Change Name'. Enter the new name in the field provided and click 'Accept new Name'.

Once the desired route has been selected click 'OK' to continue editing. Clicking 'Cancel' will return C-Plot to normal chart display mode. Route editing is almost identical to line editing, consult **Point-by-Point** line editing (Section 6.3.1) for more

information on editing the selected route. The only notable difference between route editing and line editing is the ability to name each individual waypoint on the route. This information can be entered using the Route edit table shown in figure 9.5. To enter a name for a particular waypoint, select the ‘Name’ column of the point in the Route Table and enter the new name.

Route : Start To Finish						
	Number	Name	Lat	Lng	Brg (Deg)	Dist NM
1		Start	27 29.211 S	153 03.338 E		
2		Waypoint 2	27 28.306 S	153 03.946 E	30.8	1.055 NM
3		Waypoint 3	27 27.711 S	153 04.851 E	53.5	1.002 NM
4		Waypoint 4	27 27.599 S	153 06.089 E	84.2	1.106 NM
Points : 8			Point to Center		Total Distance: 7.978 NM	

Figure 9.5

9.9 The ‘Routes - Delete’ Function

The **Delete** function allows the selected route to be removed.

Access Sequences:



→ → ‘Routes’ → ‘Delete’

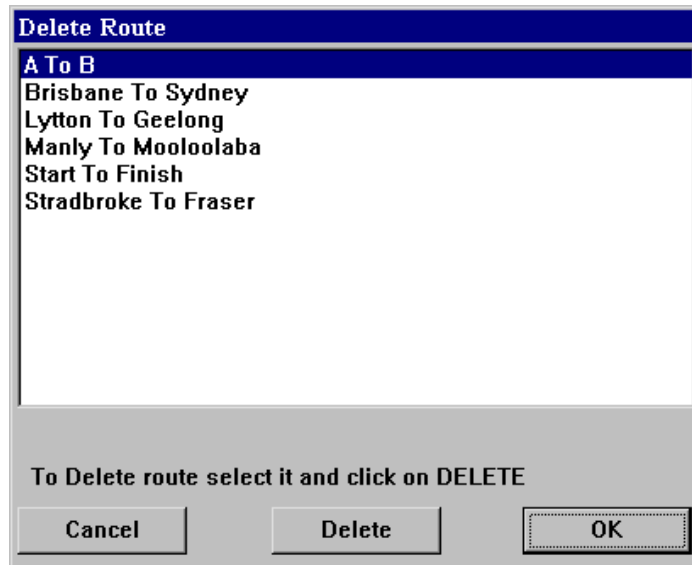


Press ‘Menu’ → 5 → 7



Press Alt+M → 5 → 7

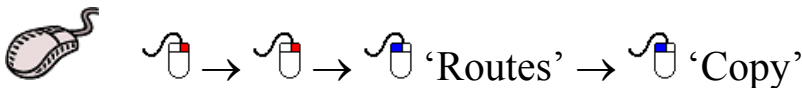
Simply select the route to be removed in the ‘Delete Route’ dialog box and click on the ‘Delete’ button. Clicking ‘Cancel’ will return C-Plot to normal chart display mode.



9.10 The 'Routes - Copy' Function

The **Copy** function allows Routes to be backed up on a floppy disk, or stored elsewhere on the computer's hard drive.

Access Sequences:

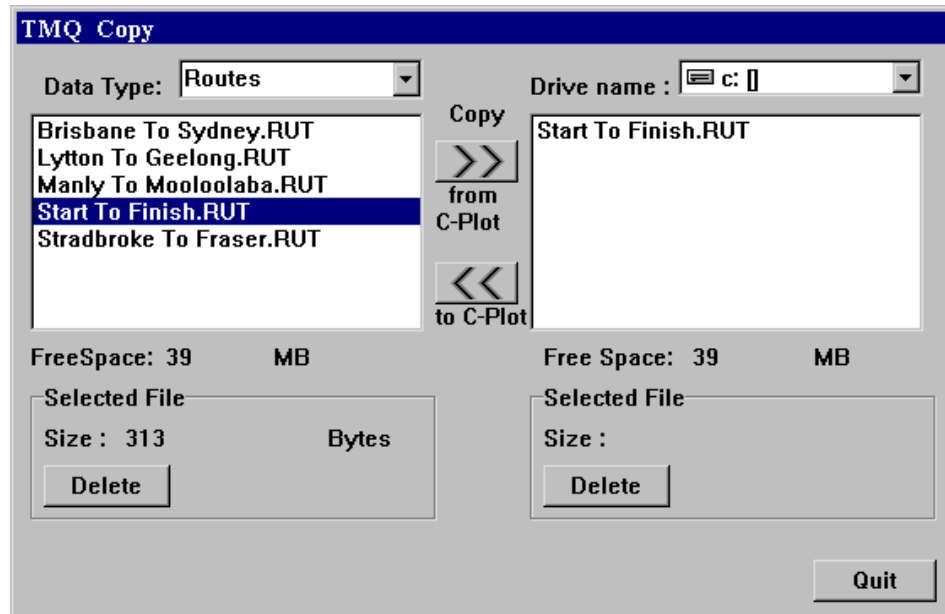


Press 'Menu' → 5 → 8



Press Alt+M → 5 → 8

The 'Data Type' is set to Routes and cannot be changed. The destination drive can be selected by use of the 'Drive name' drop down list. The list of files on the left-hand side of the dialog box shows the route files that are stored in C-Plot. The list on the right-hand side of the dialog box displays the files in the currently selected destination drive. The 'Free Space' parameters display the amount of unused disk space in both the C-Plot and destination drives. The selected file section outlines the size of the file selected and provides a button for deleting the selected file.



File Backup procedure:

1. Select the desired destination drive (Drive Name)
2. Select the file to be backed up from the left-hand list
3. Click the 'Copy from C-Plot' button (>>)
4. Repeat steps 3 & 4 until all desired files of this data type are backed up

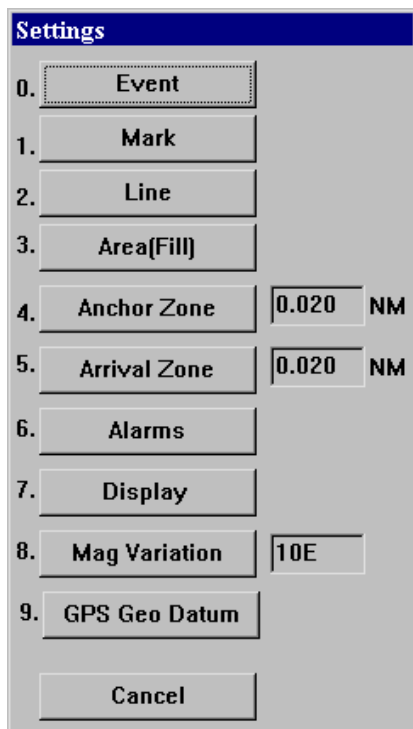
File Restoration procedure:

1. Select the desired Source drive (Drive Name)
2. Select the file to be restored from the right-hand list
3. Click the 'Copy to C-Plot' button (<<)
4. Repeat steps 3 & 4 until all desired files of this data type are restored

10.0 Settings

10.1 The Settings Menu

The **Settings Menu** facilitates access to all C-Plot function pertaining to the internal settings of C-Plot. Settings such as mark & event symbols, line & area colour, etc. can all be adjusted from this sub-menu. This menu can be accessed from the main chart display using any one of the following sequences.



Access Sequence:



→ → → 'Settings'.

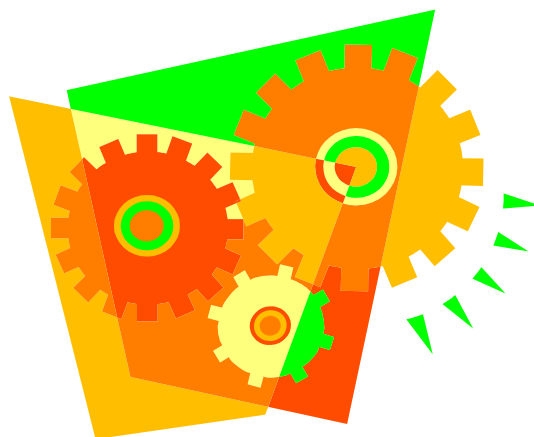


Press 'Menu' → 6



Press Alt+M → 6

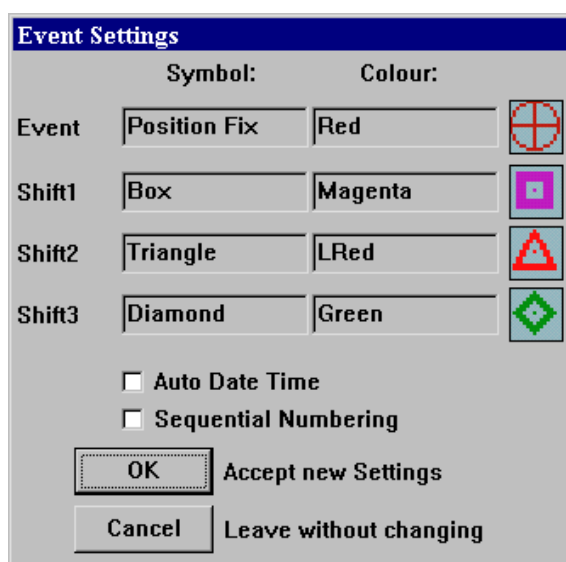
Selecting a function from the **Routes Menu** is exactly the same as selecting a sub-menu from the **Main Menu**. Simply click the desired function with the mouse or choose its numbered prefix on the keyboard or C-Panel. Clicking 'Cancel' will return C-Plot to normal chart display mode.



10.2 The 'Settings - Event' Function

The **Event** function enables the default settings for events to be modified.

Access Sequence:



The 'Event Settings' dialog box allows the 4 default symbol/colour combinations to be set. To change any of the symbols simply click in the appropriate symbol field to invoke a 'Symbol Edit' dialog box. To change any of the symbols colours simply click in the appropriate colour field to invoke a 'Colour Edit' dialog box.

The 'Auto Date Time' box allows the time and the date to be automatically entered into an event's information at the time of creation. To enable this feature simply 'check' the box (☒). If this box is unchecked (☐) this feature has been disabled. The 'Sequential Numbering' feature automatically numbers the events sequentially as they are created.

Click 'OK' to accept any changes to the event settings or 'Cancel' to return C-Plot to normal display mode without accepting the changes.

10.3 The 'Settings - Mark' Function

The **Mark** function enables the default settings for marks to be modified. These symbols appear in the 'ADD Mark' bar when adding marks at the cursor (See Section 5.2).

Access Sequence:



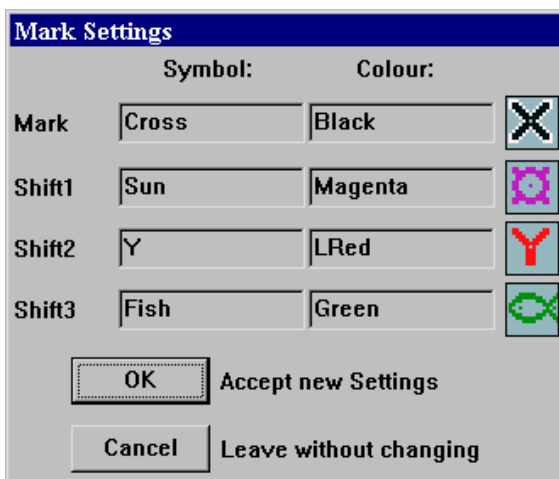
→ → 'Settings' → 'Mark'



Press 'Menu' → 6 → 1



Press Alt+M → 6 → 1



The 'Mark Settings' dialog box allows the 4 default symbol/colour combinations to be set. To change any of the symbols simply click in the appropriate symbol field to invoke a 'Symbol Edit' dialog box. To change any of the symbols colours simply click in the appropriate colour field to invoke a 'Colour Edit' dialog box.

Click 'OK' to accept any changes to the mark settings or 'Cancel' to return C-Plot to normal display mode without accepting the changes.

10.4 The 'Settings - Line' Function

The **Line** function allows the default line colour to be set.

Access Sequence:



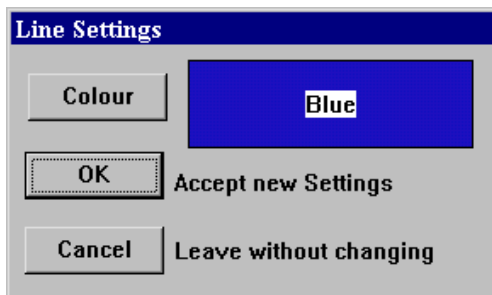
→ → 'Settings' → 'Line'



Press 'Menu' → 6 → 2



Press Alt+M → 6 → 2



To change the default colour of lines in C-Plot simply click the colour button. This will invoke an 'Edit Colour' dialog box. Click on the desired colour and then 'OK'. Clicking 'Cancel' will return to the 'Line Settings' dialog box. Click 'OK' on the 'Line Settings' dialog box to accept the line settings, or 'Cancel' to return C-Plot to normal chart display mode.

10.5 The 'Settings – Area (Fill)' Function

The **Area** function allows the default line colour to be set.

Access Sequence:



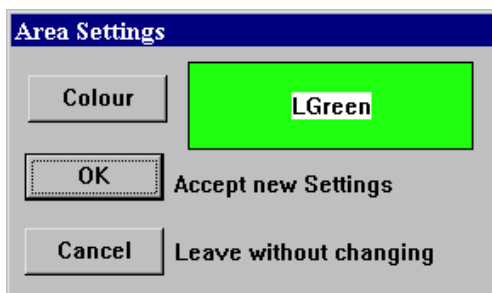
→ → → 'Settings' → → 'Area (Fills)'



Press 'Menu' → 6 → 3



Press Alt+M → 6 → 3



To change the default colour of areas in C-Plot simply click the colour button. This will invoke an 'Edit Colour' dialog box. Click on the desired colour and then 'OK'. Clicking 'Cancel' will return to the 'Area Settings' dialog box. Click 'OK' on the 'Area Settings' dialog box to accept the area settings, or 'Cancel' to return C-Plot to normal chart display mode.

10.6 The ‘Settings – Anchor Zone’ Function

The **Anchor Zone** function allows the radius of the anchor zone to be set. The anchor zone radius must be between 0.02NM and 10NM. The anchor zone size is used while in anchor mode (See Section 5.3).

Access Sequence:



→ → → ‘Settings’ → ‘Anchor Zone’



Press ‘Menu’ → 6 → 4



Press Alt+M → 6 → 4

The current radius of the anchor zone is shown next to the ‘Anchor Zone’ function access button in the settings menu.



When modifying the radius of the anchor zone an ‘Edit Value’ dialog box will be displayed. Simply enter the new anchor zone radius in the ‘New Data’ field and click ‘OK’ or ‘Cancel’ to leave the current radius.

Anchor Zone

Old Data: 10 NM

New Data: 0.02 NM

OK Accept new Data

Cancel Leave without changing

10.7 The ‘Settings – Arrival Zone’ Function

The **Arrival Zone** function allows the radius of the arrival zone to be set. The arrival zone radius must be between 0.02NM and 10NM. The arrival zone size is used when traversing a route; it is centered on each

waypoint in the route in turn. As the vessel enters an arrival zone C-Plot can be configured to issue an audible alert (See Section 10.8).

Access Sequence:

 →  →  'Settings' →  'Arrival Zone'

 Press 'Menu' → 6 → 5

 Press Alt+M → 6 → 5

The current radius of the arrival zone is shown next to the 'Arrival Zone' function access button in the settings menu.

5.

Arrival Zone	0.500	NM
--------------	-------	----

When modifying the radius of the arrival zone an 'Edit Value' dialog box will be displayed. Simply enter the new arrival zone radius in the 'New Data' field and click 'OK' or 'Cancel' to leave the current radius.

Arrival Zone		
Old Data:	<input type="text" value="10"/>	NM
New Data:	<input type="text" value="0.02"/>	NM
<div><div>OK</div><div>Accept new Data</div></div>		
<div><div>Cancel</div><div>Leave without changing</div></div>		

10.8 The 'Settings - Alarms' Function

The **Alarms** function allows the audible alerts included in C-Plot to be enabled or disabled.

Access Sequence:

 →  →  'Settings' →  'Alarms'



Press 'Menu' → 6 → 6



Press Alt+M → 6 → 6

Alarms		
0.	GPS	Off
1.	Vessel Passed	On
2.	Zone Entered	On
3.	Incorrect Dir	Off
4.	Time	Off
5.	Heading	Off
6.	Depth	Off
7.	Temperature	Off
8.	Hardness	Off
9.	External Alarm	On
OK		

The concept of setting the alarm parameters is straightforward. Simply clicking the appropriate function access button with the mouse, or inputting the numbered prefix using the C-Panel or keyboard can toggle each alarm parameter.

0. **GPS** – This alarm will be activated if GPS data is no longer being refreshed.
1. **Vessel Passed** – This alarm will be activated if the vessel passes through the final arrival zone on a selected route.
2. **Zone Entered** – This alarm will be activated when the vessel enters an arrival zone around a waypoint.
3. **Incorrect Direction** – This alarm will be activated if the vessel's heading is greater than 90° from the heading needed to reach the next waypoint.
4. **Time** – This alarm will be activated if Time data is no longer being refreshed.
5. **Heading** – This alarm will be activated if Heading data is no longer being refreshed.
6. **Depth** – This alarm will be activated if Depth data is no longer being refreshed.
7. **Temperature** – This alarm will be activated if Temperature data is no longer being refreshed.

8. **Hardness** - This alarm will be activated if Hardness data is no longer being refreshed.
9. **External Alarm** – This parameter enables or disables the External alarm on the C-Panel. The external alarm will be triggered when any of the above alarms have been activated.

Once the alarm parameters have been set click 'OK' to accept the settings.

10.9 The 'Settings - Display' Function

The **Display** function allows the items that are displayed in the Ship Position Data and the Input Data areas of the main chart display to be enabled or disabled.

Access Sequence:



Press 'Menu' → 6 → 7



Press Alt+M → 6 → 7

Display Settings		
0.	Time	On
1.	COG	On
2.	Heading	Off
3.	SOG	On
4.	Depth	Off
5.	Temperature	Off
6.	Hardness	Off
7.	Key Pad	On
8.	Chart Display	
OK		

Ship Position Data:

LAT 27.27.475,S
LNG 153.06.447,E
COG 063 T, 053 M
SOG 0.00
LTC 28/11/00 10:44:16
HDT 50.20

Input Data:

Depth 29.90 M
Temp 22.88 C
NO Hardness Data

Key Pad:









The concept of setting the display parameters is straightforward. Simply clicking the appropriated function access button with the mouse, or inputting the numbered prefix using the C-Panel or keyboard can toggle each display parameter.


10.9.1 The ‘Chart Display Settings’ Function

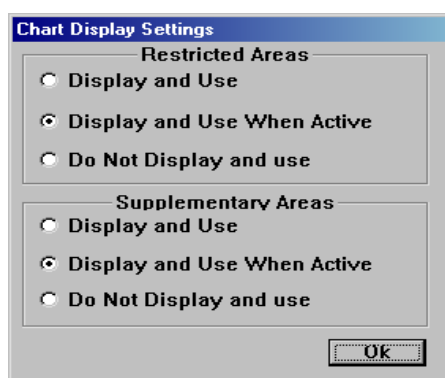
The **Chart Display** function allows the Special purpose areas that are displayed on top of the main chart to be enabled, activated or disabled.

Access Sequence:

  →  →  ‘Settings’ →  ‘Display’ →  ‘Chart Display’

 Press ‘Menu’ → 6 → 7 → 8

 Press Alt+M → 6 → 7 → 8



There are two types of Special Areas they are the following:

- Restricted Areas;
- Supplementary Areas;

Restricted Areas are semitransparent light red zones with special prohibition conditions like “Fishing Prohibited”, “Navigation Prohibited”, “Entry prohibited” etc.

Supplementary Areas are semitransparent non-red zones with special warning or information conditions like “Gear Trial Area”, “Assembly Area”, ”Transit Corridor” or “Daylight fishing area” etc.

If time interval(s) is specified for the object, it can be active and inactive according to current time (UTC) of displaying the object. If current time is inside of specified time interval it will be active otherwise inactive.

Difference between “Restricted Areas” and “Supplementary Areas” is that the “Restricted Area” object at “Display and Use” mode will be change its colour to yellow when it is inactive. Also when Restricted Area active C-Plot will produce verbal alarm “Zone Entered” and will bring a Alarm Message box.

If you as a skipper do not need any alarm warnings, let’s say your boat is pleasure boat or warning or you do not care about restrictions at al you can switch this alarm of by selecting in appropriate group box “Do not Display and use” option.

Below are shown a few examples of displaying such objects:

Chart Display Settings: Display and Use when active for both Restricted and Supplementary Areas. 26/05/2001 15:13

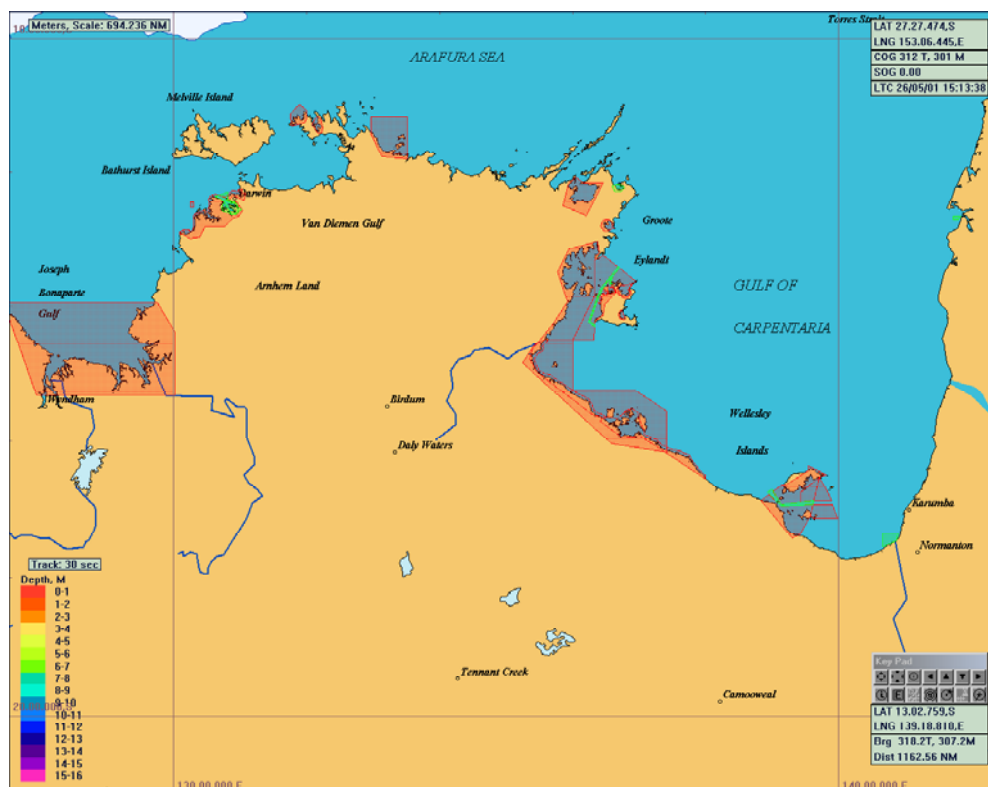


Chart Display Settings: Display and Use when active for both Restricted and Supplementary Areas. 28/05/2001 15:13.

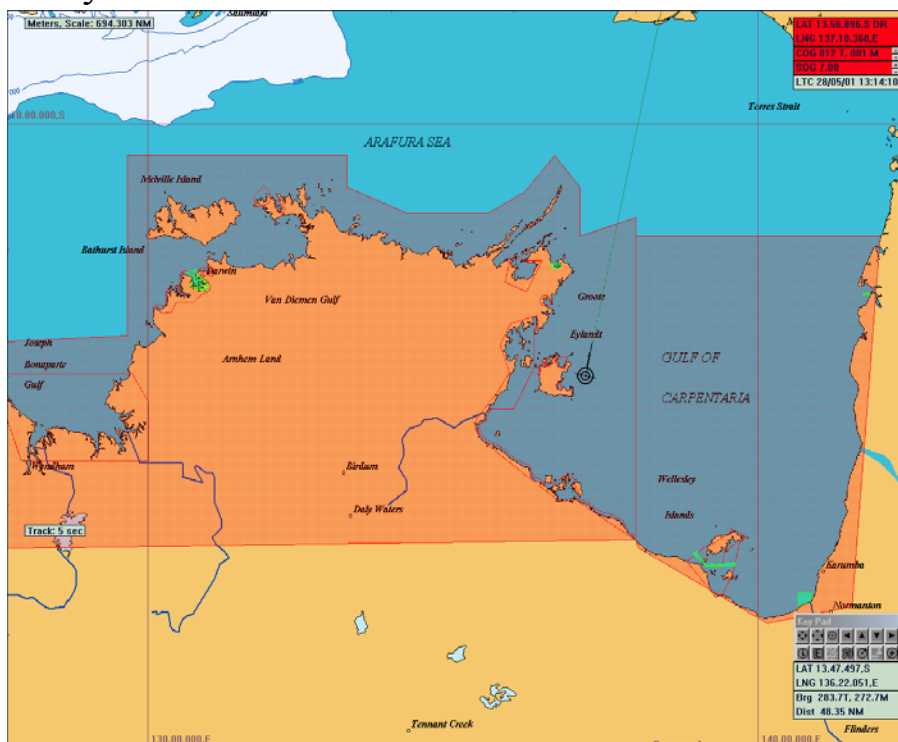


Chart Display Settings: Display and Use when active for both Restricted and Supplementary Areas. 1/04/2001 14:13. Entry to the Closure Area is prohibited in the area marked by green fishing and anchoring is prohibited.

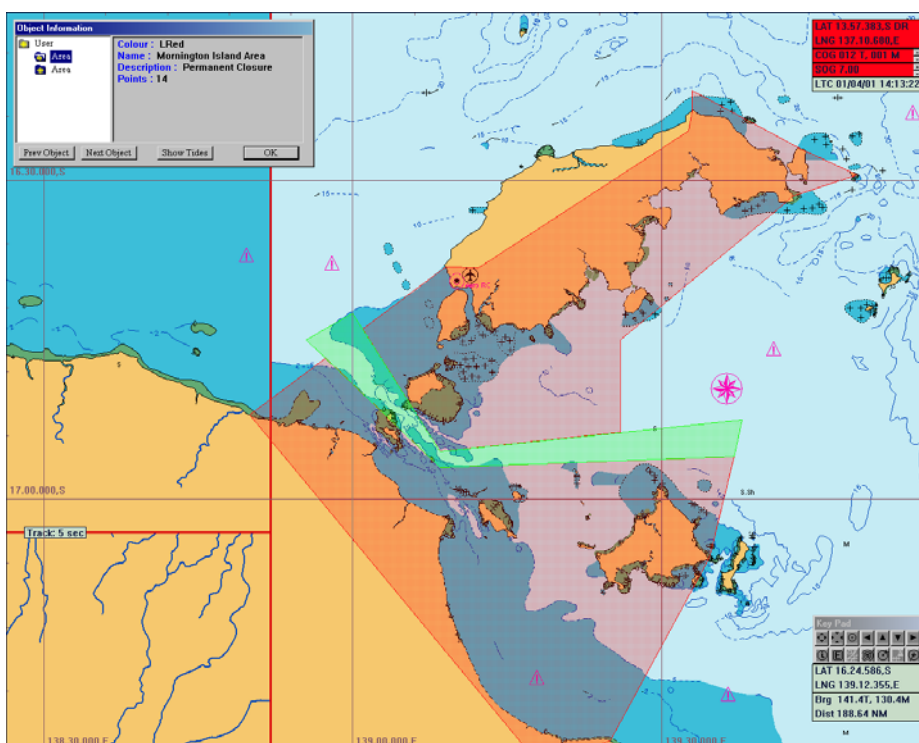


Chart Display Settings: Display and Use when active for both Restricted and Supplementary Areas. 1/04/2001 20:13. Night Time Warning. It means you can stay inside of Magenta Area but that time fishing is prohibited.

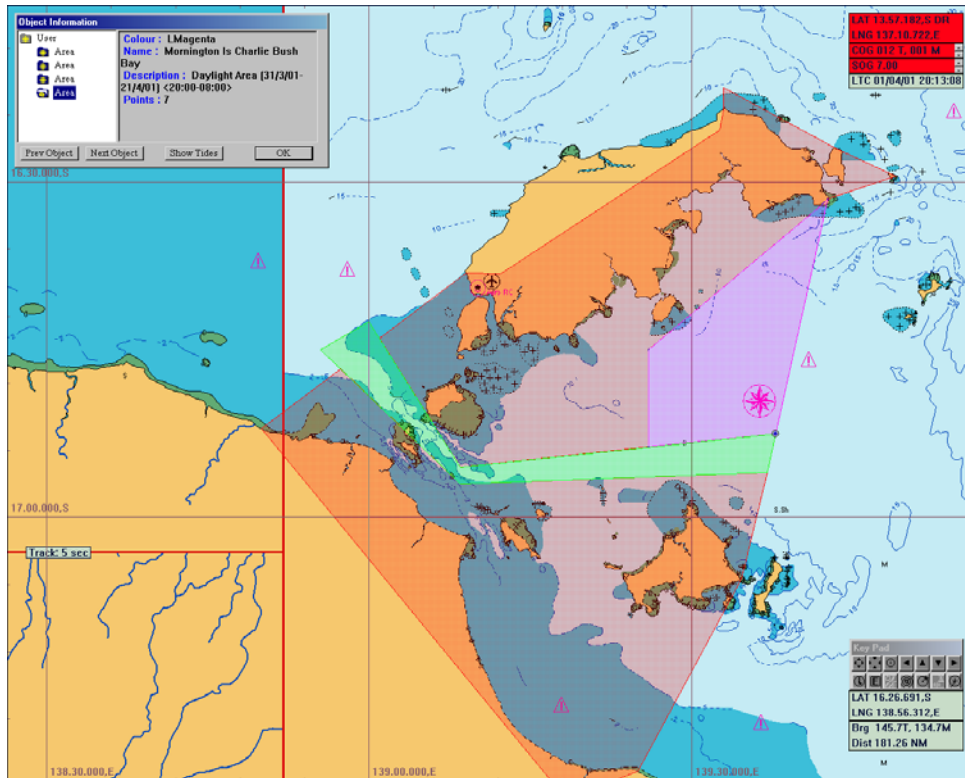


Chart Display Settings: Display and Use when active for both Restricted and Supplementary Areas. 1/04/2001 20:13

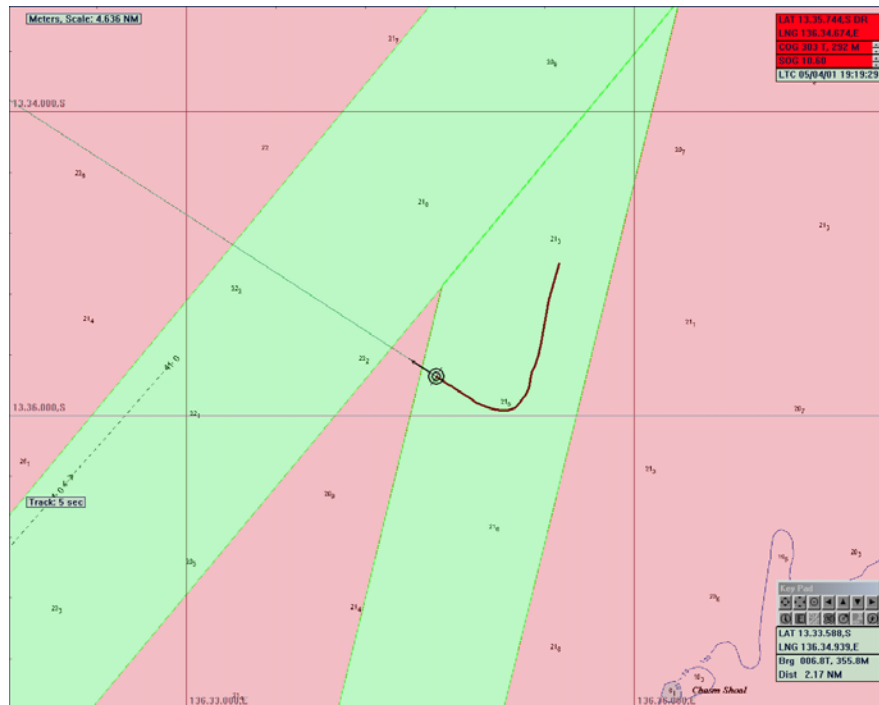
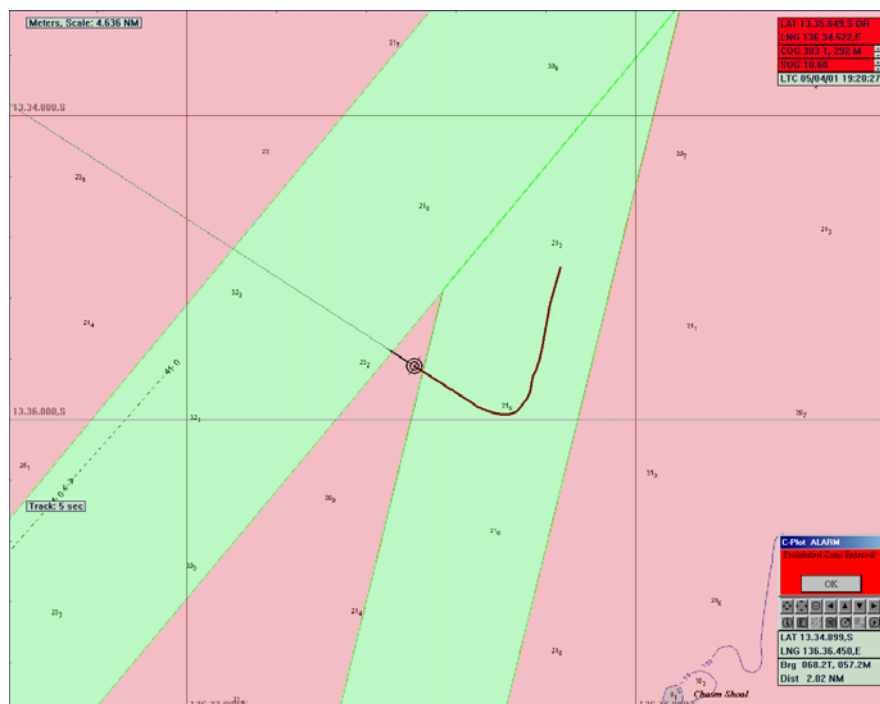


Chart Display Settings: Display and Use when active for both Restricted and Supplementary Areas. 1/04/2001 20:13. Alarm will appear when vessel occurs inside of restriction area.



10.10 The 'Settings – Magnetic Variation' Function

The **Magnetic Variation** function allows the magnetic variation used by C-Plot to be entered. This parameter can be set manually or automatically.

Access Sequence:



The current magnetic variation is shown next to the 'Mag variation' function access button in the settings menu.



The dialog box has a title bar 'Edit Magnetic Variation'. It contains two text input fields: 'Old Value:' with '10E' and 'New Value:' with '10E'. Below these are two buttons: 'OK' and 'Accept New'. Below those are 'Cancel' and 'Leave without Changing'. At the bottom is a section 'Use From' with two checkboxes: 'TMQ Chart' and 'External[NMEA 0183]Source'.

8. Mag Variation 10E

To modify the magnetic variation manually simply enter the desired value in the 'New Data' field and click 'OK'.

The magnetic variation can be extracted automatically from two sources:

- TMQ Charts
- An external (NMEA 0183) source

To set magnetic variation to be automatically extracted from either of these sources, simply check (☑) the appropriate box.

10.11 The 'Settings – Geodetic Datum' Function

The **Geodetic Datum** function allows the geodetic datum settings used by C-Plot to be modified.

Access Sequence:



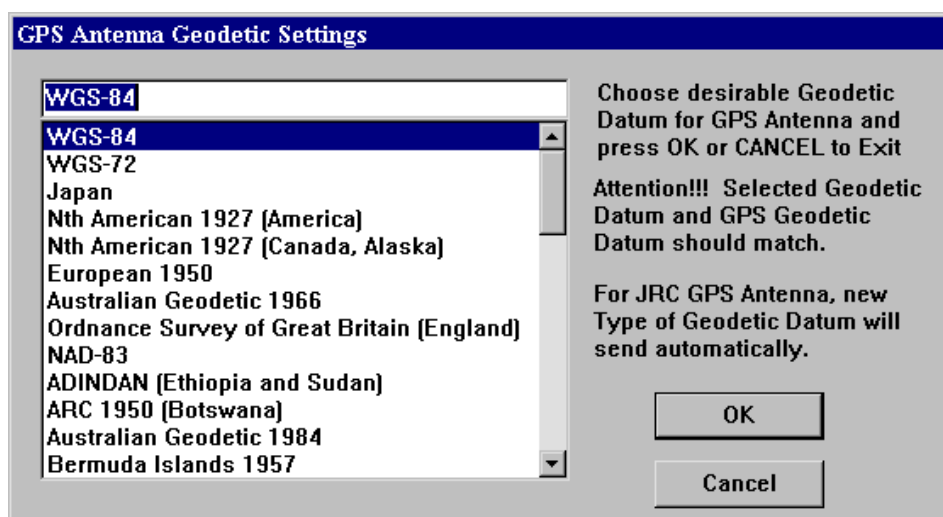
→ → → 'Settings' → → 'GPS Geo Datum'



Press 'Menu' → 6 → 9



Press Alt+M → 6 → 9



To modify the geodetic datum, choose the desired type so that it appears in the topmost data field then click 'OK'. Clicking 'Cancel' will return C-Plot to normal chart display mode.

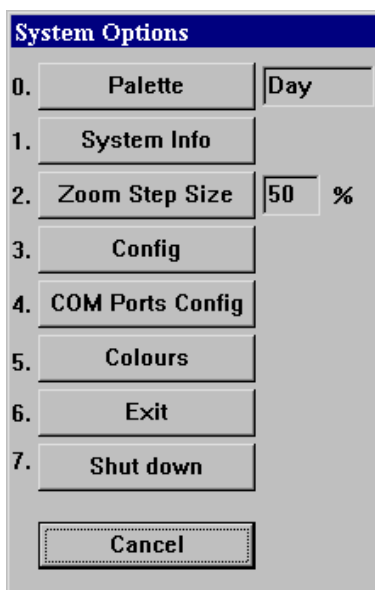


For certain JRC GPS antennas any change in the geodetic datum will be automatically conveyed to the antenna. For this feature to operate effectively the C-Com Communications Server should have its Output configuration set correctly (See Section 11.6).

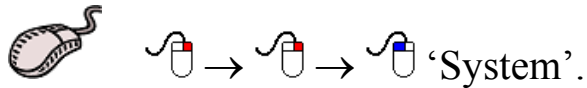
11.0 System

11.1 The System Menu

The **System Menu** allows the system settings to be adjusted; these include the colour palette, Zoom step size, C-Plot configuration, and communications port configuration. It is also possible to 'Exit' C-Plot or 'Shutdown' the computer via this sub-menu. The **System Menu** can be accessed using any one of the following sequences.



Access Sequences:



Selecting a function from the **System Menu** is exactly the same as selecting a sub-menu from the **Main Menu**. Simply click the desired function with the mouse or choose its numbered prefix on the keyboard or C-Panel. Clicking 'Cancel' will return focus to the **Main menu**.



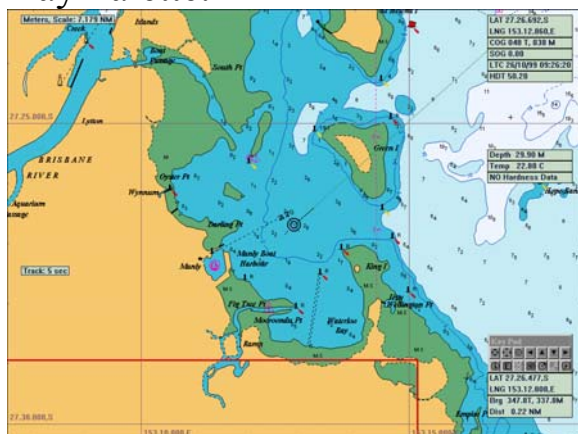
11.2 The 'System - Palette' Function

The **Palette** function enables the colour scheme of the overall main chart display to be altered, depending the amount of ambient light. The palettes are named according to what time of the day they should be used.

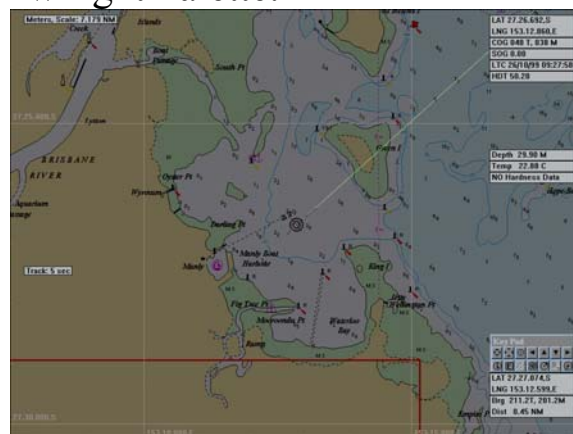
Access Sequences:



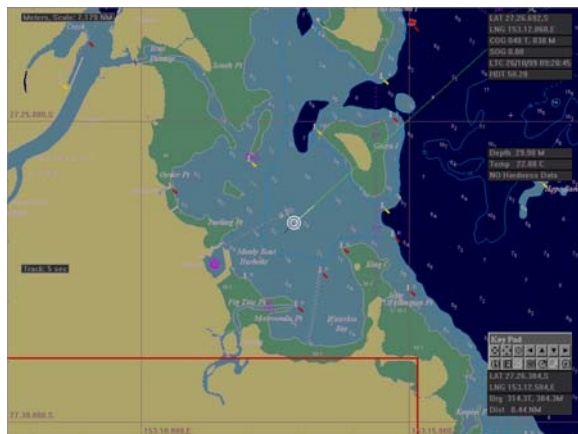
Day Palette:



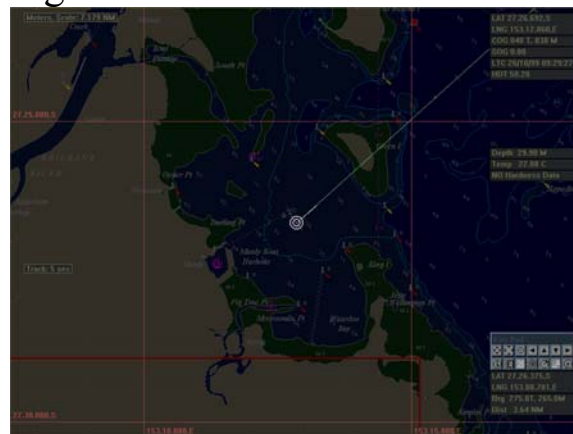
Twilight Palette:

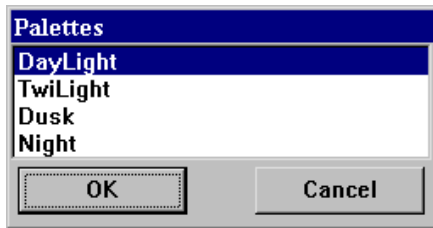


Dusk Palette:



Night Palette:





To change the current colour palette, simply highlight the desired palette and click 'OK'. Clicking 'Cancel' will return C-Plot to normal chart display mode, without changing the palette.

11.3 The 'System – System Info' Function

The **System Info** function displays the current resources of the system and the extent to which they are being used.

Access Sequences:



→ → → 'System' → 'System Info'



Press 'Menu' → 7 → 1



Press Alt+M → 7 → 1

System Information			
Number of TMQ Data Points:	0		
Number of User Data Points:	21		
Number of Mark Points:	163		
Number of Track Points:	4757		
TMQ Chart Loaded:			
User Chart Loaded:	Example		
Mark Chart Loaded:	Example		
Track Chart Loaded:	Example		
Memory in use:	35	%	
	Total	Available	
Physical Memory:	196088	90192	KB
Page File Size:	313600	313600	KB
Virtual Memory:	2093056	2046336	KB
OK			

Reading the information displayed in this dialog box is straightforward. Once the required information has been noted, click 'OK' to return C-Plot to normal chart display mode.

11.4 The ‘System – Zoom Step Size’ Function

The **Zoom Step Size** function enables the amount of zoom per zoom button press, to be set. The default value for the step size is 50%.

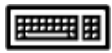
Access Sequences:



→ → ‘System’ → ‘Zoom Step Size’



Press ‘Menu’ → 7 → 2



Press Alt+M → 7 → 2

The current zoom step size is shown next to the ‘Zoom Step Size’ function access button in the settings menu.

2. Zoom Step Size 50 %

When modifying zoom step size an ‘Edit Value’ dialog box will be displayed. Simply enter the zoom step size in the ‘New Data’ field and click ‘OK’ or ‘Cancel’ to leave the current zoom step size.

The 'Edit Value' dialog box has a title bar 'Edit Value'. It contains two input fields: 'Old Data:' with the value '50' and a '%' symbol, and 'New Data:' with the value '50' and a '%' symbol. Below the fields are two buttons: 'OK' and 'Cancel'. To the right of the 'OK' button is the text 'Accept new Data', and to the right of the 'Cancel' button is the text 'Leave without changing'.



Zoom Step Size cannot be modified when using HCRF Charts.

11.5 The 'System - Config' Function

The **Config** function enables the system settings of C-Plot to be configured.

Access Sequences:

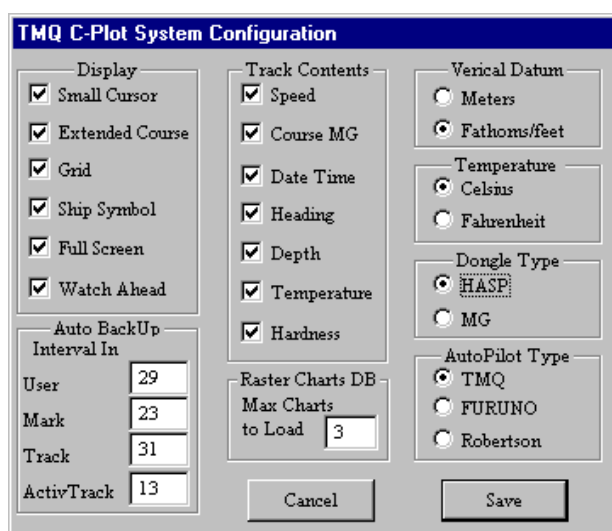



Figure 11.1

There are a number of system settings that can be configured in C-Plot. These are logically grouped into several sections, each of which will be discussed in turn.

 *The Time Offset, between GMT and Local time, can bet set by clicking on the Time field in the 'Ship Position Data' section of the main display. Simply highlight the hour or minute field in the 'Set New Time Offset' dialog box, and either input the new data via the keyboard or the up/down*

arrows in the box. Click 'OK' to accept the changes or 'Cancel' to return C-Plot to normal chart display mode, without changing.



11.5.1 The 'Track Contents' Section

The **Track Contents** section determines what parameters are saved to disk at each point on a track. Checking any of the boxes in this section will include the associated information in each saved track point. Types of information that can be included are:

- | | |
|---------------|---------------|
| ✓ Speed | ✓ Depth |
| ✓ Course | ✓ Temperature |
| ✓ Date & Time | ✓ Hardness |
| ✓ Heading | |

11.5.2 The 'Display' Section

The **Display** section enables certain aspects of the main chart display to be altered.

1. **Small Cursor** – This check box toggles the size of the cursor. When this box is checked (☒) the cursor appears a small crosshair (This is the default setting). When this box is unchecked (☐) the cursor appears as a large crosshair with its horizontal and vertical lines extending to the edge of the screen.
2. **Extended Course** – When this box is checked (☒) the extended course line will be displayed. When this box is unchecked (☐) the extended course line will not be displayed.
3. **Grid** – This checkbox toggles the Lat/Long grid display. When this box is checked (☒) the Lat/Long grid will be displayed. When this box is unchecked (☐) the Lat/Long grid will not be displayed.
4. **Ship Symbol** – This checkbox toggles the ship symbol display. When this box is checked (☒) the ship symbol will be displayed.

When this box is unchecked (☐) the ship symbol will be displayed as a flashing dot.

5. **Full Screen** - This checkbox toggles Full Screen mode. When this box is checked (☒) full screen mode will be enabled. When this box is unchecked (☐) full screen mode will be disabled.
6. **Watch Ahead** - This checkbox toggles Watch Ahead mode. Watch ahead mode positions the vessel on the screen in such a way as to display more of the chart in front of the vessel (i.e. If the vessel is heading due north, the position of the vessel on the screen will be closer to the bottom, rather than center. Therefore the displayed chart will show more of the chart 'ahead' of the vessel than it does behind the vessel.). While in 'Watch Ahead' mode any attempt to center the vessel will result in the vessels position moving toward the opposite edge of the screen to which the vessel is headed.

11.5.3 The 'Raster Charts DB' section

This section allows the amount of charts loaded into memory to be entered. The larger the number of charts in memory the less memory is available for other functions, however loading charts will be quicker. The default value for this parameter is 3.

11.5.4 The 'Auto BackUp' Section


The 'Auto BackUp' section allows the time interval between saving particular types of file to be entered. The unit for the time interval is minutes. The types of files that can be set to back up automatically are:

- User Chart
- Mark Chart
- Track File
- Active Track File

For Example: To set user charts to back up every half hour, enter '30' (minutes) in the 'User' data field.

11.5.5 The ‘Vertical Datum’ Section

This section allows the units for vertical datum, such as depth, to be configured. Simply click on the desired unit.

 *If the vertical datum units are set to fathoms the colour of the land area on C-Map charts will change to Grey.*

11.5.6 The ‘Temperature’ Section

This section allows the units for temperature to be configured. Simply click on the desired unit.

11.5.7 The ‘Dongle Type’ Section

This section allows the type of dongle being used as the security key to be configured. Simply click on the appropriate dongle type.

11.5.8 The ‘Autopilot Type’ Section

This section allows the type of autopilot that is connected to the system to be configured. Simply click on the appropriate autopilot from the types given.

11.6 The ‘System - Com Ports Config’ Function






The **Com Ports Config** function allows for the configuration of input and output data that is connected to the computer’s communications ports. This function invokes a Communications Server called ‘C-Com’. C-Plot is a ‘C-Com Enabled’ application, which means that this server is not a part of C-Plot, its simply used by C-Plot to access the communications ports of the computer.

Please refer to Appendix B, Page 149



TMQ C-Com (Communications Server)

Access Sequences:

  →  →  'System' →  'Com Ports Config'






 Press 'Menu' → 7 → 4

 Press Alt+M → 7 → 4

11.7 The 'System - Colour' Function

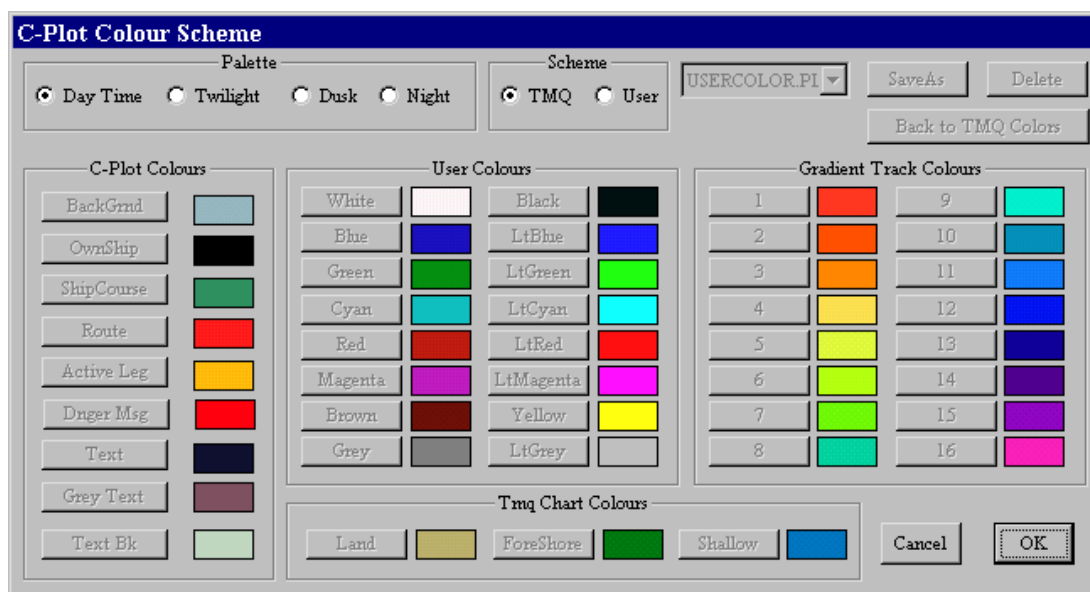
The **Colour** function enables a number of colour palettes used by C-Plot to be customized.

Access Sequences:

  →  →  'System' →  'Colours'

 Press 'Menu' → 7 → 5

 Press Alt+M → 7 → 5



The 'C-Plot Colour Scheme' dialog box is divided into a number of different sections, each of which will be described in turn. Once the desired changes have been made click 'OK' to accept the changes, or 'Cancel' to return to normal display mode without accepting the changes.

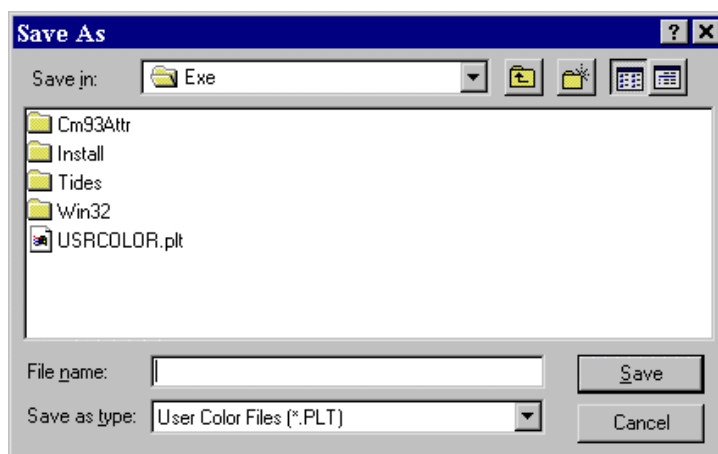
11.7.1 The 'Palette' Section

The **Palette** section allows a particular palette to be chosen for customization. To choose a palette to modify, simply click the appropriate circular selector.

11.7.2 The 'Scheme' Section

The **Scheme** section allows a particular colour scheme to be imposed. In order to customize the colour scheme the 'User' circular selector should be chosen. The colour scheme can be set back to the default scheme at any time, simply by choosing the 'TMQ' circular selector.

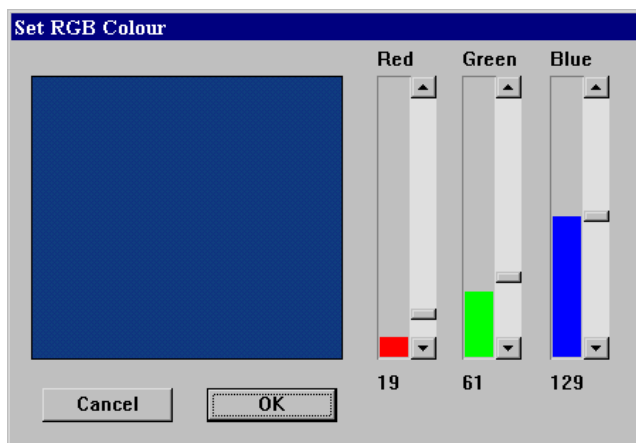
 *The 'TMQ' colour scheme **cannot** be changed. Only 'User' colour schemes can be customized.*



The drop down list to the right of the scheme section contains a list of currently saved user palettes. To select an existing user palette simply choose it from this list. The 'Save As' button allows the currently customized palette to be saved to disk. After clicking this button a 'Save As' dialog box will appear, simply choose the desired location, enter the

name of the new scheme and click 'OK'. The 'Delete' button removes the currently selected scheme from the disk. The 'Back To TMQ Colours' button changes the colour scheme back to the default TMQ scheme.

11.7.3 The 'Edit Colour' Dialog Box



All colours are modified using the 'Set RGB Colour' dialog box. The 'Red', 'Green' and 'Blue' bars represent the amount of these colours that are used to generate the colour shown in the colour preview square. These bars can be modified in two ways. The first method is to click on the up and down arrows of the

bar until the desired level is achieved. Another method for modifying the level of these bars is to drag the level position indicator to the desired level. Once the desired colour appears in the colour preview box click 'OK' to accept the new colour or 'Cancel' to leave accepting the new colour.

11.7.4 The 'C-Plot Colours' Section

The **C-Plot Colours** section allows the look of the C-Plot display areas and controls to be customized. Each of these areas is described below.

- ⌘ **BackGrnd** – This colour represents the background colour of the chart (i.e. the colour of normal water).
- ⌘ **OwnShip** – This colour represents the colour of the ship symbol used to show the vessel's position on the chart.
- ⌘ **ShipCourse** – This colour represents the colour of the course line.
- ⌘ **Route** – This colour represents the colour of a route when it is displayed on the chart.
- ⌘ **Active Leg** – This colour represents the colour used to signify the active leg of a route.
- ⌘ **Danger Msg** – This colour represents the colour of the 'Danger' dialog box that appears above the keypad.
- ⌘ **Text** – This colour represents the colour of the text that appears in the Ship Position Data, Input Data, and etc. areas.

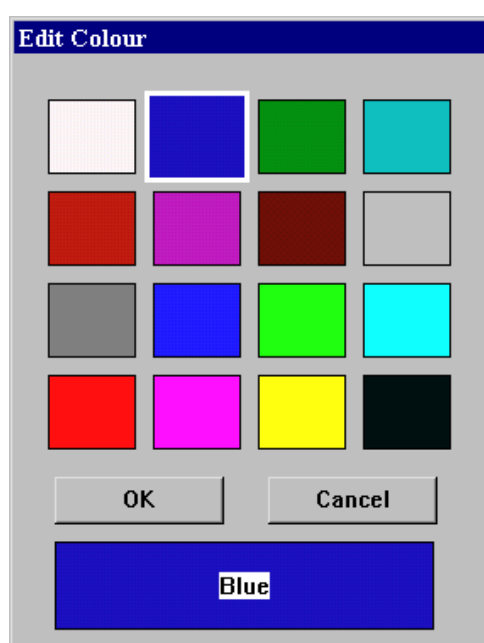
-
- ⌘ **Grey Text** – This colour represents the colour of the text and lines used to display the Lat/Long grid.
 - ⌘ **Text Bk** – This colour represents the colour of the background in the Ship Position Data, Input Data, and etc. areas.

11.7.5 The ‘User Colours’ Section

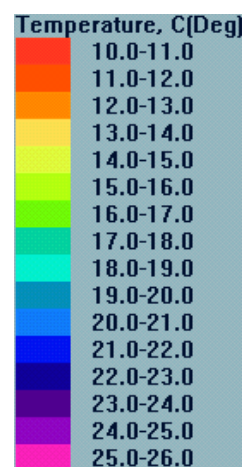
The **User Colours** section allows the selection of colours that appear in the ‘Edit Colour’ dialog box, to be modified. (See Figure 11.1)

11.7.6 The ‘Gradient Track Colours’ Section

The **Gradient Track Colours** section allows the colours that appear in the ‘Track Colour Table’ to be modified. (See Figure 11.1)



‘Edit Colour’ Dialog Box



Track Colour Table

Figure 11.1

11.7.7 The ‘TMQ Chart Colours’ Section

The **TMQ Chart Colours** section allows the colour of the land, the foreshore and shallow regions on TMQ charts, to be customized.

11.8 The ‘System – Exit’ Function

The **Exit** function will end the C-Plot application. A dialog box will appear confirming this function. To end C-Plot click ‘Yes’ to continue using C-Plot click ‘No’. This function can also be accessed via the Alt+X shortcut key.

11.9 The ‘System - Shutdown’ Function

The **Shutdown** function will end the C-Plot application and shutdown the computer. To end the C-Plot application without shutting the computer down choose the **Exit** function (Section 11.8).

12.0 Object Data

12.1 The Object Information Box

The Object Information box enables any C-MAP or TMQ objects to be questioned these include the colour, name, comments and any other information available. The cursor requires to be placed over the object in question then the object information box can be invoked.

Access Sequences

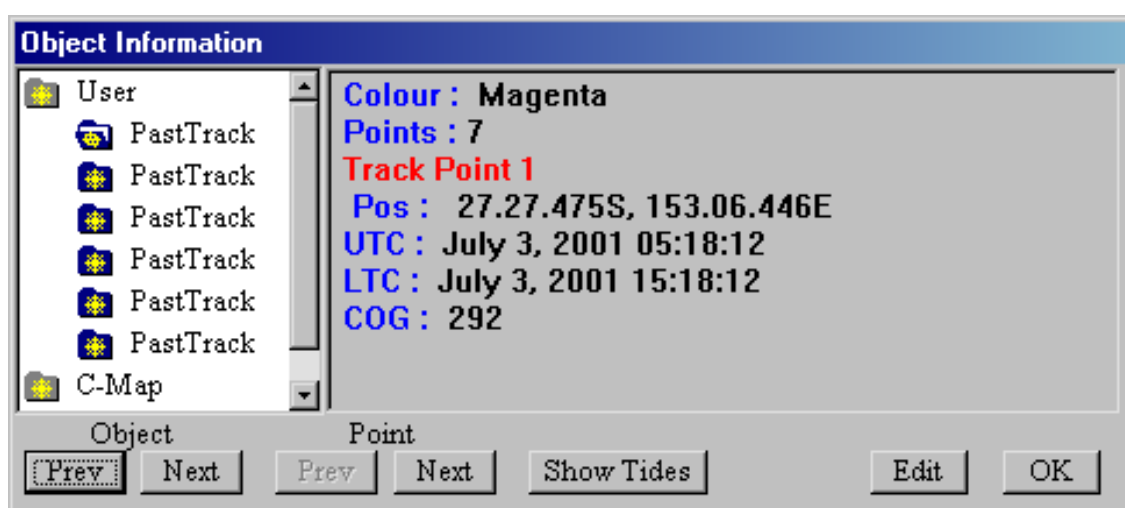


Press 'Info'



Press Ins

The Object Information box:



If there is more than one object in the list the required object can be selected by stepping through the list using 'Prev' and 'Next' buttons under the 'Object' heading.

If editing an object with more than one point, such as a past track the point can be selected by stepping through using the 'Prev' and 'Next' buttons under the 'Point' heading.

The 'Edit' function enables all the functions usually associated with the edit button for that particular object. For example; colour, delete, name and comments. See the 'Edit' Section for the required function.

12.2 Target Tracking

C-Plot enables particular targets to be tracked and their past tracks recorded similar to your own past track, comments can be added and track colour can be set. This enables monitoring, 'spying', on the movements of other vessels or buoys.

Target data sources include ARPA(Automatic Radar Positioning Aid), Ryokuseisha Tuna catch buoys and Taiyo buoys.

C-Com requires configuring to enable the type of buoy to be tracked, the sentences required are as follows:-

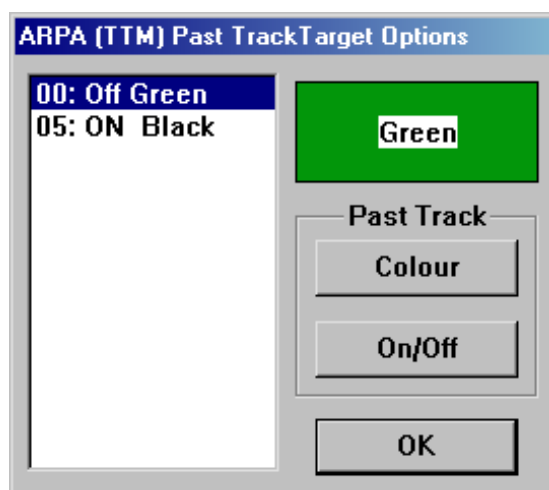
- ARPA Targets, require TTM and if available TTL
- Ryokuseisha, Tuna catch buoy require RBY.
- Taiyo buoy require BLV.

See Appendix B for C-Com setup procedure, Target information Tab.

12.2.1 ARPA Targets

There is only one target displayed initially in the ARPA(TTM) Past Track Options Box, '00 Off Green'. The target availability list will increase as new targets are configured in C-Com then received and added to the system. (See Appendix B C-Com Communication Server)

Initially all targets are set to 'Off' so their past track isn't displayed. The target requires selecting and switching 'On' to enable the display of the past track. (See Section 12.4 ARPA Target editing)



12.3 Editing Target information

The cursor requires to be placed over the object's track in question then the object information box can be invoked.

Access Sequences

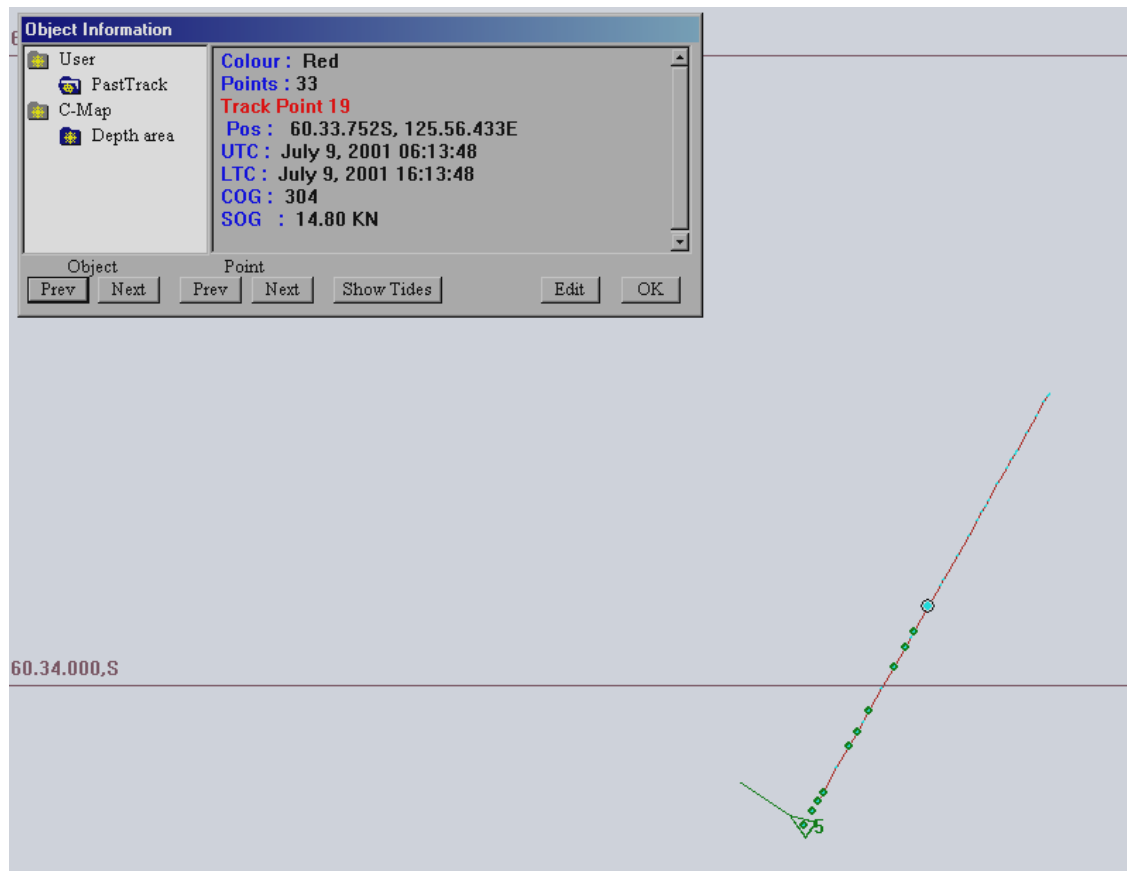


Press 'Info'

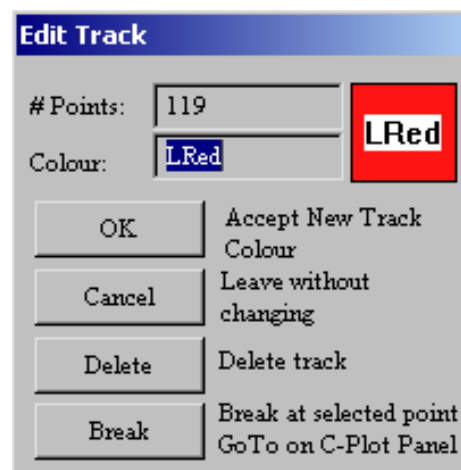


Press Ins

The Object Information box:



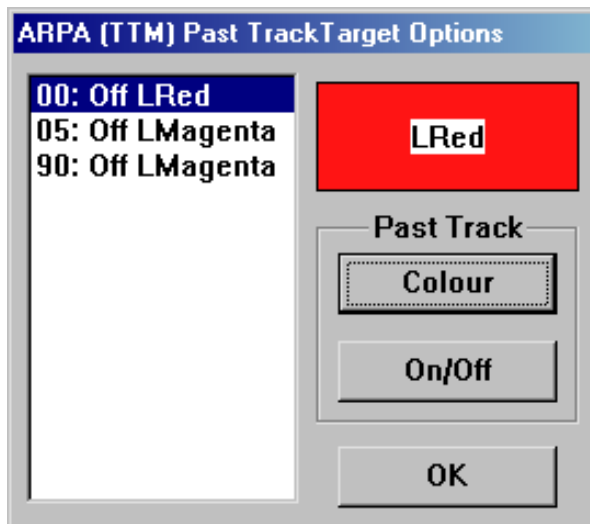
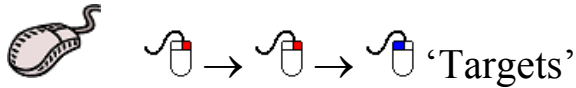
Selecting the 'Edit' button enables all the edit features for that object to be available.
For example the Edit Track dialog box.



12.4.0 ARPA Target Editing

The 'ARPA (TTM) Past Track Target Options' dialog box allows the selected track from list on the left side to be switched 'On' and 'Off' and the colour to be altered.

Access Sequences:



Select the required target from the list on the left by highlighting it, to switch it on or off click the 'On/Off' button which will toggle the tracks status. To change the colour click the colour button which will invoke a 'Colour Edit' dialog box.

Target status can be examined using the C-Com Communication server.

12.4.1 Ryokuseisha Tuna Catch Buoys

Ryokuseisha tuna catch buoys enable polling in addition to editing of track colour, name and comments similar to any other target. When the 'Object Information' box is invoked there is a 'Poll' button available, this sends a poll signal via the connected radio system to the Ryokuseisha buoy.

The cursor requires to be placed over the buoy in question then the object information box can be invoked.

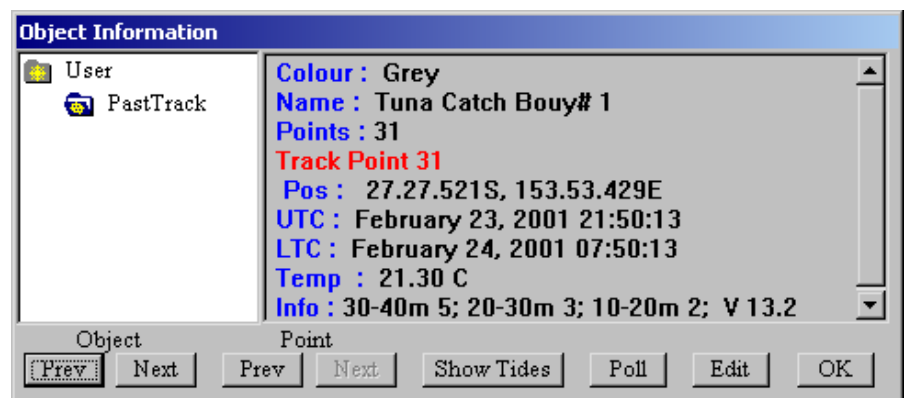
Access Sequences



Press 'Info'



Press Ins



12.4.2 Taiyo Buoys

Taiyo buoy information can be edited using the 'Object Information' dialog box. Taiyo targets cannot be Polled.

See section '12.1 The Object Information Box' for information on using the 'Object Information' dialog box.

Access Sequences



Press 'Info'



Press Ins



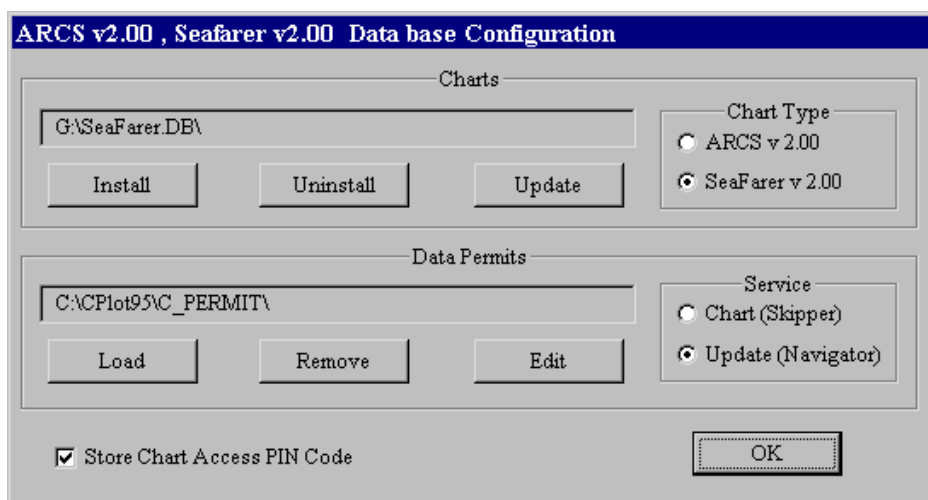
APPENDICES

Appendix A: Chart Configuration

HCRF Chart Configuration

HCRF or Raster charts are available in two types, Seafarer and ARCS. This appendix deals with installing these charts for use by C-Plot. There are a number of sections in the Database configuration dialog box for HCRF charts, these are:

- Charts
- Data Permits
- ‘Store Chart Access PIN Code’ box



The ‘Charts’ section contains information and functions pertaining to charts. The ‘Chart Type’ section enables the selection of the type of chart that is being configured. The ‘Install’, ‘Uninstall’ and ‘Update’ buttons represent functions that can be performed on the selected type of chart.

The ‘Data Permits’ section contains information and functions pertaining to chart permits. For a chart to be viewed in C-Plot both the chart itself and the permit for that chart must be present. The ‘Service’ section enables the selection of the type of service that is being configured. Seafarer has two types of services ‘Chart’ and ‘Update’, while ARCS has ‘Skipper’ and ‘Navigator’. Both services offered by each organisations are similar. Seafarer-Chart is comparable to ARCS-Skipper and Seafarer-Update is comparable to ARCS-Navigator.

The ‘Store Chart Access PIN Code’ box allows this PIN to be saved by C-Plot. This can make using this charts more efficient. If this box

is not checked (☐) each time one of these charts is loaded in C-Plot a dialog box will appear asking that the Access PIN is entered. In order to avoid this situation, simply check this box (☒) and enter the Access PIN. Now the Access PIN will automatically be entered each time a chart is loaded.

In order to use these charts effectively there are two security codes that must be known:

1. The permits for all the purchased charts
2. The Seafarer/ARCS Pin number

Loading Seafarer/ARCS Permits

Before installing charts on the computer the appropriate permits should be installed. Permits are issued on a 3.5" floppy disk. To install Seafarer or ARCS permits use the following sequence:

1. Choose the 'Chart Type' (Seafarer or ARCS) and 'Service Type' (Chart and Update)
2. Insert the 3.5" Seafarer/ARCS permit disk into the disk drive
3. On the Database Configuration dialog box click the 'Load' button in the 'Data Permits' section
4. Click the 'Browse' button then choose the 3.5" floppy drive (usually A:)
5. Choose the file from the disk with a '.LCN' extension and click 'Open'
6. All permits can be loaded by clicking the 'All' button. Individual permits can be selected by clicking on the desired permits. Clicking the 'Selected' button will only load the highlighted permits.
7. After the permits have finished loading click 'OK'



A flowchart outlining this sequence is also included in this appendix

Removing Seafarer/ARCS Permits

The 'Remove' button in the 'Data Permits' section of the Database Configuration dialog box enables chart permits to be removed from the system. To remove permits use the following sequence.

1. Choose the desired 'Chart Type' and 'Service Type' of the permits to be removed
2. Click the 'Remove' button in the 'Data Permits' section
3. All permits can be removed by clicking the 'All' button. Individual permits can be selected by clicking on the desired permits. Clicking the 'Selected' button will only remove the highlighted permits.
4. After the permits have finished being removed click 'OK'

Editing Seafarer/ARCS Permits

It may be necessary to change or add chart permits manually instead of loading them from a floppy disk. There are two methods for editing Seafarer/ARCS permits; both methods will be explained in the following sequence.

1. Choose the desired 'Chart Type' and 'Service Type' of the permits to be edited.
2. Click the 'Edit' button in the 'Data Permits' section
3. Permit Edit Method 1: Simply enter the new permit number into the 'Chart Permit for Editing' section and click 'ADD'. Permit Edit Method 2: Choose an existing permit from the 'List of Chart Permits' section and click 'Edit'. Now edit the chosen permit in the 'Chart Permit for Editing' section and click 'ADD'.
4. Once all the desired chart permits have been Edited/Added click 'OK'

Storing the Chart Access PIN Code

Storing the Access PIN allows for carefree loading of Seafarer/ARCS charts. If the access PIN is stored in C-Plot it can be removed again simply by un-checking (☐) this box. To store the access PIN in C-Plot use the following sequence.

1. Check the 'Store Chart Access PIN Code' box (☒)
2. Enter the PIN in the data field directly above the 'OK' button
3. Click 'OK'



The Chart Access PIN Code allows access to all installed charts with permits.

Installing Seafarer/ARCS Charts

Before attempting to install charts for use with C-Plot, ensure that the permits for these charts have previously been loaded (See 'Loading Seafarer/ARCS Permits'). Installing charts on the computer requires a sizable amount of disk space. Please ensure that there is enough space on the disk drive where the charts will be installed.

1. Choose the 'Chart Type' (Seafarer or ARCS) and 'Service Type' (Chart and Update)
2. Insert the Seafarer/ARCS Chart CD-ROM into the CD drive
3. On the Database Configuration dialog box click the 'Install' button in the 'Charts' section
4. Click the 'Browse' button then choose the CD-ROM drive (usually D:)
5. Choose the file from the disk named 'README.CDV' extension and click 'Open'

-
6. All charts can be loaded by clicking the 'All' button. Individual charts can be selected by clicking on the desired charts. Clicking the 'Selected' button will only load the highlighted charts. The 'With Permits' button will only select and install those charts for which the permit is present.
 7. After the charts have finished being installed click 'OK'



A flowchart outlining this sequence is also included in this appendix.

Uninstalling Seafarer/ARCS Charts

The 'Uninstall' button allows installed charts to be removed from the C-Plot database. To uninstall Seafarer/ARCS charts simply use the following sequence.

1. Choose the 'Chart Type' (Seafarer or ARCS) and 'Service Type' (Chart and Update)
2. On the Database Configuration dialog box click the 'Uninstall' button in the 'Charts' section
3. All charts can be removed by clicking the 'All' button. Individual charts can be selected by clicking on the desired charts. Clicking the 'Selected' button will only load the highlighted charts. The 'Without Permits' button will only select and uninstall those charts for which the permit is not present.
4. After the charts have finished being uninstalled click 'OK'

Updating Seafarer/ARCS Charts

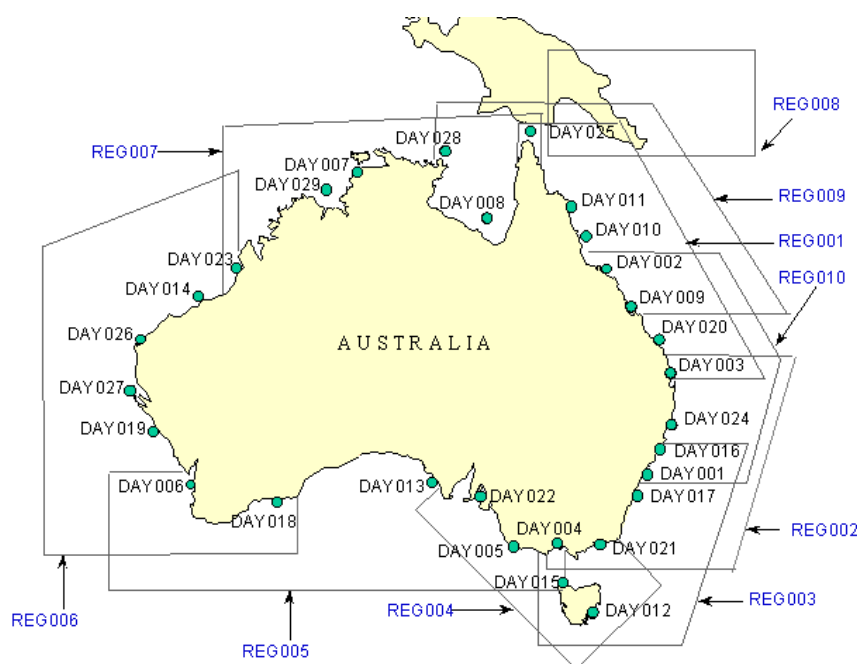
It is possible to update HCRF Charts by acquiring an 'Update' disk, usually in the form of a CD. The following sequence describes how to update Seafarer/ARCS charts in C-Plot.

1. Choose the 'Chart Type' (Seafarer or ARCS) and 'Service Type' (Chart and Update)

-
2. Insert the Seafarer/ARCS Update CD-ROM into the CD drive
 3. On the Database Configuration dialog box click the 'Update' button in the 'Charts' section
 4. Click the 'Browse' button then choose the CD-ROM drive (usually D:)
 5. Choose the file from the disk with a '.CDV' extension and click 'Open'
 6. All updates can be loaded by clicking the 'All' button. Individual updates can be selected by clicking on the desired updates. Clicking the 'Selected' button will only load the highlighted updates.
 7. After the updates have finished being installed click 'OK'

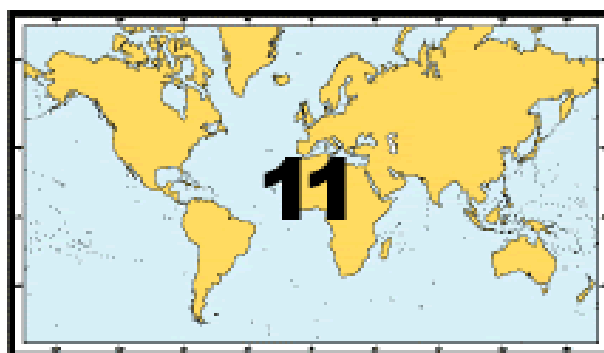
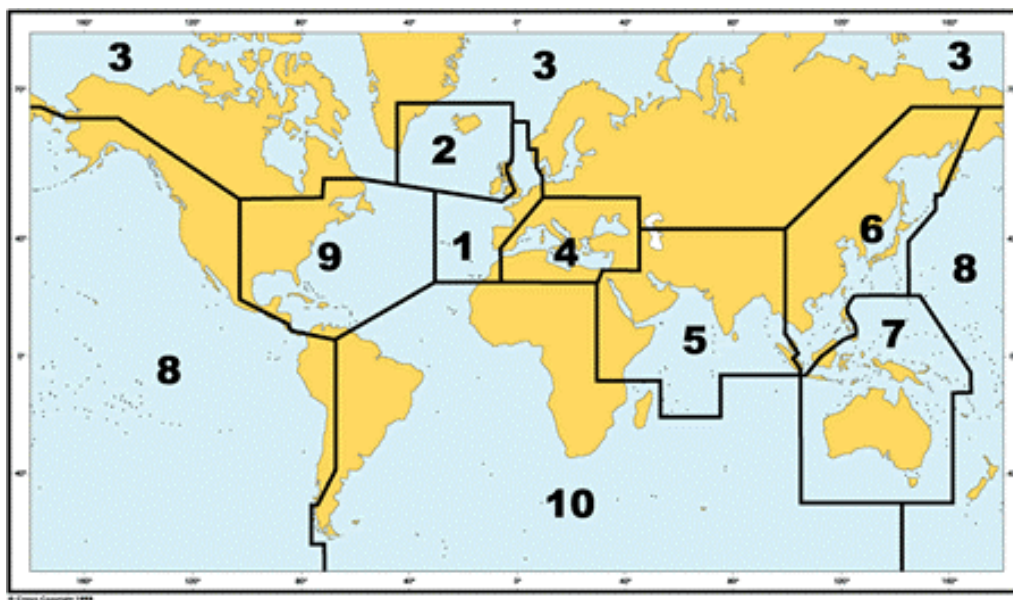
Seafarer Chart Coverage

The Australian Hydrographic Office supplies seafarer charts. These charts only cover Australia.

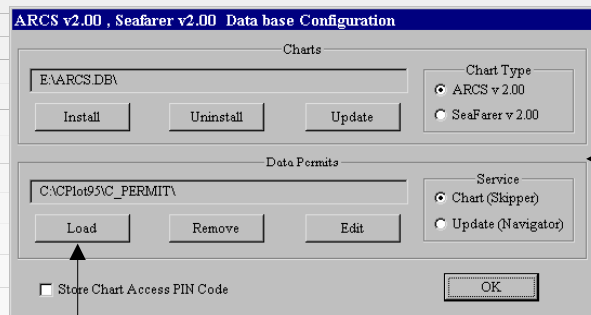


ARCS Charts Coverage

United Kingdom Hydrographic Office distributes ARCS (Admiralty) charts. The coverage for these charts is shown below.



Loading Seafarer/ARCS User Permits

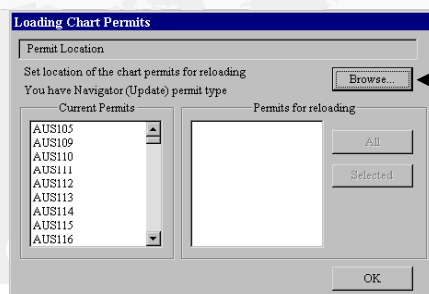


Start Loading Seafarer/ARCS Permits

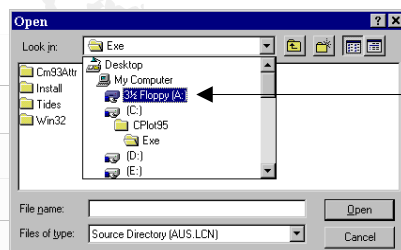
Choose the 'Chart Type' and 'Service Type'

Insert the 3.5" Seafarer/ARCS permit disk into the disk drive

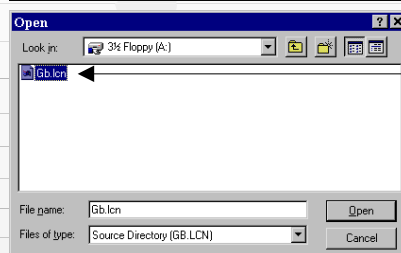
On the Database Configuration dialog box click the 'Load' button in the 'Data Permits' section



Click the 'Browse' button then choose the 3.5" floppy drive (usually A:)

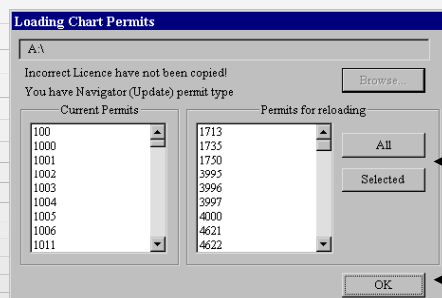


Choose the file from the disk with a '.LCN' extension and click 'Open'



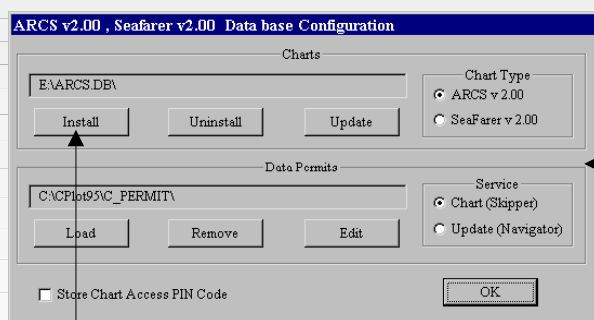
All permits can be loaded by clicking the 'All' button. Individual permits can be selected by clicking on the desired permits. Clicking the 'Selected' button will only load the highlighted permits.

After the permits have finished loading click 'OK'



Loading Seafarer/ARCS permits is complete

Installing Seafarer/ARCS Charts



Start Installing Seafarer/ARCS Charts

Choose the 'Chart Type' and 'Service Type'

Insert the Seafarer/ARCS chart CD into the CD-ROM drive

On the Database Configuration dialog box click the 'Install' button in the 'Charts' section

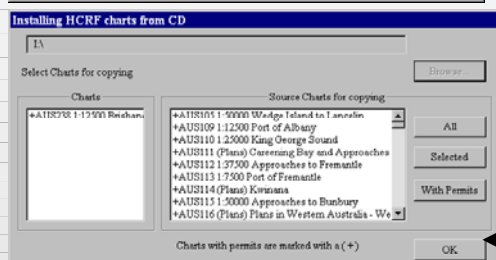
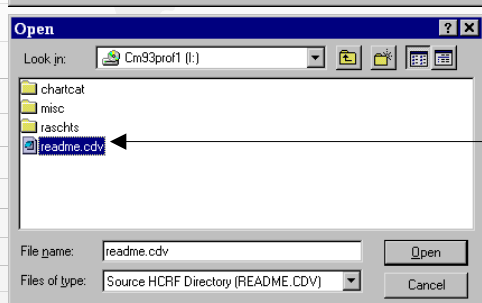
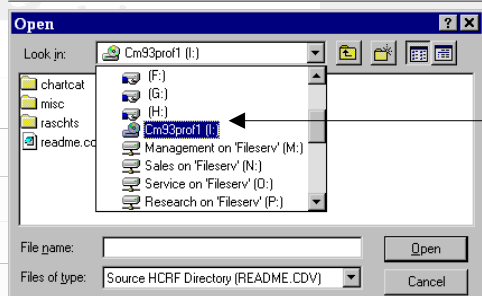
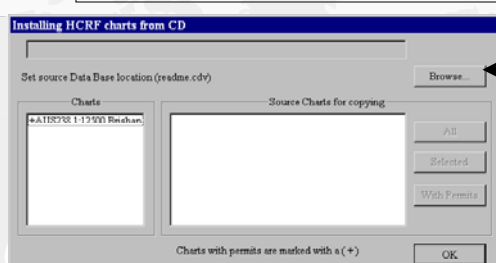
Click the 'Browse' button then choose the CD-ROM drive (usually D:)

Choose the file from the disk named 'README.CDV' and click 'Open'

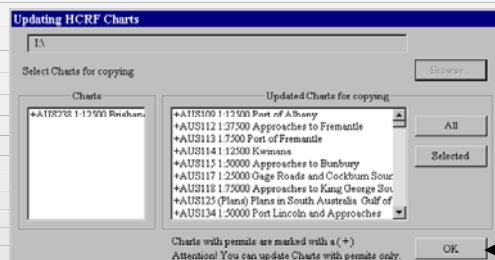
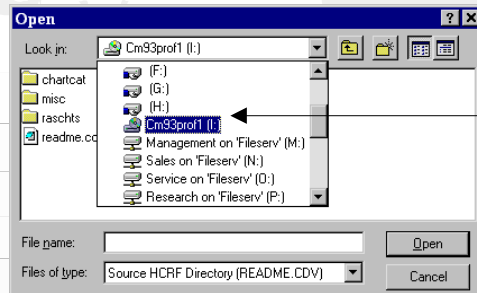
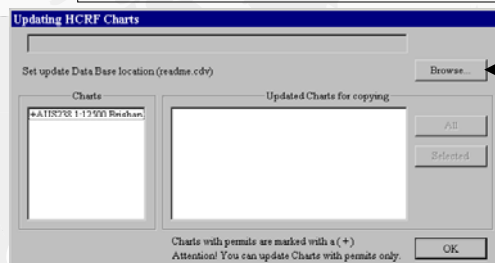
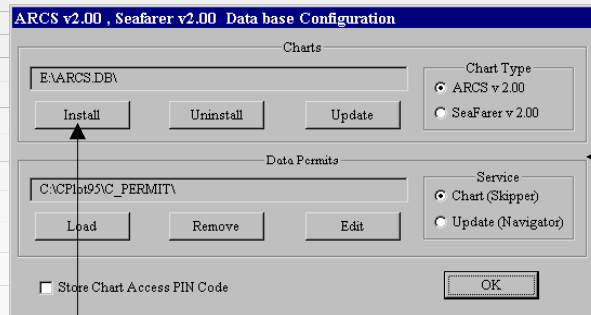
All charts can be installed by clicking the 'All' button. Individual charts can be selected by clicking on the desired charts. Clicking the 'Selected' button will only load the highlighted charts. The 'With Permits' button will only install those charts for which the permit is present.

After the charts have finished installing click 'OK'

Installing Seafarer/ARCS charts is complete



Updating Seafarer/ARCS Charts



Start updating Seafarer/ARCS Charts

Choose the 'Chart Type' and 'Service Type'

Insert the Seafarer/ARCS update CD into the CD-ROM drive

On the Database Configuration dialog box click the 'Update' button in the 'Charts' section

Click the 'Browse' button then choose the CD-ROM drive (usually D:)

Choose the file from the disk named 'README.CDV' and click 'Open'

All updates can be installed by clicking the 'All' button. Individual updates can be selected by clicking on the desired updates. Clicking the 'Selected' button will only load the highlighted updates.

After the updates have finished installing click 'OK'

Updating Seafarer/ARCS charts is complete



C-Map Chart Configuration

This appendix deals with installing C-Map (Vector) charts for use by C-Plot.

CM93/2 Chart Ordering for TMQ C-Plot

C-Map 93/2 Data Base Location: I:\CM93\ Update Limits Files

Select CM93 DB

Zones Areas

3: The Coasts of Western and Southern Africa 001: Townsville to Wyndham
4: The Arctic Coast of Europe and Asia, The Se 002: Southport to Karumba
5: Western Indian Ocean, Suez Canal, Red Sea 003: Batemans Bay to Port Douglas
6: The Coasts of China, Korea and Japan 004: South Australia, Victoria and Tasmania
7: Indonesia, Australia, New Zealand and Oceania 005: Esperance to Derby

Add whole Zone Cancel Zone/Area Add Area

Chart Order (Subscription)
Zone7: Indonesia, Australia, New Zealand and Oceania

User Code
1DC9D7D9FE1DC9DFD7 Generate by Order


Auth Code
15ced1dc19cadd6 Load Load from File


Exit

The first time you start to use C-MAP database
Select CM93 database and Update Limits Files
After that you can easily apply following procedure:
1. Form the order by adding Zones or Areas
2. Generate User Code
3. To get Auth Code Report User Code to C-MAP
4. Type in Auth Code and Click "Load"

Location of the CM93 Database

C-Map charts can be used in one of two ways. The first is to use the charts directly from the CD. The second involves copying the 'cm93' folder from the CD onto the hard drive of the computer and using the charts from there. While the second method requires a sizable amount of disk space (~650Mb), the performance of the system is increased due to the high data transfer rate of the hard disk. If disk space is a problem, then using the charts directly from the CD is a sensible alternative. Before installing C-Map charts the most appropriate database location should be selected.

 *When using C-Map charts directly from the CD, ensure that the CD is inserted at all times.*

 *It is recommended to copy C-Map charts to the hard drive of the computer and use them from there.*

Zone & Area Selection

Care should be taken when selecting zones during the installation of C-Map charts. A 'Zone' consists of a number of smaller 'Areas'. Selecting a 'Zone' is equivalent to selecting the entire group of 'Areas' that comprise that 'Zone'. There are two main methods for selecting charts. The first is to simply select one or more 'Zones'. The second is to select 'Areas' individually, however there is a catch to using this method. When selecting individual 'Areas', only those that comprise the same 'Zone' can be selected. Therefore selecting 'Areas' individually from two separate 'Zones' is not permitted.

Updating C-Map Limit Files

C-Map limit files relate to the size and shape of the 'Zones' and 'Areas' on C-Map charts and also affect user code generation. The shape of these 'Zones' and 'Areas' is modified by C-Map occasionally. When this occurs it is necessary to update the limit files in C-Plot. C-Map limit files can be updated by clicking the 'Update Limits Files' button. Limit files can be updated in one of two ways. The first is from a supplied update disk and the second is via the Internet. In order to update C-Map limits files via the Internet, ensure that the computer is connected to the Internet and click the 'Internet' button.

If it is not possible to connect the computer that has C-Plot installed on it, to the Internet, but Internet connection is possible by another computer, an update disk can be created using the computer that can be connected to the Internet, using the following sequence (See also Figure A1).

1. Connect to the Internet and start a browser application (i.e. Internet Explorer, Netscape Navigator, etc)

2. Insert a blank formatted 3.5" floppy disk in the floppy drive
3. Type the address 'http://www.c-map.no/cm93_2.asp' in the 'Address' field of your Internet browser and hit <Enter> (or click)
4. Click the 'Limits.inf' link
5. Make sure that the 'Save this file to disk' is selected, then click 'OK'
6. Choose the 3.5" floppy drive as the destination and click 'Save'
7. Repeat steps 4-6 with the 'Limits.dic' file

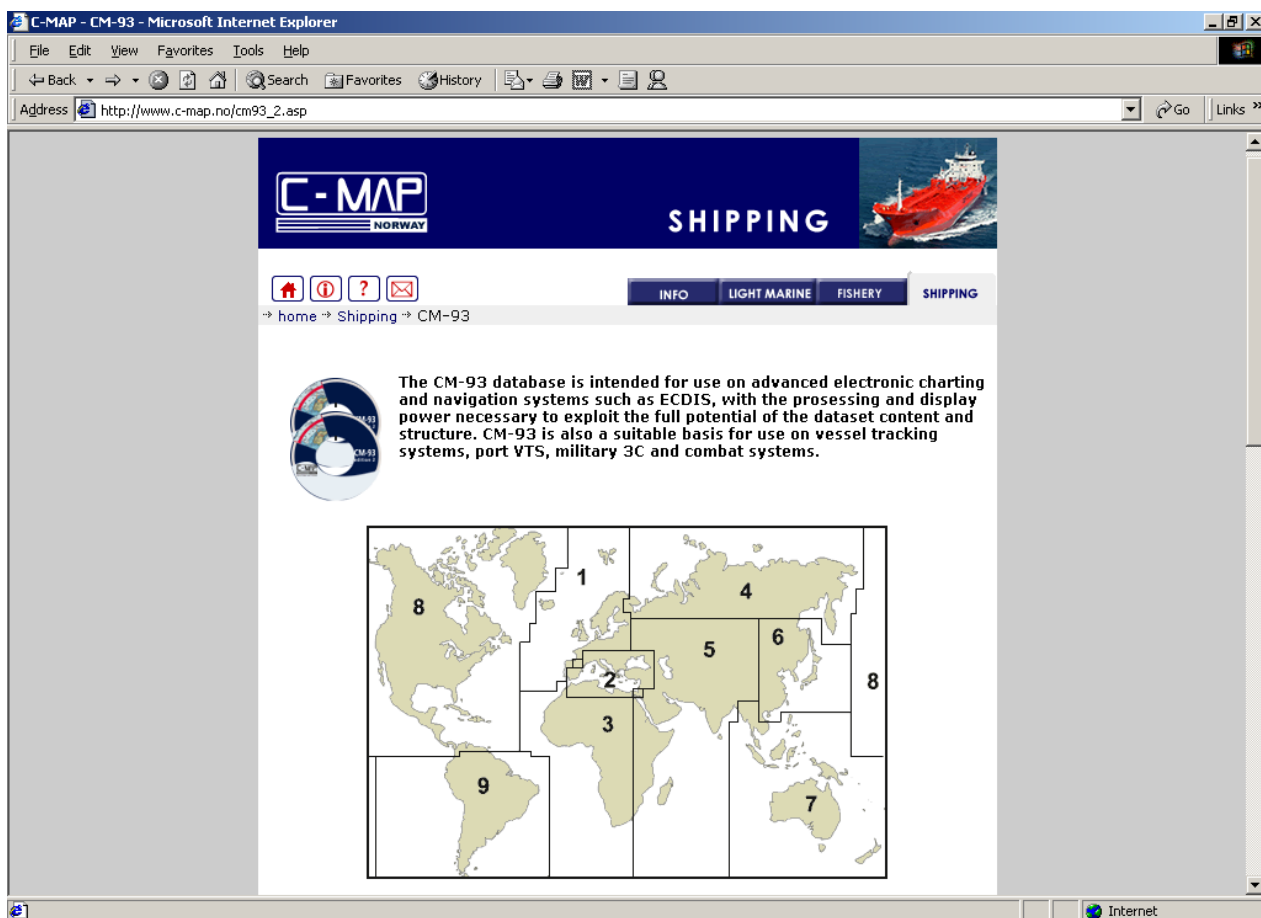
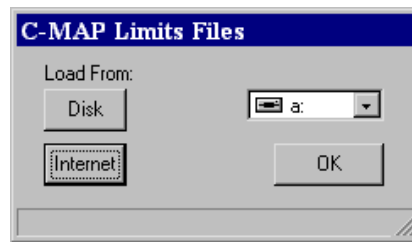



Figure A1

The floppy disk can now be used to update the limit files in C-Plot using the 'Load from Disk' function.

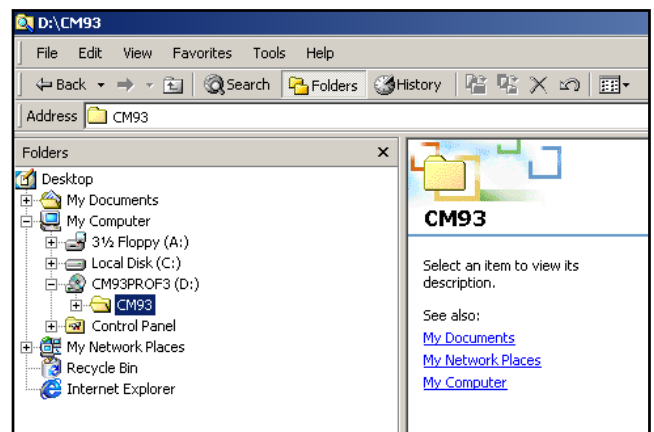
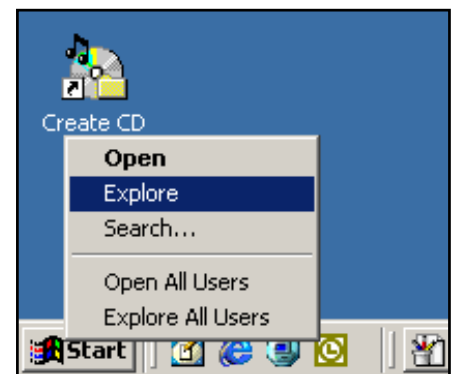


 *When installing C-Map charts the limit files should be updated after locating the CM93 database and before generating the user code. If the limit files are incorrect at the time of user code generation, then the authorisation code supplied by C-Map will not work.*

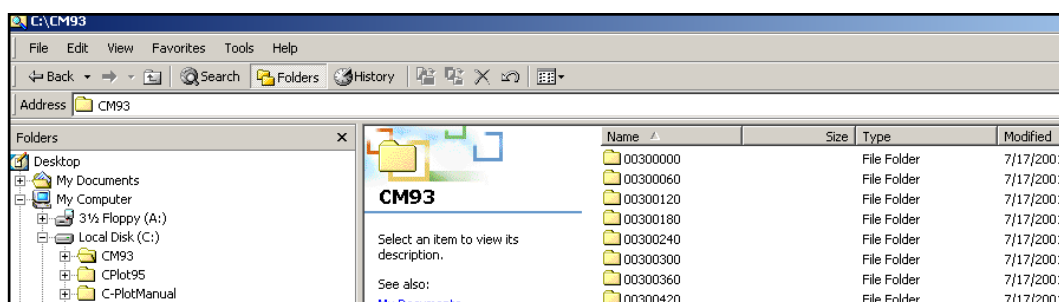
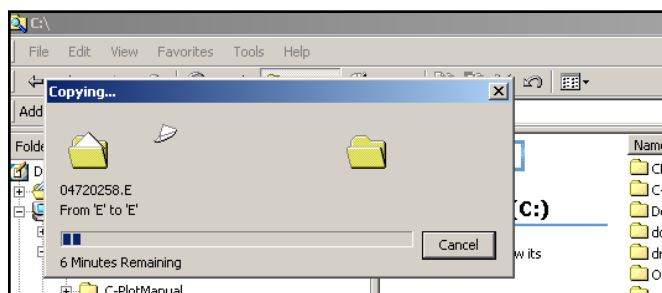
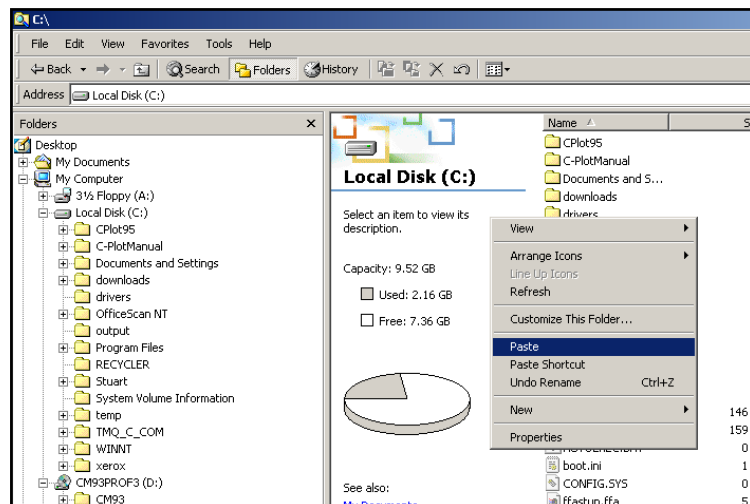
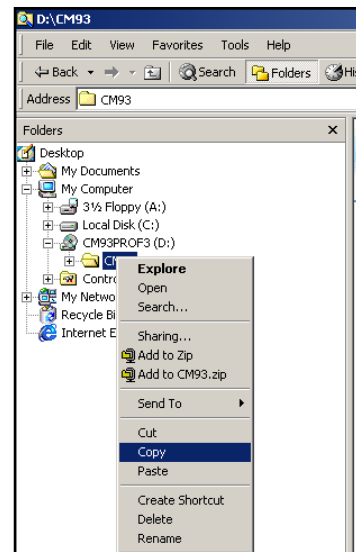
Installing C-Map Charts

The C-Map chart Data Base (CM93) requires to be copied to the computers hard drive in its entirety. The Data Base is to be copied directly to the C: drive (normally the Hard Drive) from the D: drive (normally CD Rom drive). The following procedure should be followed.

1. Exit all programs.
2. Open Windows Explorer as follows,
Place the mouse over the START button at the bottom left corner, right click the mouse button.
3. Select EXPLORE and left click the mouse button.
4. Select the CD Rom drive, the disc name will vary depending on the C-Map CM93 edition entered.
5. Select the CM93 Folder



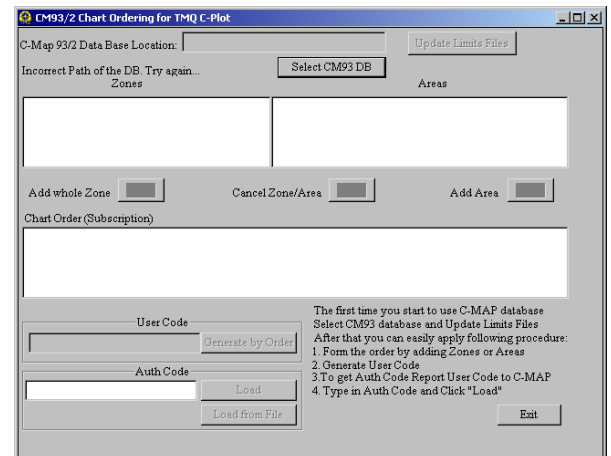
6. Right click the mouse, select COPY and then left click the mouse.
7. Select the Hard Drive using the mouse, open the hard drive in the right hand window of explorer by double left clicking the mouse.
8. Place the pointer into the white section of the right hand side of the explorer window, NOT over any other text.
9. Right click the mouse and select PASTE. This will now copy the entire contents of the CM93 folder from the CD Rom drive to the computers hard drive. NOTE: This will take between 10 and 20 minutes to complete.
10. The CM93 Folder will be added to the hard drive, this can be confirmed if required after the copying process has been completed by closing and reopening the hard drive contents window in Explorer.



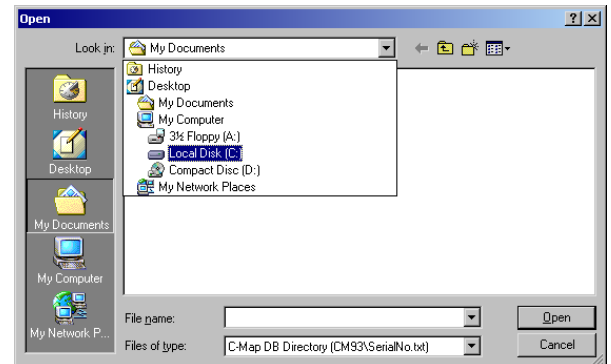
After completion of Data Base copying C-Plot requires starting and the location of the CM93 Data Base setting, proceed as follows;

1. From the 'Main Menu' select '0. Chart.
2. Select option '6. Config' from the 'Chart' menu.
3. Select option '2. C-MAP' from the 'Chart Configuration' menu.

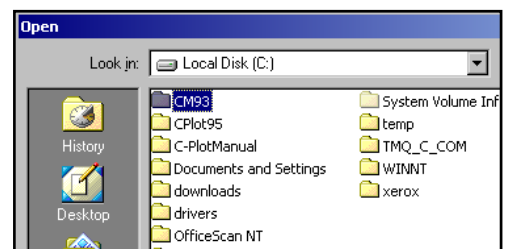
4. This invokes the 'CM93/2 Chart Ordering for TMQ C-Plot' box. Using the mouse left click the 'Select CM93 DB' button.



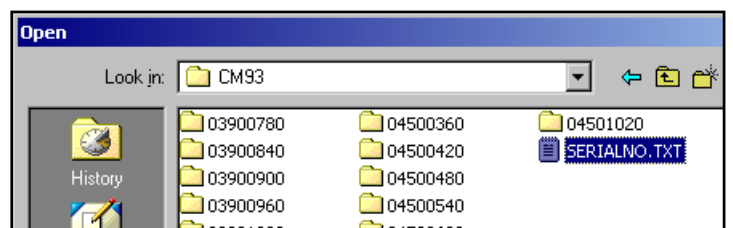
5. This will display an 'Open' box, select the computers hard drive (usually C:) as the CM93 directory was copied to this location.



6. Select the CM93 Folder, left click the mouse and left click the 'Open' button.



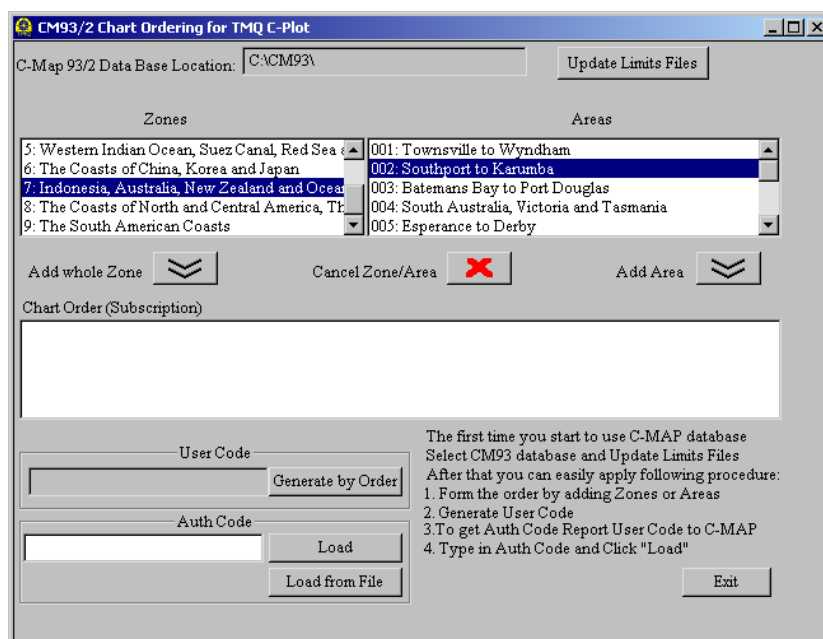
7. Scroll across the list of charts using the bottom scroll bar and select the file 'SERIALNO.TXT'. Left click the 'Open' button.



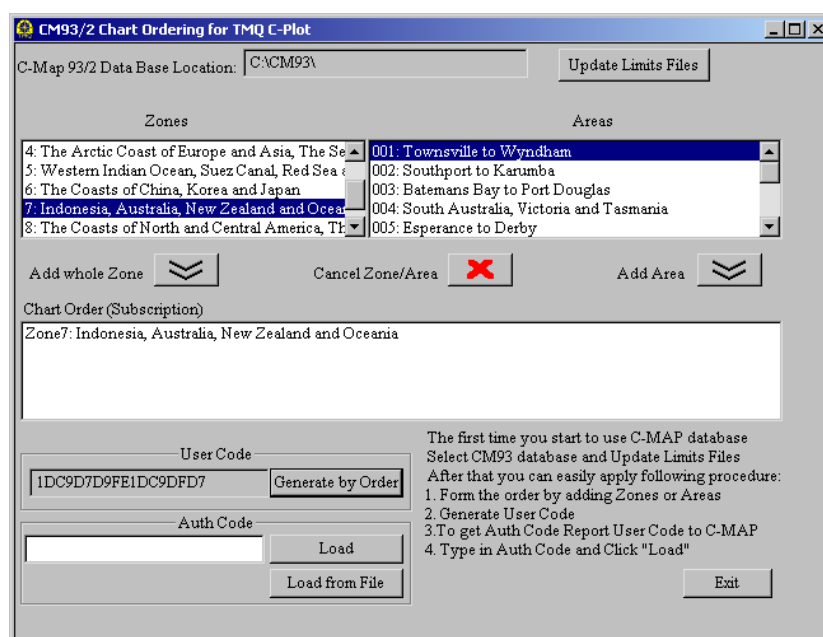
8. The 'CM93/2 Chart Ordering for TMQ C-Plot' box is redisplayed. At this stage selections of zones and areas can be made.

Note: You should only select the Areas and Zones that have been ordered.

Left click the 'Add whole Zone' or 'Add Area' buttons when your selections have been made.

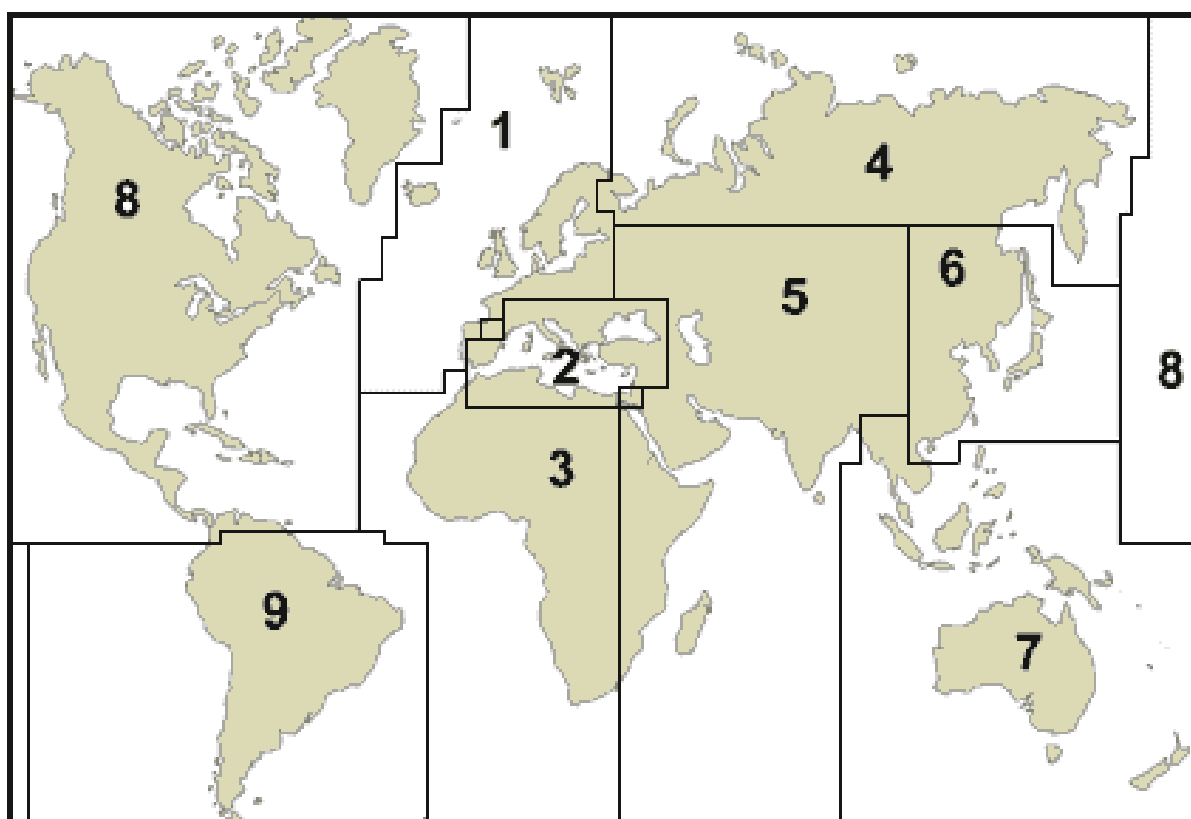


9. Left click the 'Generate by Order' button. This will generate a code in the 'User Code' box.

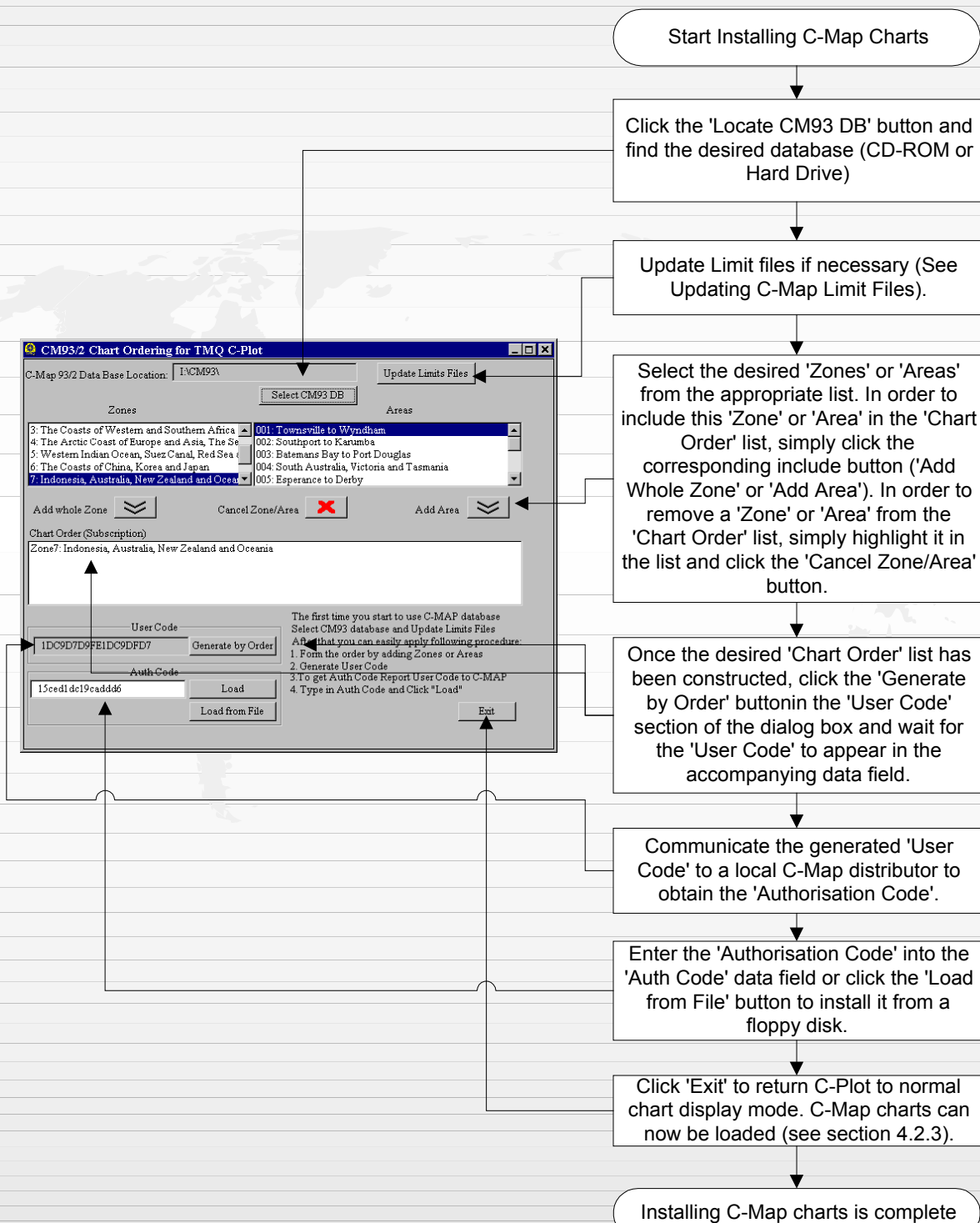


-
10. Phone the TMQ Authorised Dealer who the system was purchased from for the 'Auth Code'.
 11. Enter the 'Auth Code' in the data field and left click 'Load' (or click 'Load from File' button to install it from a floppy disc).
 12. If Code has been excepted every control button will be disabled and a message will appear in the top left corner of the window, 'AuthCode OK'. If this message is not displayed, the C-Map Data Base (CM93), dongle number, selected chart order or typing of authorisation code are incorrect. Check these options and correct as necessary.
 13. Left click 'Exit' to return C-Plot to normal chart display mode.
 14. Exit C-Plot and restart it.
 15. C-Map charts can now be loaded (see section 4.2.3 of this manual).

C-Map Chart Coverage



Installing C-Map Charts



Installing TMQ Charts

TMQ Charts are stored on the C-Plot installation disk. TMQ Charts cannot be installed while C-Plot is running, in order to install TMQ Charts 'Exit' C-Plot first. To install TMQ Charts a PIN is required for the set of charts to be installed.

1. Insert the C-Plot Installation CD-ROM into the CD Drive and wait for the C-Plot Setup screen to be displayed.
2. On the C-Plot Setup screen, click the 'TMQ Charts' button. A 'TMQ Chart Installation' dialog box will appear.
3. Choose the desired chart set from the list and click 'Do It'.
4. Enter the PIN for the selected set of charts into the data field provided on the 'Pin Checking' dialog box and click 'OK'.
5. The selected set of charts will now be installed onto the computer's hard drive. Wait for the chart installation to finish.
6. Repeat steps 3 – 5 until all desired chart sets have been installed.
7. Click the 'Quit' button to return to the C-Plot Setup screen, and then click 'Quit' in the C-Plot Setup screen to complete the installation. C-Plot can now be started and TMQ Charts loaded.

Installing TMQ Charts

In order to install TMQ Charts, please ensure that C-Plot is closed (Exit)

Start Installing TMQ Charts

Insert the C-Plot Installation CD-ROM into the CD Drive and wait for the C-Plot Setup screen to be displayed.

On the C-Plot Setup screen, click the 'Install TMQ Charts' button. A 'TMQ Chart Installation' dialog will appear.

Choose the desired chart set from the list and click 'Do It'.

Enter the PIN for the selected set of charts into the data field provided on the 'Pin Checking' dialog box and click 'OK'.

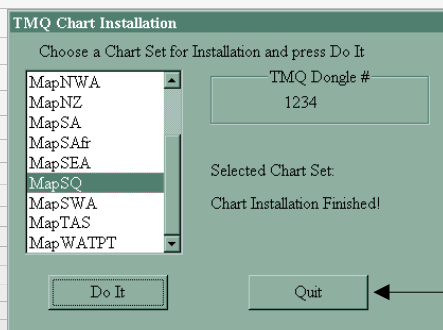
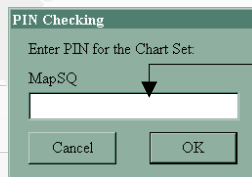
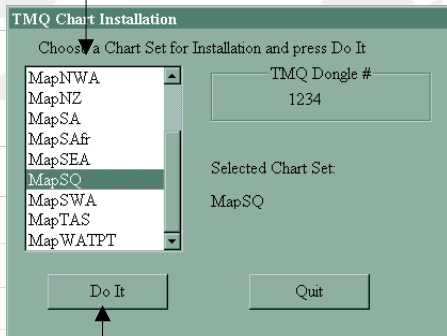
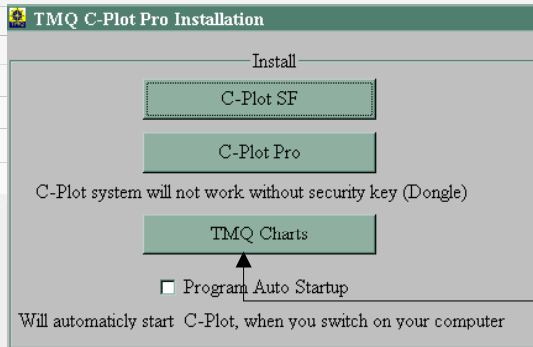
The selected set of charts will now be installed onto the computer's hard drive. Wait for the chart installation to finish.

Do you wish to install another set of TMQ Charts?

No

Click the 'Quit' button to return to the C-Plot Setup screen, and then click 'Quit' in the C-Plot Setup screen to complete the installation. C-Plot can now be started and TMQ Charts loaded.

Installing TMQ charts is complete



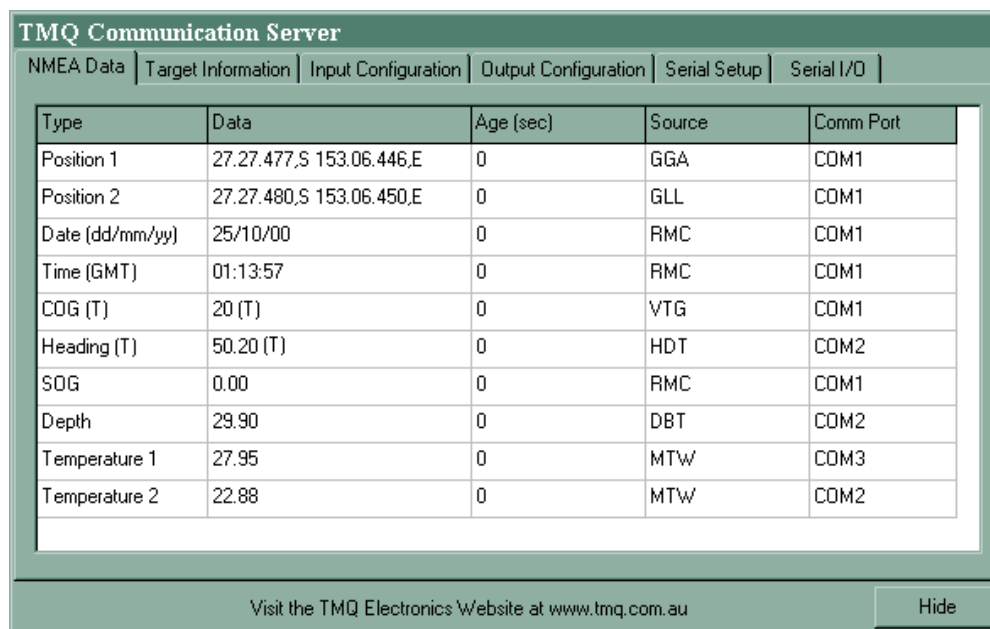
Appendix B: C-Com – Communications Server

TMQ C-Com Communications Server

User Manual

C-Com enables full control of a systems communication ports, such as COM1. The application enables incoming data to be shared amongst all *C-Com Enabled* TMQ applications. C-Com allows effortless monitoring and configuration of all data inputs. All user settings are saved and hence modification of the configuration of C-Com should only need to be done when new hardware is connected to the system, or when the current hardware input of the system has been modified. C-Com can also aid in diagnosing any input related errors that may occur during the normal operation of the system. The following manual outlines the features of the C-Com server and how it can be used to efficiently integrate input data for use by all *C-Com Enabled* Applications.

1.0 Exploring the Main Window




Type	Data	Age (sec)	Source	Comm Port
Position 1	27.27.477,S 153.06.446,E	0	GGA	COM1
Position 2	27.27.480,S 153.06.450,E	0	GLL	COM1
Date (dd/mm/yy)	25/10/00	0	RMC	COM1
Time (GMT)	01:13:57	0	RMC	COM1
COG (T)	20 (T)	0	VTG	COM1
Heading (T)	50.20 (T)	0	HDT	COM2
SOG	0.00	0	RMC	COM1
Depth	29.90	0	DBT	COM2
Temperature 1	27.95	0	MTW	COM3
Temperature 2	22.88	0	MTW	COM2

Figure 1.

The main window of C-Com contains the majority of features required to effectively configure the systems data inputs. C-Com consists of a Main window and a Communication Port configuration window (discussed in a later section). The user interface is very easy to use with a

row of labelled tabs toward the top of the window (see Figure 1). Clicking on any one of these tabs reveals the information associated with that particular tab.

In the bottom right-hand corner of the main window is the ‘Hide’ button, this button allows C-Com to run in the background (i.e. No screen presence). In order to render the main window visible, simply double-click on the TMQ Communications Server icon () in the System Tray. The following sections will outline each of the main window tabs and the information displayed.

1.1 The NMEA Data Tab

The NMEA Data tab (See Figure 1) is simply a displayed summary of the configured inputs. The display is in the form of a table with 5 labeled columns.

- **Type** – This column contains the types of data that have been configured in C-Com.
- **Data** – This column contains the actual value of the data that is being received.
- **Age** – This column displays the *age* of the data in seconds. Whenever new data is received and the *Data* column for that particular ‘Type’ is refreshed and the ‘Age’ display is reset to zero.
- **Source** – This column indicates the NMEA sentence that is being used as the source of the particular *Type* of data.
- **Comm Port** – This column indicates the communications port that has been configured to receive a particular NMEA sentence.

If there is a problem with receiving any type of data, the first sign on the C-Com display, will be an increasing *Age* for the data. Once the data has reached a certain age it is removed from this table.

1.2 The Target Information Tab

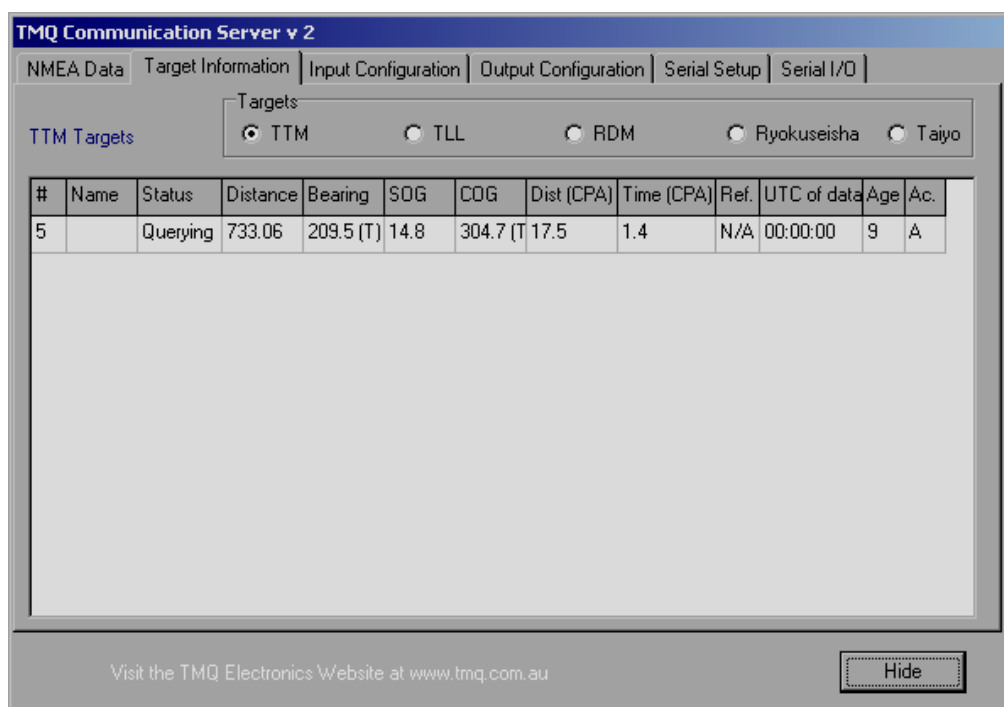


Figure 2

The Target Information tab display is much the same as the NMEA Data tab display. However, this tab displays information on various types of targets. There are three different types of targets represented on this display, *TTM Targets*, *TLL Targets*, *RDM Targets*, *Ryokuseisha* and *Taiyo*. Each of these target types is displayed in its own table (see figure 2). In order to view a particular Target Table, simply click the desired table in the box above the table. The targets are displayed in order of Target Number and, as with the NMEA Data display, when a target's *age* reaches a certain value the target is removed from the table.

1.3 The Input Configuration Tab

The Input Configuration tab allows the NMEA Source and Communications Port for each *Type* of data to be configured. In addition it allows the NMEA sentence to be checked for reliability (CSS & VCS).

This tab is comprised of two key areas, the Configuration table & the configuration modification section. The Configuration table displays the current configuration settings, while the configuration modification section allows the settings of the highlighted data type (Configuration Table) to be altered.

1.3.1 The Configuration Table

The first column of the configuration table (*Data*) lists all the possible data types that can be configured via C-Com. The next two columns, *Source* and *NMEA Type* display the current communications port and NMEA sentence settings. If these are 'None' it means that the data type in question has not yet been configured. The final two columns *CSS* (Check Sentence Structure) and *VCS* (Verify Check Sum) display the status of the reliability verification parameters.

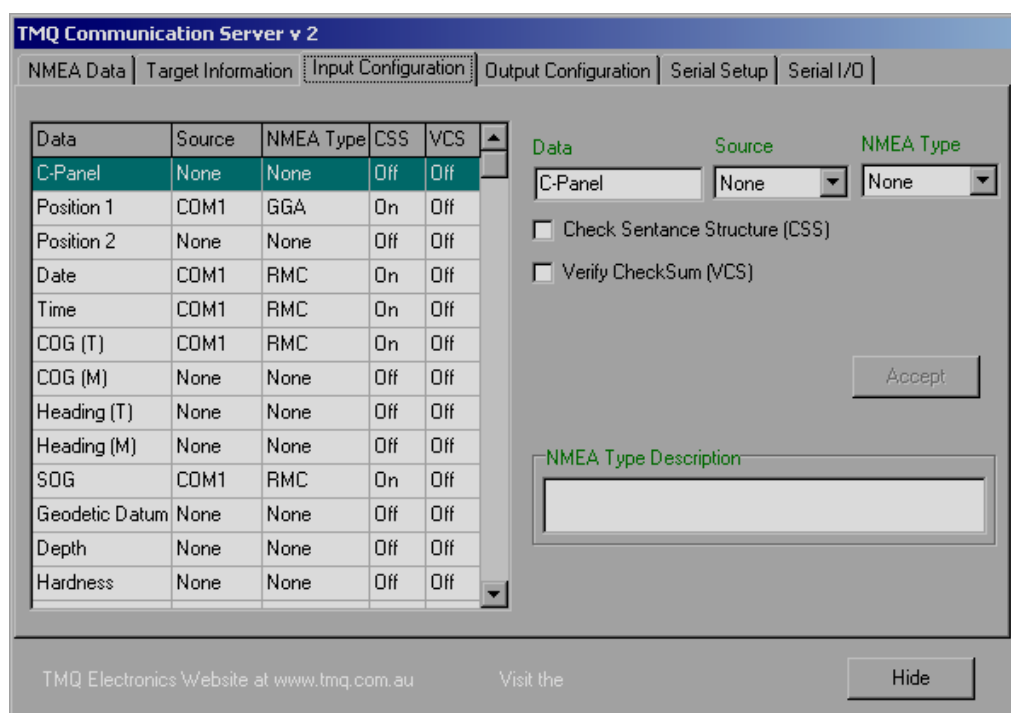


Figure 3.

-
- Check Sentence Structure (CSS): This option configures C-Com to check the particular NMEA Sentence to ensure it has the correct sentence structure (i.e. The correct number of fields). This can improve the reliability of the system by discarding sentences that may have been corrupted while being transmitted between devices.
 - Verify Check Sum (VCS): This option configures C-Com to verify the check sum of the NMEA sentence in question. This method is far more reliable than the CSS method, unfortunately contrary to the NMEA Standard 0183, many companies fail to include a check sum in their sentences and in these cases the VCS feature should not be set.

1.3.2 Configuration Modification Section

This section is made up of everything else that appears on this tab apart from the configuration table. The first fields to identify are those marked *Data*, *Source* & *NMEA Type*. These fields relate directly to the first three columns of the table. When a row in the configuration table is highlighted, the information in the above mentioned fields reflect that of the highlighted row. It is now possible to modify the configuration of the highlighted row. The *Source* and *NMEA Type* can be modified via the drop down lists (The data field cannot be modified). The two check boxes below allow the CSS and VCS checks to be turned on or off. If the check box is 'checked' the associated check is 'ON', and vice versa.

Once the desired changes have been made in the configuration modification section click the *Apply* button to apply these changes to the Configuration Table. Continue making changes until all desired *Data* types are configured then click the *Accept All* button. Once *Accept All* has been clicked the configuration displayed in the configuration Table will take effect. Check the NMEA Data tab to ensure that all of the configured *Data* types are being received correctly. If the *Reset* button is clicked, instead of the *Accept All* button, the configuration will return to settings that were established the last time *Accept All* was clicked. A flowchart outlining the input configuration procedure can be found in the accompanying documentation.

1.4 Output Configuration Tab

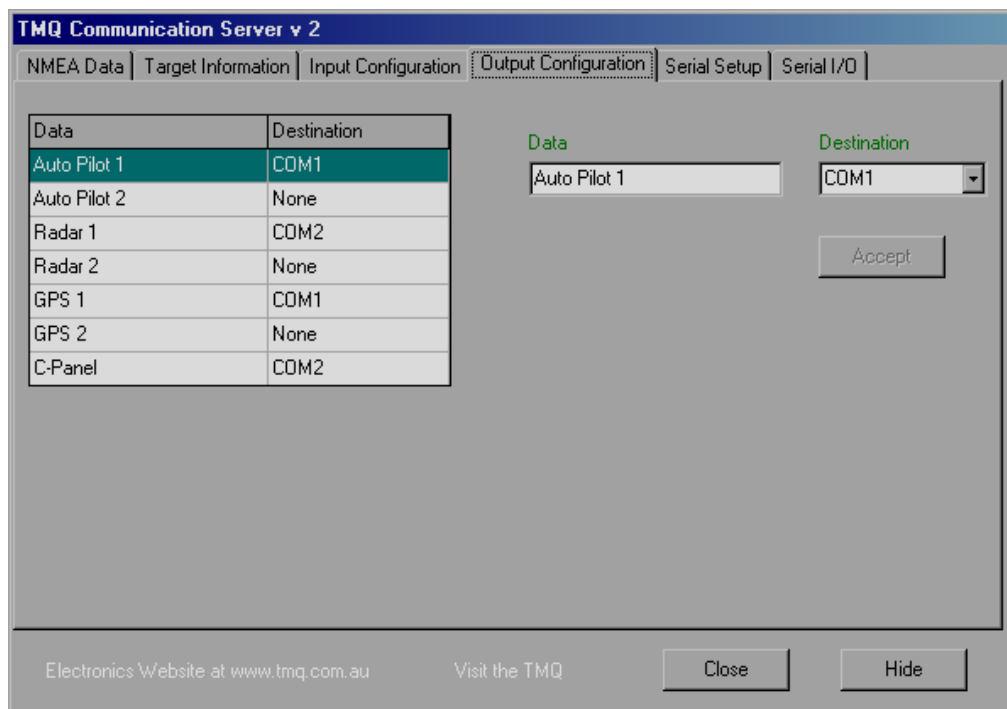


Figure 4.

The Output Configuration Tab allows the manner, in which C-Com outputs data, to be configured. It is organised in the same way as the Input Configuration Tab. The Output Configuration Table contains two columns *Data* and *Destination*. Similarly the Configuration Modification section has both *Data* and *Destination* fields. Only the *Destination* field can be modified through the use of the drop down list.

To configure an output to a device, simply choose the appropriate communications port for the desired device and click *Apply*. As with Input Configuration once all the desired devices have been provided with destination communication ports, click *Accept All* to accept the displayed configuration, or *Reset* to return to the settings saved when *Accept All* was last clicked.

1.5 Serial Setup Tab

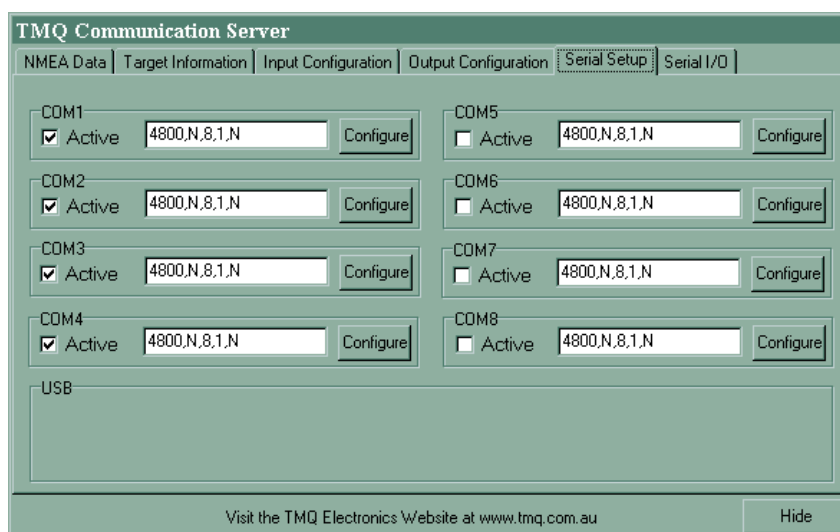
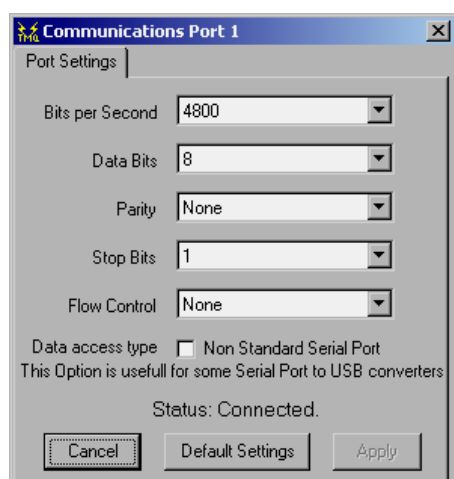


Figure 5.

The Serial Setup tab allows the individual communications ports to be configured. Each communications port has a check box marked *Active*, a field that displays the current configuration settings and a *Configure* button. The *Active* check box allows the associated communications port to be started or stopped (Checked = Started, Unchecked = Stopped). The configuration display field simply displays the current configuration; it cannot be modified from this field. In order to modify the configuration settings for communications port simply click the *Configure* button of the associated port.



Once the *Configure* button has been clicked a dialog box will appear. Select the desired setting from the drop down list can set each of the fields. Once the desired modifications have been made click the *Apply* button. To cancel configuration of the communications port at any time, click *Cancel*. Click on the *Default Settings* button to return the configuration settings to the default values (i.e. 4800 bps, 8 Data Bits, Parity – ‘None’, 1 Stop Bit and Flow Control – ‘None’).

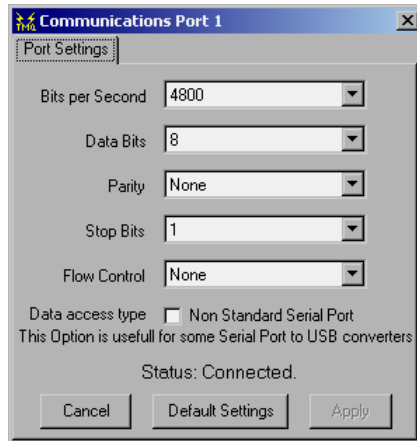
Place a ‘check’ in the box for ‘Data access type ☒ Non Standard Serial Port’ if data is not received on the serial port. Check for data using the ‘Serial I/O’ tab with the correct Com port selected.

1.5.1 C-Panel / C-Temp Special Configuration Information.

When configuring the C-Panel to enable external alarms or two way communication with some types of GPS antenna it may be necessary to place a 'Check' (☒) in the 'Data access type ☒ Non Standard Serial Port' box for the configuration of that port. This should be done if the C-Panel does not produce an audible alarm signal when C-Plot is displaying an alarm, for example; C-Plot may be alarming due to an incorrect direction for a GOTO and the C-Panel isn't 'Beeping'.

When connecting a C-Temp probe do not place a 'Check' in the 'Data access type ☐ Non Standard Serial Port' box.

Under certain circumstances the C-Temp probe may need resetting if temperature data is not present. This can be achieved via the C-Com communications server. Select the 'Serial Setup' tab then deactivate the Com port that the temperature probe is connected to. Leave deactivated for 5 seconds and reactivate in again, this will reset the temperature probe.



Communication Port Configuration Dialog Box

1.6 Serial I/O Tab

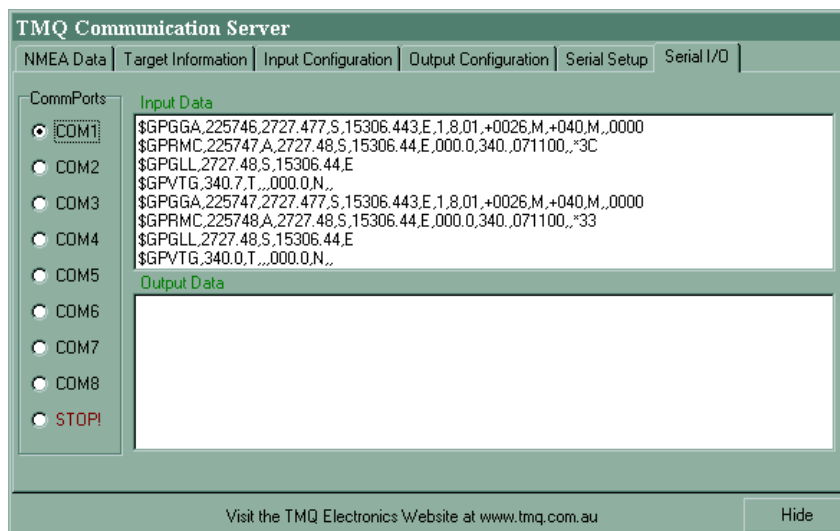






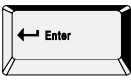












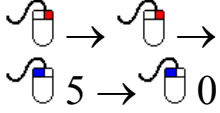

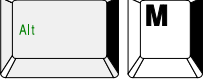
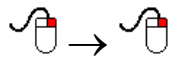
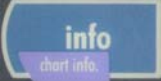

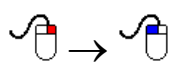
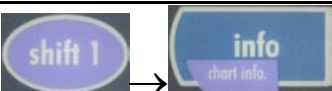
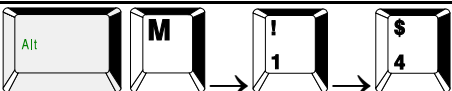

Figure 6.

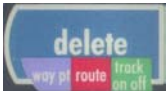


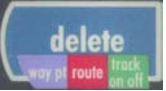






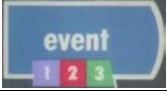












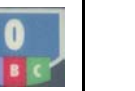
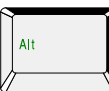











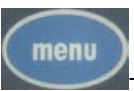


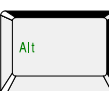




















The Serial I/O Tab allows the input and output data streams to be monitored. Simply click the desired communications port in the *CommPorts* box, to display the raw data being received and sent via this port. This is a useful tool to use when configuring the Input and Output settings of C-Com. Clicking on the ‘*Stop!*’ selection will prevent the data from scrolling up the screen so that it can be comfortably analysed.

2.0 Summary

C-Com is a powerful and productive tool allowing *C-Com Enabled* TMQ applications to share the communications ports effectively. A set of flowcharts is provided to enable C-Com to be used efficiently. These flowcharts outline such procedures as Input Configuration, Output Configuration and adding new devices to the system.

Appendix C: Short Cut Keys

Function	Description	C-Panel	Keyboard	Mouse
Cancel	Used to end an operation or function without executing this operation			
OK	This key is used to verify operations			
Zoom In	Increases the size of the chart, less of the chart is visible on the screen			
Zoom Out	Decreases the size of the chart, more of the chart is visible on the screen			
Center Vessel	Modifies the display so that the vessel is in the center of the screen			
Go To Cursor (On/Off)	Creates a quick route between the vessel's current position and the cursor.			
Main Menu	Displays the Main Menu			
Object Information	Displays Information for the selected Object			
Chart Information	Displays information for the currently loaded chart			

Remove Object	Removes a selected object (Mark, Event, Track, etc)			Various: Object Dependant
Track	This will toggle the track on and off	 → 	 	 →   4 →  0
Add Event	Places an Event symbol at the vessel's current position			
Add Mark	Places a Mark at the current cursor position			 →   1 →  0
Edit Object	Enables editing of the object at the position of the cursor			Various: Object Dependant
Load Chart	Load a new chart	 →  → 	 	 →   0 →  0
Load Best HCRF Chart	Loads the most suitable HCRF chart for the current cursor position	 → 	 → 	 → 
Change Palette	Changes the current palette	 →  → 	 	 →   7 →  0
Screen Shift	Moves the chart in 1/3 of the screen in the desired direction		   	
Exit	Close C-Plot and return to Windows	 →  → 	 	 →   7 →  6

Appendix D: Software Warranty

Software Warranty

TMQ Electronics products are thoroughly inspected and tested before shipment from the factory. The CD-ROM that this software is supplied on is warranted to be free of defects in workmanship and materials for a period of **90 days** from the date of shipment from the factory.

Any failed medium will be replaced without charge to the purchaser during the above-mentioned period, in accordance with the following terms and conditions:

- 1. The defective part is returned, "freight prepaid" to TMQ Electronics, 1/18 Alexandra Place, Murarrie, 4172.*
- 2. Proof of purchase is supplied.*
- 3. Information is provided regarding the nature of the failure or problem occurring.*
- 4. A return address is supplied to enable the replacement software to be sent by road freight. Any other means of transport will be charged to the customers account and must be paid in advance.*

This warranty does not cover defects or damages caused through accident, misuse or abuse. The owner is also responsible for providing reasonable protection of the medium.

This warranty is extended to and is solely for the benefit of the original consumer purchaser.

TMQ Electronics shall not be liable for damage or losses incurred resulting from the use and operation of this product. TMQ Electronics reserves the right to make changes or improvements in later versions of this software, without incurring the obligation to upgrade software already supplied.

Some states do not allow the exclusion or limitation of incidental or consequential damages; therefore the above limitations or exclusions may

not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Appendix E: The Tide Table Utility





1.0 The Main Tide Table Dialog Box

The Tide Table Utility enables the tide parameters at a certain location to be studied. It is only available in the 'Pro' version of C-Plot. It can be invoked from the object info dialog box by clicking the 'Show Tides' Button. The location is selected automatically as the closest to the object being queried. The Main Tide Table Dialog box contains a large amount of information. The information is displayed in four distinct sections.

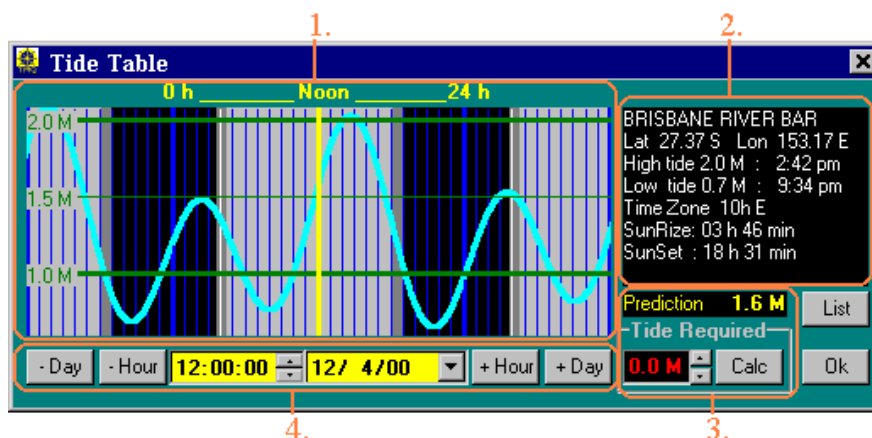



Figure E1

1. Main Graph Display
2. General Information
3. Explicit Information
4. Date/Time Information

1.1 The Main Graph Display

The **Main Graph Display** depicts the tide curve in a graphical manner. The horizontal scale represents time, while the vertical scale represents tide level in meters. The yellow line represents the current time information with the actual tide level corresponding to that time being displayed in the 'Prediction' data field ('Explicit Information' Section). The time indicator's position can be modified by simply clicking on the main graph display at the desired time, or by entering the time via the 'Date/Time Information' section.

 The time represented by the horizontal axis of the graph indicates more than a single day. The area between the '0h' and '24h' lines represent the current day. If the graph is clicked outside of this area the currently selected day will be changed to either the day before or day after, depending which part of the graph was clicked.

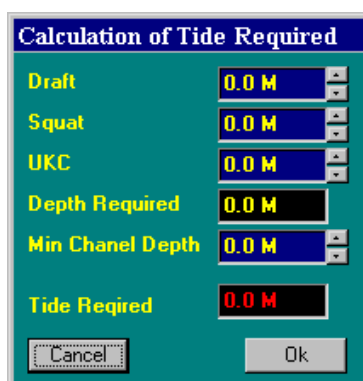
1.2 The General Information Section

The **General Information** section displays all information relevant to the area for which the tide information is being displayed. The information shown here includes:

- ❖ Location Name
- ❖ Latitude and Longitude of the select position
- ❖ The High and Low tide times and levels
- ❖ The time zone of the selected position
- ❖ Sunrise and Sunset times

1.3 The Explicit Information Section

The **Explicit Information** section contains a 'Prediction' data field and a 'Tide Required' sub-section. The 'Prediction' data field displays the actual Tide level for the selected time and position. The 'Tide Required' sub-section displays the currently calculated minimum tide level required for the vessel to pass through the position safely. Clicking the 'Calc' button and entering the appropriate parameters for the vessel can calculate this value.

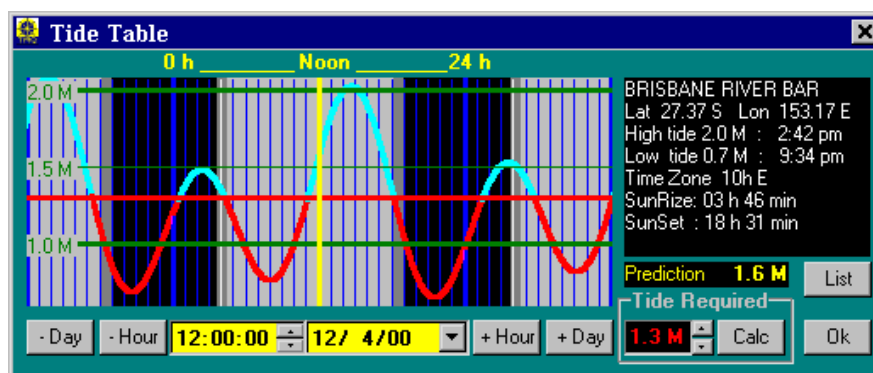


The dialog box titled "Calculation of Tide Required" has a teal background. It contains several input fields with labels in yellow text: "Draft", "Squat", "UKC", "Depth Required", "Min Chanel Depth", and "Tide Required". Each field has a blue button with "0.0 M" and a small up/down arrow. The "Tide Required" field has a red "0.0 M" value. At the bottom are "Cancel" and "Ok" buttons.

Parameter	Value
Draft	0.0 M
Squat	0.0 M
UKC	0.0 M
Depth Required	0.0 M
Min Chanel Depth	0.0 M
Tide Required	0.0 M

Parameter	Description
Draft	The vertical distance between the waterline and the bottom of the keel.
Squat	The vertical distance the stern travels when vessel is underway.
UKC	Under Keel Clearance
Min. Channel Depth	The minimum depth of the channel, reported by local authorities.

Clicking the associated Up/Down arrows can change these parameters. Click 'OK' when ready to calculate the 'Tide Required'. Once the 'Tide Required' has been calculated it will be shown on the 'Main Graph Display' as a red horizontal line, the tide curve that is bellow this line will also be red. Using this information it is possible to establish the times when the channel is deep enough for the vessel to enter without difficulties.



1.4 The Date/Time Section

The **Date/Time** section allows the desired date and time to be selected accurately. Time is represented on the 'Main Graph Display' as a horizontal yellow line and can be changed in several ways:

1. Clicking the '+ Hour' and '- Hour' buttons.
2. Highlighting the hours or minutes in the time display and using the Up/Down arrows

3. Highlighting the hours or minutes in the time display and entering the desired value using the keyboard.
4. Click in the 'Main Graph Display' at the desired time.

Similarly the date can be changed in several ways:

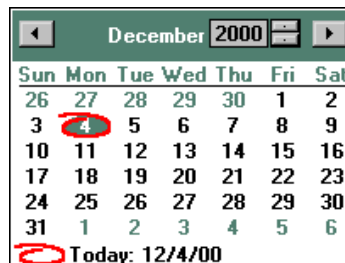
1. Clicking the '+ Day' and '- Day' buttons.
2. Highlighting the Day, Month or Year in the Date display and entering the desired value using the keyboard.
3. Click on the 'Down' arrow to invoke the 'Date Select' dialog box (Described below).

1.4.1 The Date Select Box

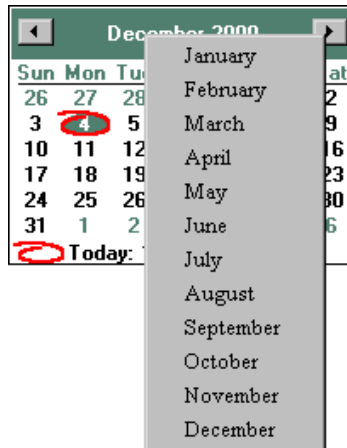


The **Date Select** dialog box allows the desired date to be selected effortlessly. Simply select the date using the following sequence:

1. Choose the year – This can be done by clicking on the year in the Title of the box, and use the Up/Down arrows.



2. Choose the Month – This can be done by either using the left and right arrows in the title bar, or by clicking on the month in the title bar and choosing the month from the list.



3. Choose the Day – This can be done by simply clicking the desired day so that it is highlighted and circled in red.

1.5 Choosing the Location from a List

If the automatic location selected by the tide table utility is inappropriate it is possible to select a more appropriate location by clicking the 'List' button.



The drop-down list at the top of the 'Select Port' dialog box allows the list to be expanded or contracted according to area.



Once the appropriate area has been selected from the drop-down list, simply click on the desired port in the list and click 'Show'. Clicking 'Cancel' will return to the Tide Table dialog box without altering the location.

Appendix F: The C-Panel



Figure F1

The C-Panel has been specifically designed for use with C-Plot. It has a number of special purpose buttons that allow C-Plot to be used efficiently and effectively.


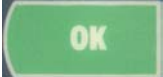





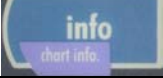
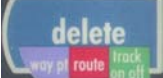
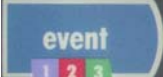

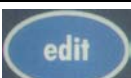


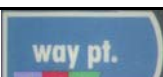
The joystick on the panel can be used to move the cursor around the main chart display. The 'Select' button acts as a 'Left' mouse button click, while 'Shift1 → Select' acts as a 'Right' mouse button click. The combination of the joystick and the 'Select' button enable the C-Panel to be employed in exactly the same way as a mouse.

A number of buttons have multiple functions. The extended functions of such a button can be accessed using the 'Shift' buttons. Each extended function on the button is colour coded to a shift button.



 →  = A, or  →  = B, or  →  = C

The following table outlines the functions of the special purpose buttons on the C-Panel.

Button	Description
	The 'Menu' button accesses the Main Menu
	The 'OK' button is the same as clicking 'OK' with the mouse
	The 'Cancel' button is the same as clicking 'Cancel' with the mouse
	Allows the chart to be viewed more closely
	Allows more of the chart to be viewed on the screen
	Moves the chart so that the vessel is in the center of the screen
	Invokes the 'Go To Cursor' function
	Shows Object/Chart information
	Deletes the selected Object. Toggles the track On and Off
	Places an Event at the vessel's current position
	Places a Mark at the current position of the cursor
	Invokes the 'Edit' dialog box for the selected object <i>Also used for selecting highlighted submenu button</i>
	Various navigating functions
	Toggles the movement speed of the cursor between 'Fast' and 'Slow'
	This button is redundant for this version of C-Plot

Appendix G: File Conversion Utilities

Furuno Conversion Utilities

C-Plot is packaged with two utilities for converting Furuno plotter files to C-Plot files. Furuno files are stored on 3.5" 720kb disks. If you are using High-Density (HD) disks to record Furuno data, the extra hole at the top of the disk will need to be covered with non-transparent tape.

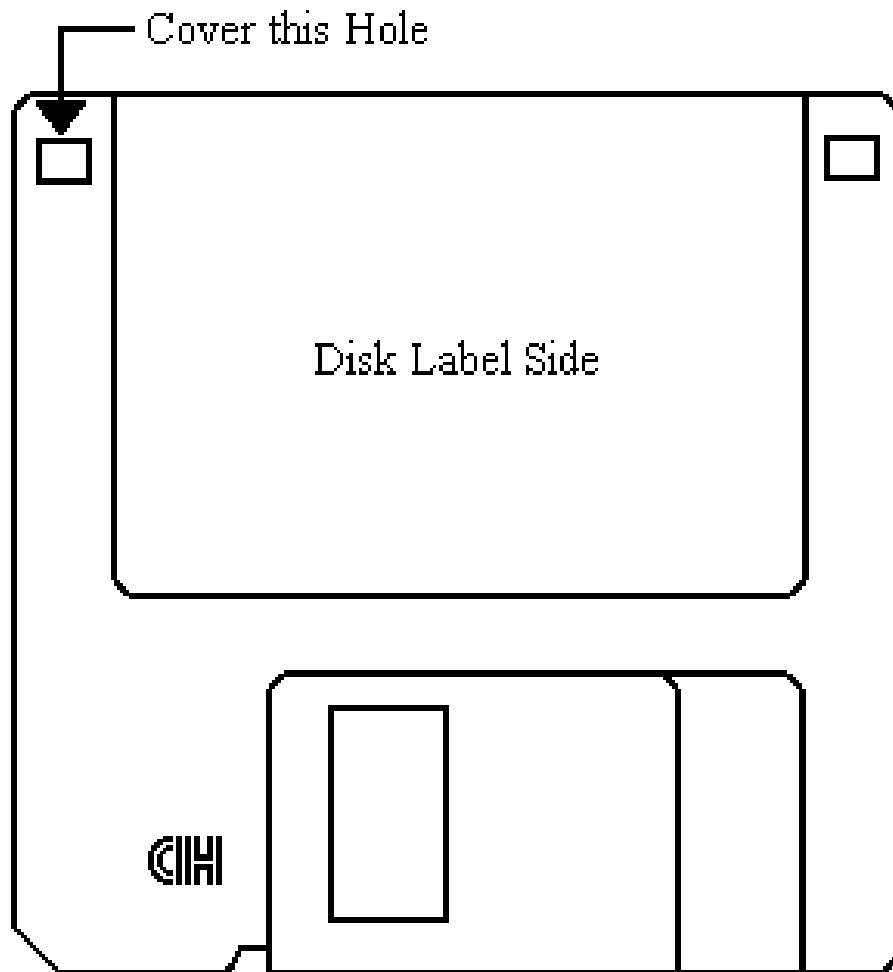



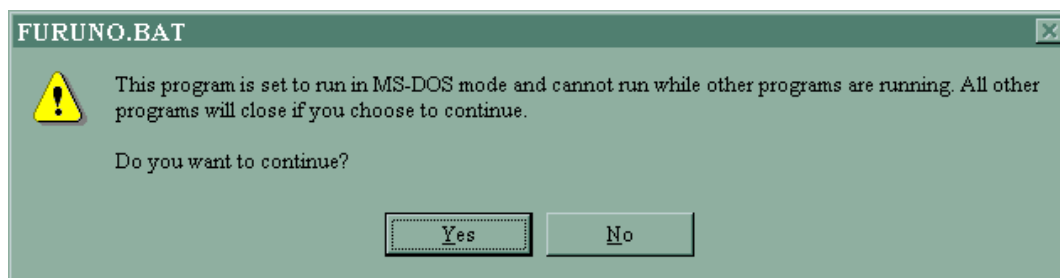
Figure G1

To convert Furuno data for use in C-Plot, it must first be copied from the Furuno disk to the hard drive of the computer. Due to the format of the Furuno disk, this copying must be done in MS-DOS mode. There is a file called 'Furuno GET' ( Furuno GET) that performs this operation automatically. This utility can be found in the C-Plot program group in the 'Start' menu. Furuno disk can be copied to the hard drive of the computer using the following sequence:

-
1. Close all programs.
 2. Place the Furuno disk to be copied in the 3.5" floppy drive and in the Start Menu:

 Start →  Programs →  C-Plot SF/Pro →  Furuno GET

3. A dialog box will be displayed stating that this application is set to run in MS-DOS mode. Click 'Yes'.



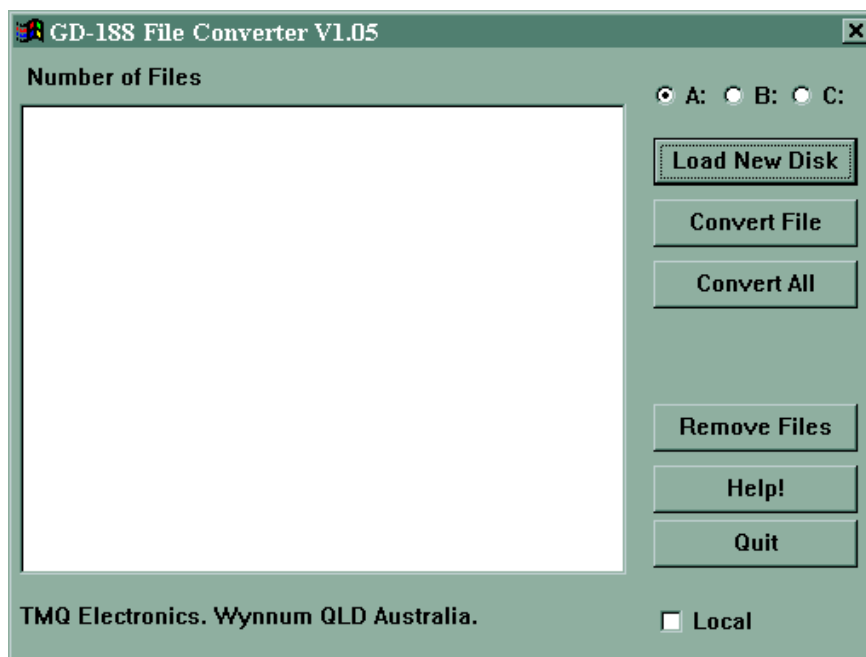
4. The computer will now restart in Windows mode.

Once the disk has been copied to the hard drive the data can now be converted for use with C-Plot using either the GD-188 or GD-180 utility.


GD188™ Conversion Utility

The GD188™ utility enables data from a Furuno GD-188™ floppy disk to be converted for use with C-Plot. To start this utility in the Start menu:

 Start →  Programs →  C-Plot SF/Pro →  GD-188



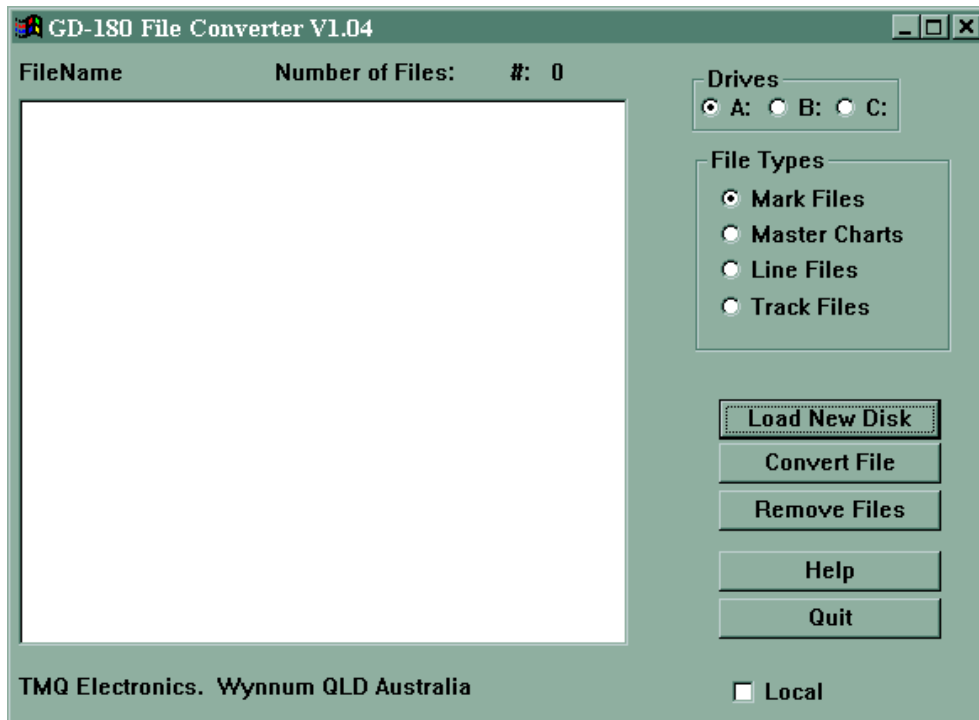
To convert GD-188™ Files:

1. Select Drive C: ()
2. Click 'Load New Disk', the list of files available on the disk will be displayed.
3. Select the file to be converted and click 'Convert File', or click 'Convert All' to convert all of the files in the list.
4. The file(s) will be converted and the number of points found in the file(s) will be displayed.
5. Click 'Quit' to close this utility.


GD-180™ Conversion Utility

The GD180™ utility enables data from a Furuno GD-180™ floppy disk to be converted for use with C-Plot. To start this utility in the Start menu:

 Start →  Programs →  C-Plot SF/Pro →  GD-180



To convert GD-180™ Files:

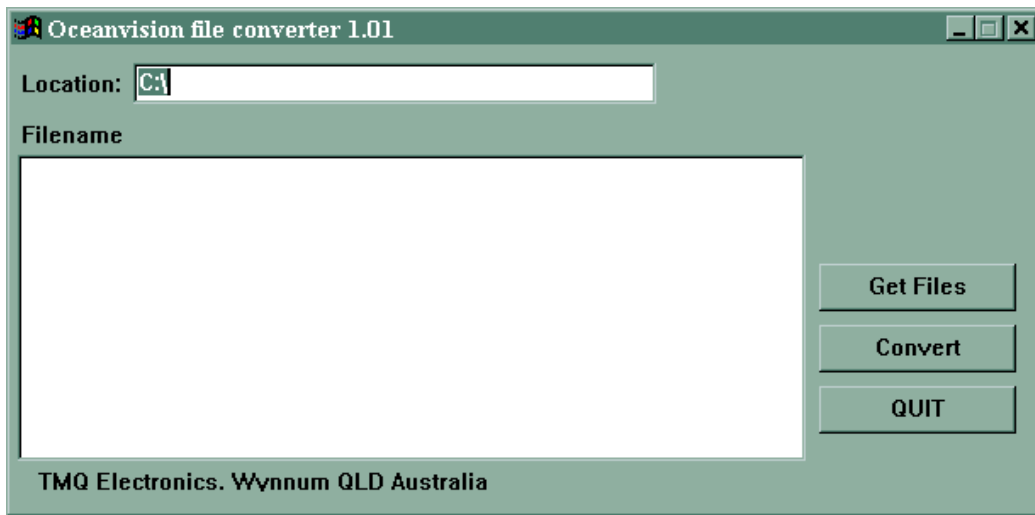
1. Select Drive C: ()
2. Select the 'Type' of files to be converted
3. Click 'Load New Disk', the list of files available on the disk will be displayed.
4. Select the file to be converted and click 'Convert File'.
5. The file will be converted and the number of points found in the file will be displayed.

-
6. Repeat Steps 4 – 5 until all desired files are converted.
 7. Click ‘Quit’ to close this utility.

Ocean Vision™ Conversion Utility

The ‘Ocean’ utility enables data from an Ocean Vision™ floppy disk to be converted for use with C-Plot. To start this utility in the Start menu:

 Start →  Programs →  C-Plot SF/Pro →  Ocean



To convert Ocean Vision™ Files:

1. Type the location of the Ocean Vision™ files in the ‘Location’ data field.
2. Click ‘Get Files’. A list of Ocean Vision files in the location specified will be displayed.
3. Select the file to be converted and click ‘Convert’.
4. Repeat Step 3 until all desired files are converted
5. Click ‘Quit’ to close this utility

Other Available Conversions

- ➡ Shipmate™ Conversion – carried out at TMQ
- ➡ JRC Ram/Disk Conversion – carried out at TMQ

Appendix H: Dead Reckoning Mode

If C-Plot should lose GPS input information for an extended period of time, it will automatically switch to 'Dead Reckoning' mode. When C-Plot is in 'Dead Reckoning' mode the Position, Speed, and Course data fields in the 'Ship position Data' section of the main chart display will be RED and the position data field will include the letters 'DR' as shown in figure H1.

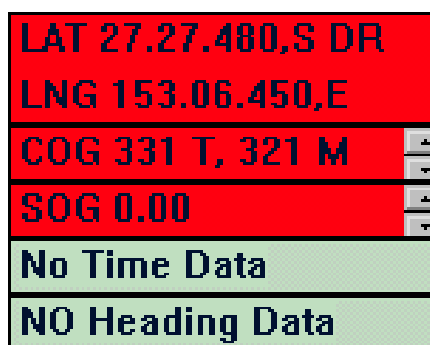


Figure H1

While C-Plot is in this mode, any of the data fields shown in RED can be modified manually. The Course (COG) and Speed (SOG) data can be modified using the accompanying Up/Down arrows. Clicking on the Position data field will invoke a 'Set New Position' dialog box, so that the position data can be modified.

Set New Position


27° 27.480' S

153° 06.450' E

OK

Cancel

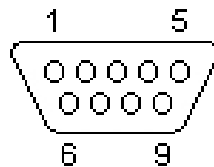
To modify either the latitude or longitude data simply click on the first digit of either and type the new latitude/longitude. Click 'OK' to accept the new position or 'Cancel' to return to the normal chart display without changing the position of the vessel.

 *C-Plot should not be used in Dead Reckoning mode for an extended length of time. The accuracy of the vessels position on the C-Plot main chart display is totally dependant on the accuracy of the inputted data. Any inaccuracies will cause C-Plot to display an erroneous vessel position. All steps should be taken to re-establish GPS input to the system.*

Appendix I: Interfacing GPS & Auto Pilot Devices

DB9 Female Serial Connector


In order to connect a GPS antenna and/or Autopilot to the computer, the connectors on these devices need to be removed and coupled with a DB9 Female Serial connector.




DB9 Female Serial Connector

The wiring should be connected as follows:

DB9 Pin Number	Use
2	GPS Receiver
3	Auto-Pilot Transmit
5	Signal Ground

 *There are two signal ground wires, one for the GPS and one for the Auto-Pilot. These wires should both be connected to pin 5.*

 *Please consult the GPS and Auto-Pilot manufacturer manuals to identify the appropriate wires to connect to each pin.*