

STARLIGHT PLUS



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STARLIGHT PLUS
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STARLIGHT PLUS

Warning!!!

Electronic charts displayed by the chartplotter are believed to be accurate and reliable, but they are not intended to substitute for the official charts which should remain your main reference for all the matters related to the execution of a safe navigation.

For this reason we would like to remind you that you are required to carry on board and use the officially published and approved nautical charts.

Caution

- Please read through this manual before the first operation. If you have any questions, please contact the Company customer service or your local dealer.
- The chartplotter is not built water proof. Please give attention to avoid water intrusion into the chartplotter. Water damage is not covered by the warranty.
- Extensive exposure to heat may result in damage to the chartplotter.
- Connection to the power source with reversed polarity will damage the chartplotter severely. This damage may not be covered by the warranty.
- The chartplotter contains dangerous high voltage circuits which only experienced technicians can handle.
- The C-MAP NT⁺ C-CARD are available from your local dealer.
- We will not be liable for errors contained herein, or for incidental or consequential damages in connection with the performance or use of this material.

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1

Introduction

If you have not used a position-finding instrument before and intend to use your chartplotter for navigating, we suggest that you read this user manual and make sure you are familiar with its contents. Chapter 2 "Before You Begin" introduces you to the basic information to get you start using the chartplotter. Chapter 3 "For the New User" should be read first to become familiar with your new instrument. Chapter 4 "For the Experienced User" introduces the advanced features of the chartplotter. For all other information you wish please refer to the Chapter 5 "Terms and Functions".

Throughout this user manual, the keys are shown in capitals letters enclosed between single inverted commas, for example 'MENU'.

Menu operations are in bold characters listed by keys sequence with the menu names enclosed between inverted commas, for example '**MENU**' + '**BASIC SETTINGS**' + '**ENTER**' + '**INPUT/OUTPUT**' + '**ENTER**' means: press the 'MENU' key, using the cursor key to select the Basic Settings menu, press 'ENTER', using the cursor key to select the Input/Output menu and then press 'ENTER'.

Terms and functions underlined, for example Target, are explained in the Chapter 5.

1.1 FEATURES

The chartplotter is a computer specifically designed for nautical use but, more precisely, to ease and speed up all calculations, which so far have been done manually. If connected to a positioning instrument, the chartplotter displays the current position, the speed, and the heading of the boat and its track. The user information like Waypoints, Marks and tracks can then be stored on a User C-CARD, and can be recalled at any time. On the screen are shown navigation data and cartographic information obtained from electronic charts of C-MAP NT+ C-CARD.

1.2 BASICS

The chartplotter is controlled by using 11 keys. There is also a cursor key to move a cursor across the screen. As you press a key, a single audio beep confirms the key action; every time the key pressed is not valid, three rapid beeps sound indicates that no response is available.

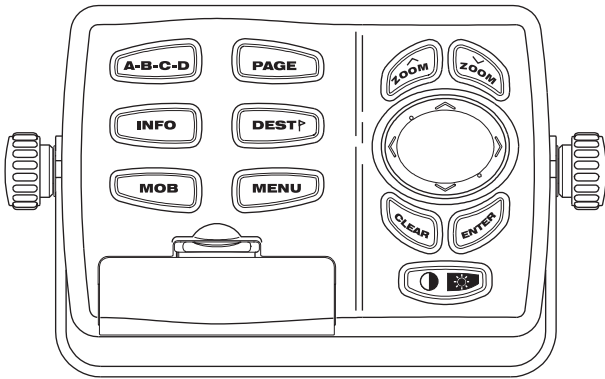


Fig. 1.2 - The controller

1.3 IF YOU NEED ASSISTANCE

If your chartplotter does not operate properly, go to the System Test on Par. 6.6. Most common operating difficulties can be diagnosed using these tests. If you still need assistance, call your local dealer, reporting the Software Release and Cartography information available in the [About Page](#).

- Select About Page: 'MENU' + "About..." + 'ENTER'

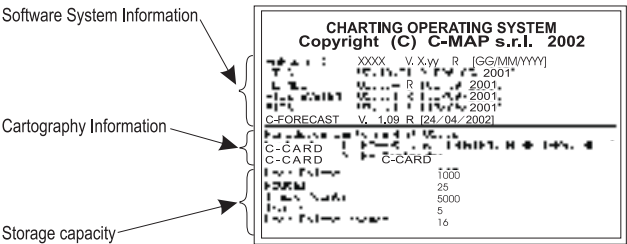


Fig. 1.3 - About Page

2

Before You Begin

This chapter provides basic information to get you start using the chartplotter; it will help you to become familiar with the chart display and the functions of the controls before you start using the chartplotter.

2.1 THE KEYBOARD

The  'CONTRAST'/'BRIGHTNESS'/'POWER' key

Press the right side of 'POWER' to turn the chartplotter On. Press and hold the right side of 'POWER' down (once the chartplotter has been turned On) for 3 seconds turns the chartplotter Off.

Press and immediately release the right side of 'POWER' to adjust the brightness, press and immediately release the left side of 'POWER' to adjust the contrast of the display.

The  key

Pressing 'A-B-C-D' places A, B, C, D points at cursor coordinates.

The  key

Press 'PAGE' to select the configuration you wish among cartography and text area in two different modes (text area on the right side or on the bottom line of the screen, full screen if Target has been inserted or with partial information on SOG), only cartography, Depth Graph 1/2 screen and 1/3 screen pages, GPS Data page, Navigation Data page, Graphic Data page (See Par. 3.1).

The  key

Selects information on cartographic objects.

The  key



Place the cursor and press 'DEST' to set Target.

The  key

Pressing 'MOB' inserts MOB (Man OverBoard).

The  key

Selects the Functions Menu.

The  and  keys

Press 'ZOOM IN' shows more details of a smaller area, by changing the chart scale and zooming in on your display. Press 'ZOOM OUT' to operate similarly to the 'ZOOM IN', except in reverse, changing the scale and showing a wider, otherwise less detailed view.

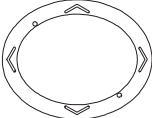
The  key

Excluding specific situations, returns to the previous menu or leaves a menu without making changes. If you are not into a menu, if the GPS computing a valid fix position and the chartplotter is not in Home mode, pressing 'CLEAR' sets Home mode. When Home (called also Navigate) mode is set, the cursor is not shown anymore and all cartographic functions (zoom, scroll, etc.) are leaded by the fix position. The fix is centered in the map display and the map scrolls underneath as the fix position changes. To deactivate Home mode move the cursor.

In Basic Mode deletes the A, B, C, D points, the User Point (Mark, Event, Waypoint), the MOB, the Target identified by the cursor.

The  key

Selects the desired option, confirms selection; in Basic Mode places A, B, C, D points on the cursor coordinates, in Advanced Mode creates Objects (Mark, Event, Waypoint, EBL/VRM).

The  cursor key

Moves the cursor about on the display screen, quickly and accurately. The cursor starts moving slowly the cursor key is initially pressed then accelerates after a while if the cursor key is pressed and hold. It also scrolls the desired option in the menu page(s): up/down move the current menu selection; right executes the function assigned to the active selection in the menu (same as 'ENTER'); left quit menu (same as 'CLEAR').

If in Home (Navigate) mode, it allows to exit from Home mode.

2.2 TURNING THE CHARTPLOTTER ON AND OFF

Before powering On the chartplotter, check for the correct voltage (10-35 volt dc) and the correct connections with the positioning instrument:

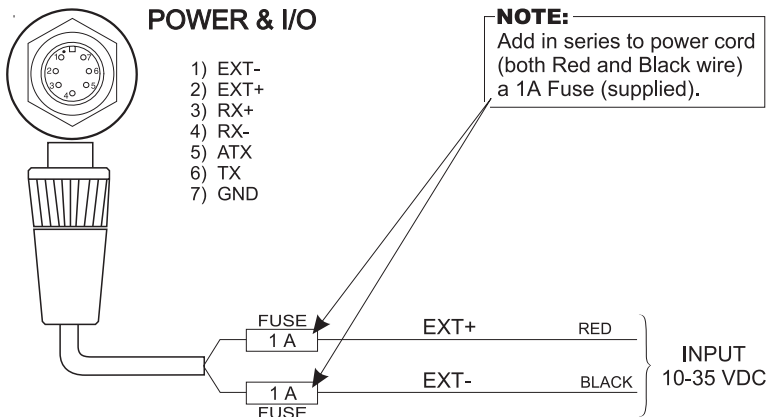


Fig. 2.2 - Power On

2.2.1 TURNING ON

Press and hold the right side of 'POWER' for 1 second. The chartplotter emits one rapid beep sound and a title page is opened:

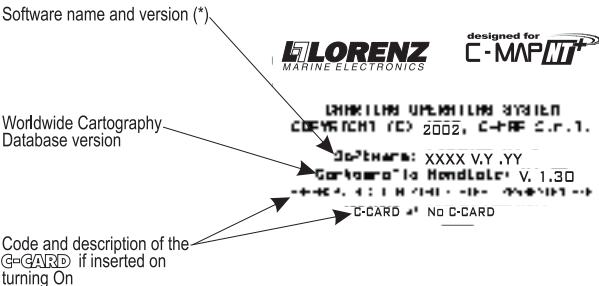


Fig. 2.2.1 - Title page

Note (*)

The software version is subject to change without notice. This manual is valid anyway.

After a few seconds, the first of the two Caution Notice pages is displayed, reminding you that the chart plotter is only an aid to navigation, and should be used with appropriate prudence. The electronic charts are not intended to substitute for the official charts. Then the cartographic screen is displayed.

2.2.2 TURNING OFF

Press the right side of 'POWER' and hold for 3 seconds: a countdown timer appears on the screen, if you release the key before the countdown timer reaches zero, the chart plotter will remain On.

2.3 CHANGING KEYPAD BACKLIGHT AND CONTRAST

Press and immediately release the right side of 'POWER' (do not press and hold the key, or the "power-off" message will be displayed!); the backlight increases. Repeat this operation the backlight decreases.

Press and immediately release the left side of 'POWER': the contrast increases. Press and immediately release the left side of 'POWER' the contrast decreases. In other words, first pressure of the key will increase the value till you keep it pressed, next pressure of the key will decrease the value till you keep it pressed.

Warning!!!

At low temperatures the CCFL backlight may not glow properly. allow a few minutes to warm up.

2.4 SELECTING THE LANGUAGE

It is possible to select the language in which you wish information to be displayed (for screen labels, menus and options, but it is not affect the map information). The default setting is Italian.

Press 'MENU', by using the cursor key select the Basic Settings menu, then press 'ENTER' and again by using the cursor key select Language item and press 'ENTER': choose the language you want and press 'ENTER' to confirm.

2.5 SETTING THE INPUT PORT & FORMAT

2.5.1 NMEA-0183 POWER & I/O PORT

The setting should be NMEA-0183 4800-N81-N if the external NMEA 0183 device is connected as follows:

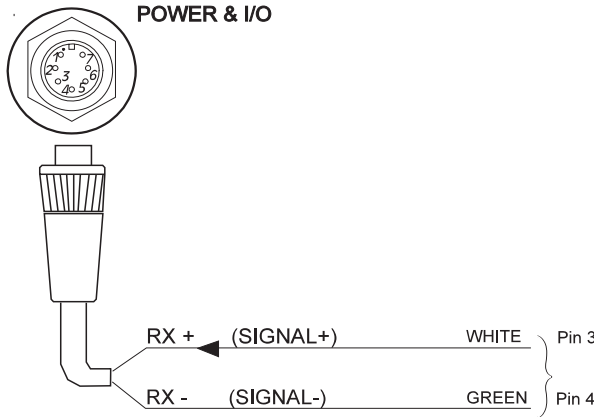


Fig. 2.5.1 - I/O PORT

- 'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "NMEA0183 PWR I/O PORT" + 'ENTER' + "4800-N81-N" + 'ENTER'

2.5.2 NMEA-0183 GPS PORT

The setting should be NMEA-0183 4800-N81-N if the external NMEA 0183 device is connected as follows:

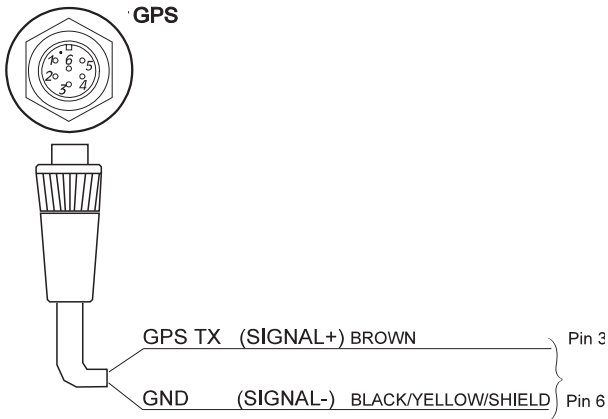


Fig. 2.5.2 - GPS PORT

- 'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "NMEA0183 GPS PORT" + 'ENTER' + "4800-N81-N" + 'ENTER'

2.6 ADDITIONAL C-CARDS

The chartplotter uses two types of C-MAP cartridges: either a chart cartridge or a data storage cartridge. A chart cartridge, called C-CARD, contains detailed charts of the area covered. A data storage cartridge, called User C-CARD can be used to permanently store your routes, Waypoints, Marks, Events and tracks (see Par. 4.6).

2.6.1 INSERTING C-CARD

Hold the C-CARD by the short inclined side so that you can see the C-MAP label.

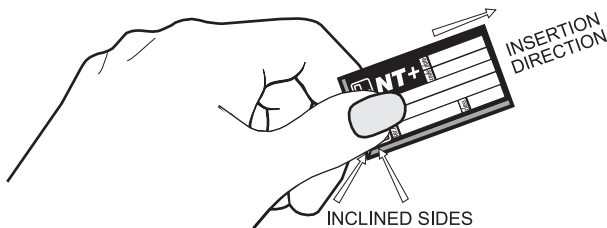


Fig. 2.6.1 - Inserting C-CARD (I)

Gently push the C-CARD into one of the two slots (1); push the C-CARD in as far as it will go, then move it to the bottom (2) to hold fixed into the slot (3).

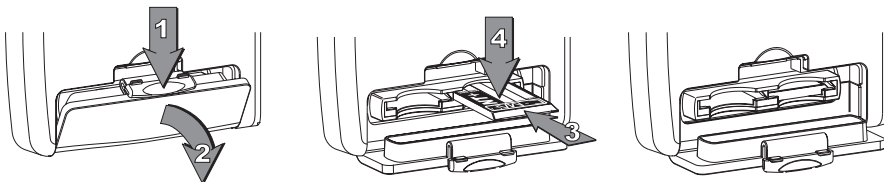


Fig. 2.6.1a - Inserting C-CARD (II)

2.6.2 REMOVING C-CARD

Press lightly the C-CARD you wish to remove (1) and move it to the top (2) until you hear a click: the C-CARD will be ejected out of the slot (3).

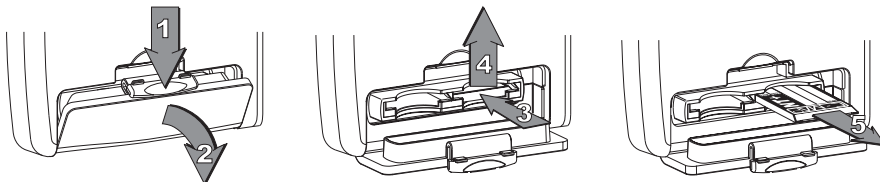


Fig. 2.6.2 - Removing C-CARD

Note

C-MAP is continuously creating new charts and revising old ones. If you wish to receive information on the newest available charts, you can write for the catalog of available C-MAP NT[®] C-CARD at your dealer.

2.7 PRINT SCREEN ON PAPER

The user can print the screen image on paper, if the chartplotter is connected to a printer. The printer must be a serial printer and set as described in Par. 6.5.

To activate the print screen press 'MENU' for more than 1 second. To print one page it takes several minutes. To abort print screen press 'CLEAR'.

To select the desired settings:

- 'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "PRINTER OUTPUT" + 'ENTER'

3

For the New User

In order to get started using your chartplotter, you must do the following things:

- 1) Your chartplotter must have been installed properly according to the installation instruction on Par. 6.2.
- 2) You must have performed the proper settings for use with your positioning instrument (see Par. 2.5) and inserting the C-CARD for navigating in area you wish (see Par. 2.6).
- 3) You must have Power On to the chartplotter and adjust the brightness and contrast of the display (see Par. 2.2 and 2.3).

Once this is done, you can use your chartplotter for navigation.

3.1 SCREEN DISPLAY CONFIGURATION

The screen display can be shown in 8 different modes (wrap around) among cartography and text area in two different modes (text area on the right side or on the bottom line of the screen, complete if Target has been inserted or with partial information on SOG), only cartography, Depth Graph 1/2 screen and 1/3 screen pages, GPS Data page, Navigation Data page, Graphic Data page.

To select the configuration you wish:

- 'PAGE' more times

3.1.1 CHARTS AND TEXT AREA

The charts and text area can be shown in two different modes. The first is with text area on the right side of the screen:

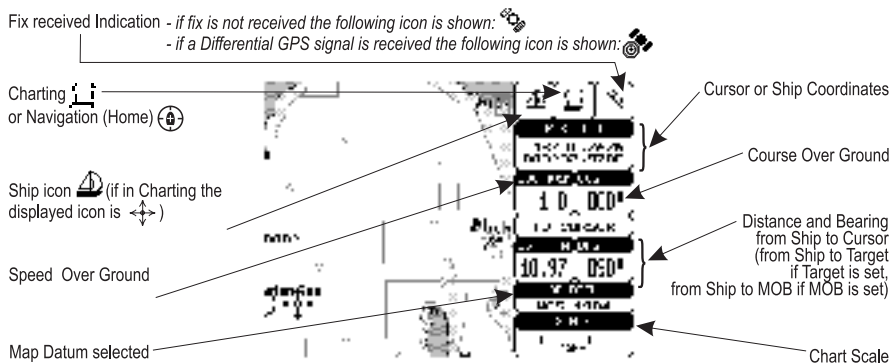


Fig. 3.1.1 - Charts and text area

The second is with text area on the bottom line of the screen (with partial information on SOG):

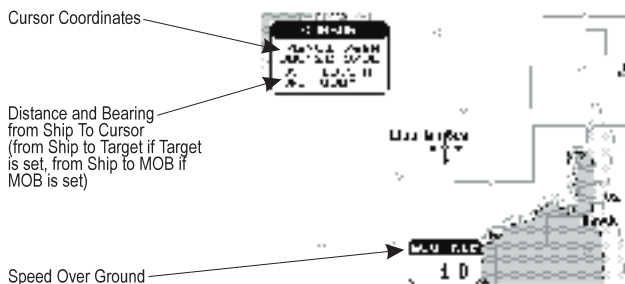


Fig. 3.1.1a - Charts and text windows

If Target is set, in the previous Fig. 3.1.1a instead of the only SOG information window, a text line with DST, BRG, XTE, SOG and TTG information appears. Then it is possible to see on the screen only charts:

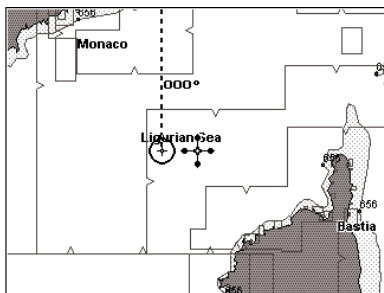


Fig. 3.1.1b - Full charts

3.1.2 DEPTH GRAPH

The depth graph can be shown in two different modes. Depth graph displayed only on 1/3 of the screen:

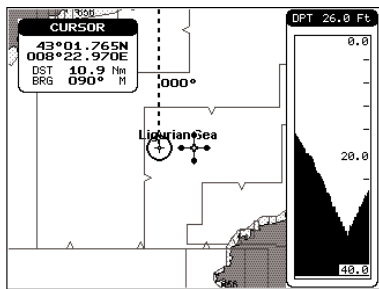


Fig. 3.1.2 - The Depth Graph 1/3 of the screen

or Depth graph displayed on 1/2 of the screen:

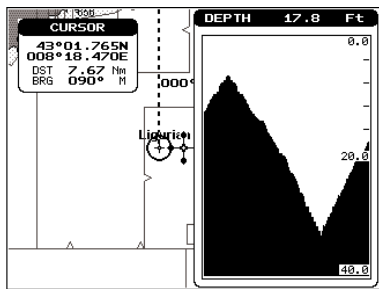


Fig. 3.1.2a - The Depth Graph 1/2 of the screen

3.1.3 GPS DATA PAGE

The GPS Data page shows in graphic mode GPS data.

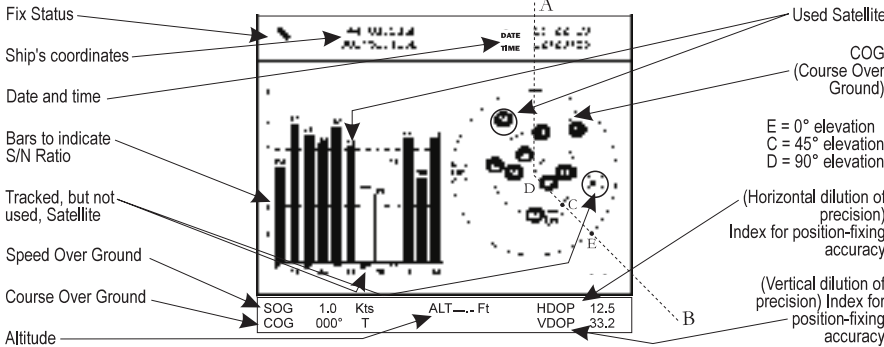


Fig. 3.1.3 - GPS Data Page

On the right side of the screen (see Fig. 3.1.3), there is a polar representation of the azimuth and elevation of each satellites. The circle contains a number indicating the PRN of the satellite and it is filled when it is used for the fix solution. On the left side there are histograms indicating the S/N ratio (SNR). The bar is filled when the satellite is used for solution. As example, the satellite with PRN=10 is used for solution with S/N=44, Azimuth=127degree and Elevation=70degree. When a valid fix is received, the Lat/Lon, Date, Time, Altitude, VDOP, HDOP, SOG and COG are shown in the page.

3.1.4 NAVIGATION DATA PAGE

The Navigation Data page shows information about speed (SOG) and course (COG) of the ship, status of the received signal, ship's coordinate and other general information.

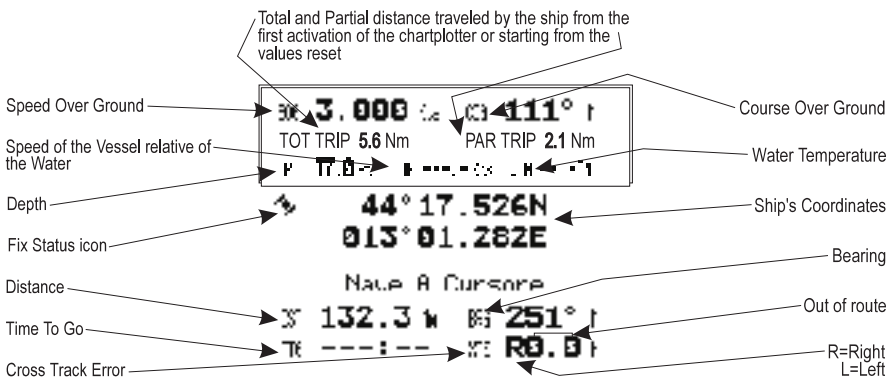


Fig. 3.1.4 - Navigation Data Page

3.1.5 GRAPHIC DATA (ROLLING ROAD) PAGE

The Graphic Data Page shows in graphic mode navigation data.

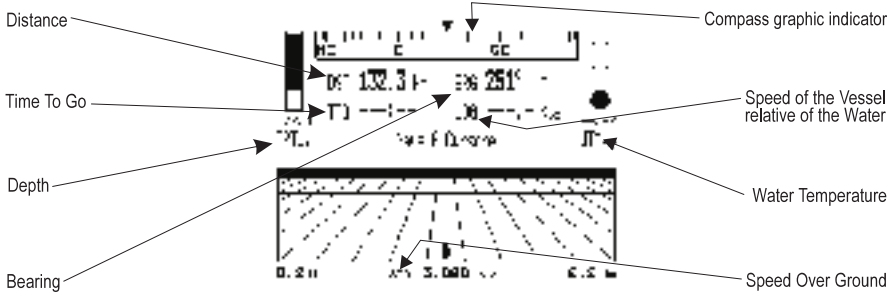


Fig. 3.1.5 - Graphic Data Page

3.2 A-B-C-D FUNCTION

The A-B-C-D function allows you to create the A, B, C, D points and to delete them.

3.2.1 INSERTING THE A-B-C-D POINTS

Place the cursor on the desired position and press 'A-B-C-D': on the screen the A point and an information window on A appear. Move the cursor and press 'A-B-C-D' again: the B point appears, connected to A with a straight segment; an information window on A-B segment (distance (DST), bearing (BRG) and total distance from the first point) appears. Moving the cursor and pressing 'A-B-C-D' places the C and D points:

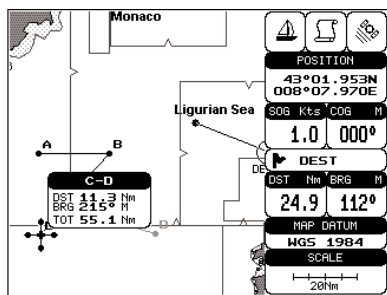


Fig. 3.2.1 - A-B-C-D points

3.2.2 DELETING THE A-B-C-D POINTS

Place the cursor on the desired point (A, B, C or D) and press 'CLEAR': the point is deleted. When the point is deleted, the cursor is placed on the previous point, if existed. The labels of the next points are renamed.

3.2.3 NAVIGATING ON THE A-B-C-D POINTS

If fix received is good, place the cursor on the desired point A, B, C or D and press 'DEST'. When the ship arrives to the Destination point, navigation follows to the next point (if existed).

3.3 MAP ORIENTATION FUNCTION

The Map Orientation function selects the orientation of your chart accord-

ing to: North (the map is shown with North upwards), Head (the map is shown with the Head upwards), Course (the map is shown with the ship's current heading upwards). The default setting is North. To select the Map Orientation:

- 'MENU' + "BASIC SETTINGS" + 'ENTER' + "MAP ORIENTATION" + 'ENTER' or:
- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "MAP ORIENTATION" + 'ENTER'

In this case if Course is selected, is possible to insert the Orient. Resolution angle.

3.4 NAVIGATING TO A SINGLE DESTINATION

3.4.1 DISTANCE AND BEARING TO TARGET

Once you have positioned the cursor on your desired location press 'DEST'.

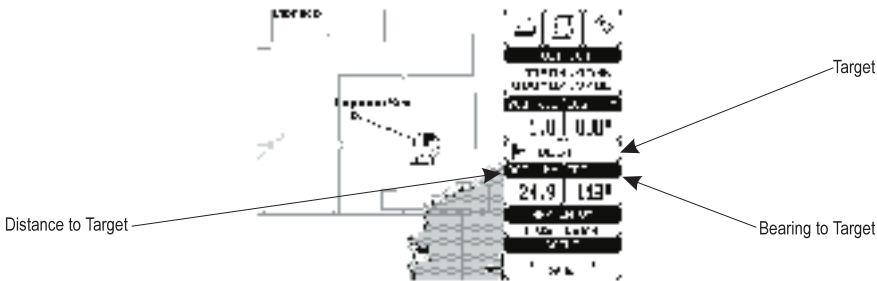


Fig. 3.4.1 - Navigation to a single destination

On the screen is shown a line connecting the Target with the ship's position. When the Target is placed, all navigation data are referred to this Target.

3.4.2 TIME TO GO

When the Target is set the TTG value is displayed in the Graphic Data page (see Fig. 3.1.5):

- 'PAGE' more times to select Graphic Data page

3.4.3 DELETING TARGET

Place cursor on Target icon, press 'ENTER', select "STOP" and press 'ENTER': the symbol identifies Target disappears from the screen. Otherwise press 'CLEAR' when cursor is on the Target icon.

3.5 C-MAP NT+ INFORMATION

As part of C-MAP's continuous Electronic Vector Chart product development and improvement program, **C-MAP NT+**, a natural evolution of our Electronic Chart technology, has been released.

The key points of NT+ can be divided into five main categories:

1. Coverage/Price
2. Chart/Display Presentation
3. New Features/Functions
4. Accessories
5. Compatibility

Looking at the chart displayed on the screen, you will see a variety of objects and symbols. Refer to the Cartography Reference Guide for their explanation.

The display can be customized for your personal preferences and needs (see the following paragraphs).

3.5.1 DISPLAY MODE

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "DISPLAY MODE" + 'ENTER'

To simplify the customization of the chart display, the map settings are now re-organized in modes allowing the user to choose the preferred setting. Pre-programmed settings are user selectable from Full, Simple, Fishing, Low and Custom. The default setting is Custom. The custom selection allows the user to customize the chart to users preferences. The chart below shows the selections for each mode:

Setting	Full	Simple	Fishing	Low	Custom (Default values)
Names	On	On	On	Off	On
Nav-Aids	INT	INT	INT	INT	INT
Light Sectors	On	Off	Off	Off	On
Attention Areas	On	On	On	Off	On
Tides & Currents	On	On	Off	Off	On
Seabed Type	On	Off	On	Off	On
Ports & Services	On	On	Off	Off	On
Tracks & Routes	On	Off	Off	Off	On
Underwater Objects	On	Off	On	Off	On
Depth Areas	On	On	On	Off	On
Depth Areas >	0005	0005	0005	0005	00002 Mt
Depth Areas <	0030	0030	0030	0030	00009 Mt
Depth Lines & Soundings	On	On	On	Off	On
Depth Lines & Soundings >	0000	0000	0000	0000	00000 Mt
Depth Lines & Soundings <	9999	0005	9999	0005	00305 Mt

Rivers & Lakes	On	On	Off	Off	On
Natural Features	On	Off	Off	Off	On
Cultural Features	On	Off	Off	Off	On
Landmarks	On	On	Off	Off	On
Lat/Lon Grid	On	Off	On	Off	On
Chart Boundaries	On	Auto	Off	Off	On
Cartography	On	On	Off	On	On
Mixing Levels	On	Off	On	Off	On
Declutter	Off	On	Off	On	Off

3.5.2 CUSTOMIZE MAP

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER'

This function allows the user to customize the following selections and is divided into the following setting menus: Marine Settings, Depth Settings, Land Settings and Chart Settings. If any of the settings are changed while in the Customize Map mode, when exiting the chartplotter will show a prompt “Do you want to change Display Mode to Custom?”. Press ‘ENTER’ to accept.

Note

The Warning window appears only if Display Mode is not Custom.

- The current Map Settings are shown in a table:
- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CURRENT MAP SETTINGS TABLE" + 'ENTER'

3.5.2.1 Marine Settings

The Marine Settings menu controls the display on the map of the marine features.

Names: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "NAMES" + 'ENTER'

Nav-Aids: US/US Simple/INT/INT Simple/Off. The default setting is US. When selected it affects Lights, Signals, Buoys & Beacons display.

- **INT(ernational):** Draws Nav-Aids using international symbology. All components of Complex Objects are shown.
- **INT(ernational) Simplified:** Shows Complex Object with one icon only. Non-complex Nav-Aids are shown using international symbology.
- **US:** Draw Nav-Aids using NOAA symbology. All components of Complex Objects are shown.

- **US Simplified:** Shows Complex Object with one icon only. Non-complex Nav-Aids are shown using NOAA symbology.

- **Off:** Lights, Signals, Buoys & Beacons are no longer displayed on the charts.
- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "NAV AIDS" + 'ENTER'

Light Sectors: On/Off. The default setting is On. Light Sectors are not displayed when Nav-Aids option is set to Simplified or Off (the display of Light Sectors is decided by the cartographic Library).

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "LIGHT SECTORS" + 'ENTER'

Attention Areas: On/Off. The default setting is On. The Attention Areas will always be contour only when On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "ATTENTION AREAS" + 'ENTER'

Tides & Currents: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "TIDES & CURRENTS" + 'ENTER'

Seabed Type: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "SEABED TYPE" + 'ENTER'

Ports & Services: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "PORTS & SERVICES" + 'ENTER'

Tracks & Routes: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "TRACKS & ROUTES" + 'ENTER'

Underwater Objects: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "UNDERWATER OBJECTS" + 'ENTER'

3.5.2.2 Depth Settings

The Depth Settings menu controls the display on the map of the depth informations.

Depth Areas: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH AREAS" + 'ENTER'

Depth Areas >: Sets a min reference depth value. The default setting is 5 Ft.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH AREAS >" + 'ENTER'

Depth Areas <: Sets a max reference depth value. The default setting is 30 Ft.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH AREAS <" + 'ENTER'

Depth Lines & Soundings: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH LINES & SOUNDINGS" + 'ENTER'

Depth Lines & Soundings >: Sets a min reference depth & soundings value. The default setting is 0 Ft.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH LINES & SOUNDINGS >" + 'ENTER'

Depth Lines & Soundings <: Sets a max reference depth & soundings value. The default setting is 09999 Ft.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH LINES & SOUNDINGS <" + 'ENTER'

3.5.2.3 Land Settings

The Land Settings menu controls the display on the map of the terrestrial features.

Rivers & Lakes: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER' + "RIVERS & LAKES" + 'ENTER'

Natural Features: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER' + "NATURAL FEATURES" + 'ENTER'

Cultural Features: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER' + "CULTURAL FEATURES" + 'ENTER'

Landmarks: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER' + "LANDMARKS" + 'ENTER'

3.5.2.4 Chart Settings

The Chart Settings menu controls the display on the map of the chart features.

Lat/Lon Grid: On/Off. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "LAT/LON GRID" + 'ENTER'

Chart Boundaries: On/Off/Auto. The default setting is On.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "CHART BOUNDARIES" + 'ENTER'

Cartography: On/Off. The default setting is On. Used to zoom-in and pan everywhere regardless the existence of data. While in "virtual cartography" (Cartography Off) by setting Cartography On from menu, the chartplotter displays the previous scale level with charts. Again while in Cartography On, the chartplotter will work in the same way also when you exit from the charts coverage, panning with the cursor or because of a ship position change. When in Cartography Off, it is also possible to have virtual cartography between two subsequent scale levels with charts.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "CARTOGRAPHY" + 'ENTER'

Mixing Levels: On/Off. The default setting is Off. When the map coverage at the current zoom level does not fill the entire screen, the chartplotter draws the rest of the map expanding the cartographic information read from, at most, two zoom lev-

els above the current zoom level. For this reason the map is drawn three times: firstly it draws the two levels before the current level and then the current level. The area covered by the cartographic data read from the previous levels is identified by a dotted pattern. When the cursor is moved on an area not covered by data of the current level and the Cartography item is switched Off, the chartplotter zooms out to the first level covered by cartographic data. When the Cartography item is switched On, the cursor can be moved on the areas obtained from the previous levels but no information is provided on the objects found on that area since it is considered not suitable for navigation at that scale level.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "MIXING LEVELS" + 'ENTER'

Note

The Mixing Levels function works only with the new NT+ C-CARDS. It also affects the speed of the redraw of the screen. If this function is not used it maybe disabled.

Declutter: On/Off. The default setting is Off. When it is On removes overlapping text (e.g. Names, Spot Soundings etc.).

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "DECLUTTER" + 'ENTER'

3.5.3 GETTING AUTOMATIC INFO

The type of Automatic Info is user selectable.

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "AUTO INFO" + 'ENTER'

The possible settings are:

- **Off:** disabled, no automatic info shown at all.
- **On Points:** only on points. This is the default setting.
- **On All:** on all objects (points, lines and areas).

The Automatic Info On Points shows information when the cursor is placed on points (as Port Services, Tides, lights, wrecks, rocks, buoys, beacons, obstructions, land markers, etc.). The Automatic Info On All shows information when the cursor is placed on points, on lines (as Depth contours, Traffic Separation, Territorial Sea, Cartographic Lines etc.) on areas (Depth, Built-up, Sea, Attention, Restricted etc.) and on names (on the beginning of the text -hot spot- or on any of the characters of the name -name message box-).

The details on Land, Source of Data, Cartographic Area and Spot Soundings are not shown.

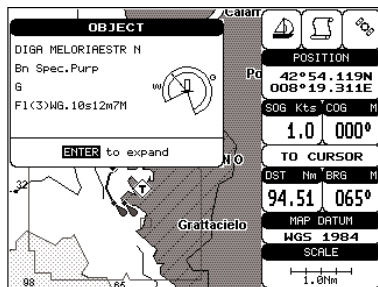


Fig. 3.5.3 -Automatic Info on Points window

If you press 'ENTER' you get the information about that object.

3.5.4 INFO TREE AND EXPANDED INFO PAGE

This page combines the Info Tree and the Expanded Info pages; this gives the advantage of showing the details of the object selected on the Info Tree while the cursor is moving through the Info Tree's items.

The upper side of the page contains the Info Tree and the Lower side contains the expanded information. While moving the cursor through the Info Tree, all the relevant information of the selected object is shown on the lower part of the page.

When the selected object is a Tide Height, pressing 'ENTER' the Tide page is shown. Pressing 'CLEAR' the page is closed.

3.5.5 INFO FUNCTION

- Place the cursor in any place you want and press:
 - **'INFO'**
 to show the Info Tree and Expanded Info page (see Par. 3.5.4).

3.5.6 GETTING PORT INFO

Upon viewing the chart of a port or harbour, you will see a Port Info icon that can be clicked on to query the available information immediately displayed with many details. The Port Info icon is visible only if the Ports & Services option is On (default setting).

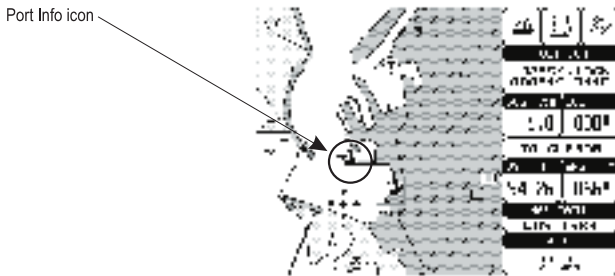


Fig. 3.5.6 - Port Info icon

The available information is shown in the Automatic Info window where icons of the available services are shown:

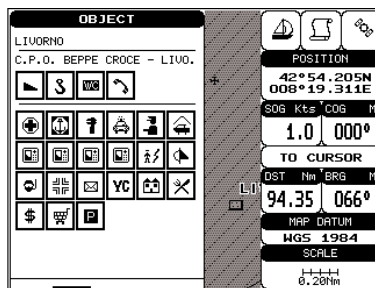


Fig. 3.5.6a - Automatic Info window

To expand information about that object press 'ENTER'.

3.5.7 GETTING TIDE INFO

To obtain Tide Info:

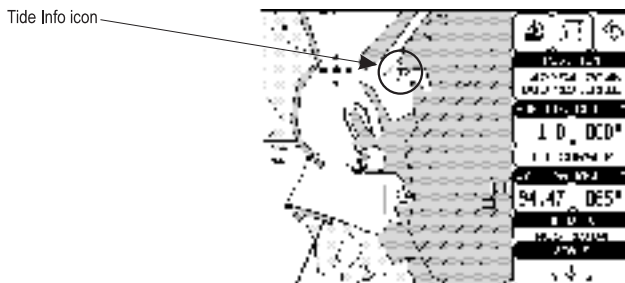


Fig. 3.5.7 - Tide Info icon

Place the cursor on the Tide symbol, a Automatic Info window is opened:

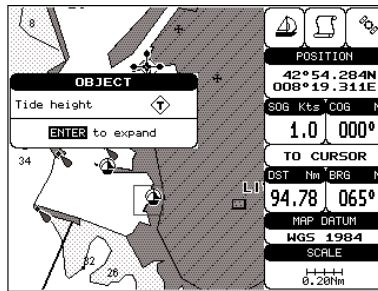


Fig. 3.5.7a - Quick Info on Tide

To display the Tide Graph page press 'ENTER' for two times:

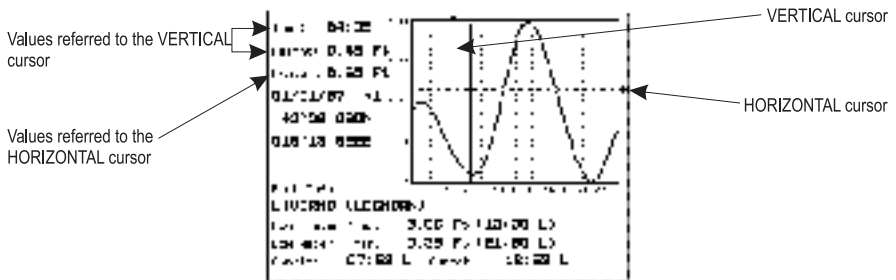


Fig. 3.5.7b - Tide Graph

Using the cursor key, it is possible to move the cursor anywhere on the graph and display the time, height (vertical cursor) and draught (horizontal cursor) on a particular graph point. Also use 'ZOOM IN' or 'ZOOM OUT' to go to previous or next day and 'ENTER' to set date (move the cursor key up/down to insert the desired number and use it left/right to move cursor to left/right).

Note

Tide graphs are an approximation of the tide and they should be used in conjunction with traditional tide tables and navigational methods.

3.5.8 FIND FUNCTION

The chartplotter allows finding Nearest Services, Port By name, Tide Stations, Wrecks, Obstructions.

3.5.8.1 Finding Port Services

To locate and display the nearest available facilities of a particular type (i.e. the nearest Hospital, sailmaker, bank, etc.).

- 'MENU' + " FIND" + 'ENTER' + "NEAREST SERVICES" + 'ENTER'

The icons of the available services are shown. Use the cursor key to select any facility and press 'ENTER'. The list of the nearest ports (up to 10) containing the facility will be shown on the screen. Then choose the port you want and press 'ENTER'.

3.5.8.2 Finding Nearest Ports

Shows the list of all ports stored on the C-CARD and allows to locate the ports on the map.

- 'MENU' + "FIND" + 'ENTER' + "PORT BY NAME" + 'ENTER'

Note

A Warning message is shown if there is no C-CARD inserted or there are no ports on the C-CARD.

Searching by name

- 'MENU' + "FIND" + 'ENTER' + "PORT BY NAME" + 'ENTER' + "SEARCH PORTS" + 'ENTER'

If the Range option is disabled (Off selected) the list of available ports ordered by name is shown; otherwise the list of available ports in the range is shown. Press 'MENU' and then use the cursor key to insert port name (max 15 characters). Press 'ENTER' to accept (press 'CLEAR' to close menu). If inserted name is found, the list with all ports containing the inserted name is shown. Repeat the operation to refine search or move through the list with cursor key. Press 'ENTER' to show port on the map.

Searching port in the range

- 'MENU' + "FIND" + 'ENTER' + "PORT BY NAME" + 'ENTER' + "RANGE" + 'ENTER'

Finds port in the range. Use the cursor key to insert preferred value. Press 'ENTER' to accept.

3.5.8.3 Finding Tide Stations

Finds the nearest Tide Stations (up to 10) on the map, from the boat position - if a valid fix is received - or from the cursor position - if the received fix position is not good.

- 'MENU' + "FIND" + 'ENTER' + "TIDE STATIONS" + 'ENTER'

A new window will appear in few seconds. Choose the Tide Stations you want and press 'ENTER' or 'FIND' to display the Tide Graph page (see Par. 3.5.4). Press 'CLEAR' to display the Tide Station chosen.

3.5.8.4 Finding Wrecks

Searches for Nearest Wrecks:

- **'MENU' + "FIND" + 'ENTER' + "WRECKS" + 'ENTER'**

Use the cursor key to select the port and 'ZOOM IN'/'ZOOM OUT' to select next/previous page. Press 'ENTER' to locate the selected Wreck on the map.

3.5.8.5 Finding Obstructions

Searches for Nearest Obstructions:

- **'MENU' + "FIND" + 'ENTER' + "OBSTRUCTIONS" + 'ENTER'**

Use the cursor key to select the port and 'ZOOM IN'/'ZOOM OUT' to select next/previous page. Press 'ENTER' to locate the selected Obstruction.

4

For the Experienced User

Now you have had a chance to become familiar with your new chartplotter, there are a great number of advanced features that you will find helpful. First of all the use of the Advanced Mode.

The chartplotter can operate in two different modes: Basic Mode and Advanced Mode. In the first mode there is a restricted number of functions, while in Advanced Mode it is possible to have more available functions, for example it is possible to handle Waypoints. To select the Advanced Mode:

- 'MENU' + "BASIC SETTINGS" + 'ENTER' + "ADVANCED FUNCTIONS" + 'ENTER' + "ON" + 'ENTER'

When Advanced Functions is Off the chartplotter operates in Basic Mode.

4.1 MORE ABOUT CREATING AND USING ROUTES

At anytime, you may add or delete Waypoints, see a route summary, reverse the direction of the route or erase the entire route.

4.1.1 WAYPOINTS

You may add Waypoints, delete Waypoints from a route, move any Waypoint in the route to another location, insert a Waypoint between two existing ones, find any Waypoint at anytime. Every time you place the cursor on a Waypoint the following functions are available.

4.1.1.1 Adding Waypoint

- Select Advanced Mode + 'ENTER' + "WAYPOINT" + 'ENTER'

The Waypoint appears on the cursor position. An info window is shown containing route number, Waypoint name, symbol and Latitude/Longitude.

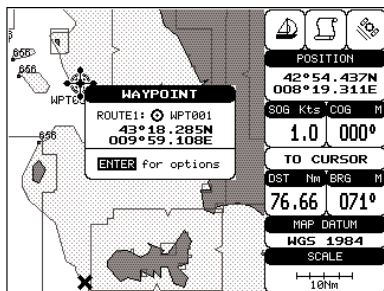


Fig. 4.1.1.1 - Waypoint placing

4.1.1.2 Creating a route

Repeat the "Adding Waypoint" procedure described in the previous Par. 4.1.1.1. The sequence of moving the cursor and pressing 'ENTER' is continued to create the route, until you have reached the last Waypoint, your final destination. Segments connecting the Waypoints are shown, and the starting point is identified by a circle surrounding the first Waypoint of the route:

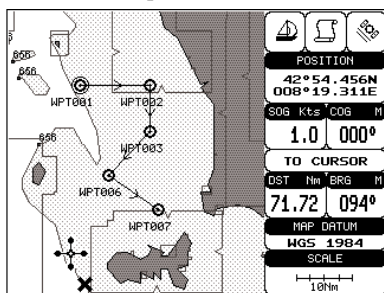


Fig. 4.1.1.2 - Route planning

4.1.1.3 Deleting Waypoint

- Select Advanced Mode + Adding Waypoint or Place cursor on Waypoint

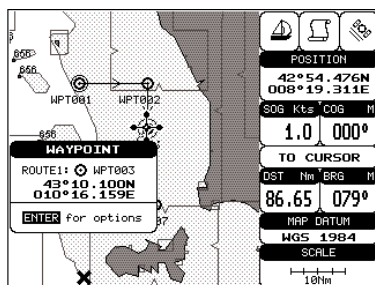


Fig. 4.1.1.3 - Deleting Waypoint (1)

Press 'ENTER'. Select "DELETE" and press 'ENTER'. The Waypoint is deleted and a new line between previous and next Waypoint is shown. The deleted Waypoint remains shaded until the screen is redrawn.

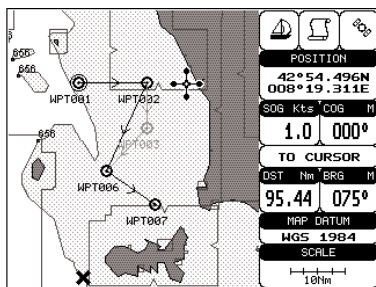


Fig. 4.1.1.3a - Deleting Waypoint (II)

4.1.1.4 Deleting route

- Select Advanced Mode + Adding Waypoint or Place cursor on Waypoint

Press 'ENTER'. Select "DELETE ROUTE" and press 'ENTER'. A window is opened: select "YES" and press 'ENTER' to confirm (select "NO" and press 'ENTER' otherwise). The route remains on the screen shaded until the screen is redrawn. To delete route see also Par. 4.1.2.2 and 4.1.2.4.

4.1.1.5 Distance and Bearing to Target

Once you have positioned the cursor on the desired starting Waypoint (it could be the first Waypoint of the route or another one) press 'DEST'. A circle surrounds the Waypoint symbol. A line is shown, connecting the Target with the ship's position. When the Target is placed, all navigation data are referred to this Target.

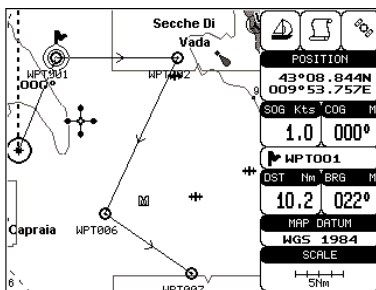


Fig. 4.1.1.5 - Selecting destination (Target)

The destination will automatically switch to the next Waypoint on the route when you reach or pass the present destination.

Time To Go

When the Target is set the TTG value is displayed in the Graphic Data page:

- 'PAGE' more times to select Graphic Data page

Deleting Target

If in Advanced Mode place cursor on Target icon, press 'ENTER', select "STOP NAV" and press 'ENTER': the symbol that identifies Target disappears from the screen. If in Basic Mode simply place cursor on Target icon and press 'CLEAR' to delete Target (see also Par. 3.4.3). The deleted Target remains shaded until the screen is redrawn.

4.1.1.6 Moving Waypoint

- Select Advanced Mode + Adding Waypoint or Place cursor on Waypoint

Press 'ENTER'. Select "MOVE" and press 'ENTER'. Use the cursor key to move the cursor: a dotted line, connecting the Waypoint to the new position, is shown:

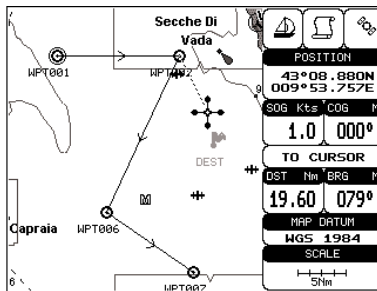


Fig. 4.1.1.6 - Moving Waypoint function (I)

To place the Waypoint in the new position, choose the new place and press 'ENTER' ('CLEAR' otherwise), Waypoint appears in the new position:

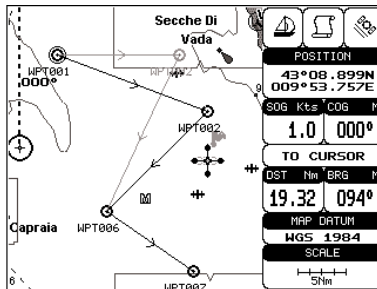


Fig. 4.1.1.6a - Moving Waypoint function (II)

4.1.1.7 Inserting Waypoint

Every time you place the cursor on the segment connecting two existing Waypoints of a route the following function is available.

- Place cursor on route leg

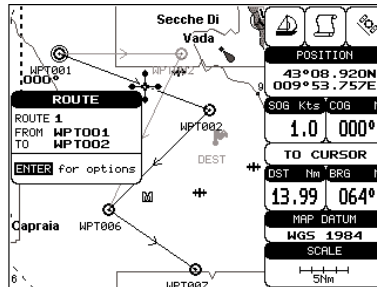


Fig. 4.1.1.7 - Placing Waypoint between two existing ones (I)

Press 'ENTER'. Select "INSERT" and press 'ENTER'. The line between the two Waypoints is turned into a dotted line: move the cursor to the new position. When the cursor is stationary for one second or two, the line will "rubber-band", drawing a dotted line between the last Waypoint and the cursor, and another dotted line between the cursor and the next Waypoint:

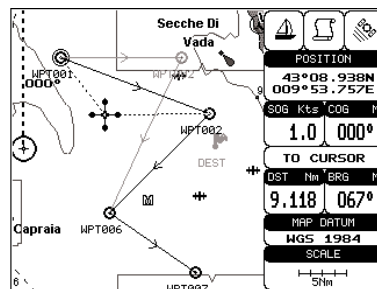


Fig. 4.1.1.7a - Placing Waypoint between two existing ones (II)

Once you have positioned the cursor at new location, press 'ENTER' (press 'CLEAR' to abort operation):

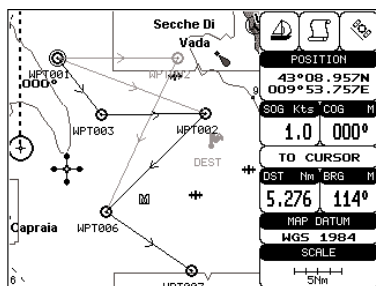


Fig. 4.1.1.7b - Placing Waypoint between two existing ones (III)

4.1.1.8 Editing Waypoint

- Select Advanced Mode + Adding Waypoint or Place cursor on Waypoint

Press 'ENTER'. Select "EDIT" and press 'ENTER' to modify a Waypoint. A window will be shown with Name, Symbol, Color and Latitude/Longitude of the Waypoint, advising about what Waypoint data are modifiable.

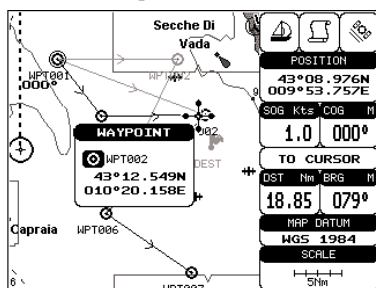


Fig. 4.1.1.8 - Edit Waypoint (I)

Use the cursor key to select the field. If you have selected Name field, press 'ENTER': use the cursor key to insert the character (8 characters max), then press 'ENTER'. If Symbol field is selected press 'ENTER': a window with 16 different symbols appears:

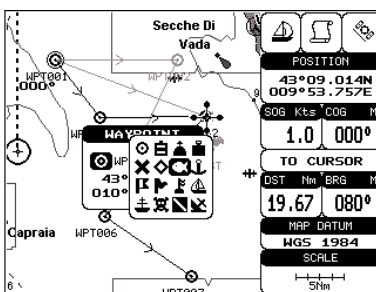


Fig. 4.1.1.8a - Edit Waypoint (II): Waypoint symbols

Use the cursor key to select the symbol and press 'ENTER'. If Color field is selected press 'ENTER': a window with 8 different colors appears, use the cursor key to select the desired color and press 'ENTER'. If select Coordinates field, press 'ENTER' and then use the cursor key to insert the value. Then press 'CLEAR'.

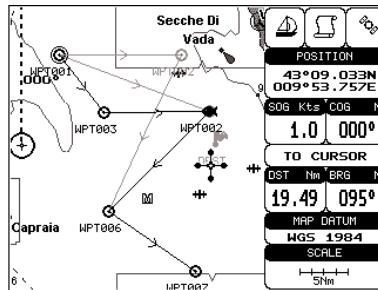


Fig. 4.1.1.8b - Edit Waypoint (III)

4.1.1.9 Finding information about Waypoints: User Points List page

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER'

Move up/down the cursor key to select the User Point you wish. If the page contains more than 8 User Points, the list continues in the next pages.

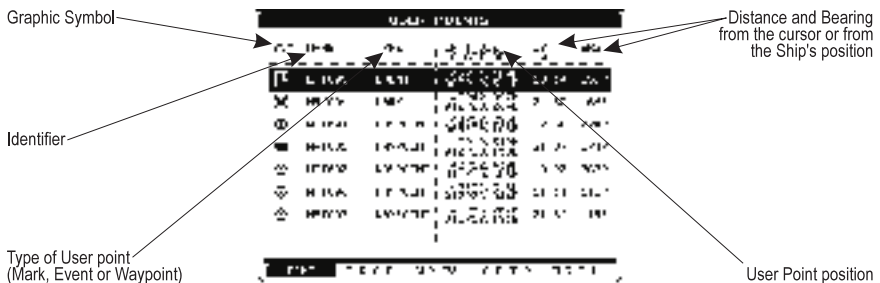


Fig. 4.1.1.9 - User Points page

Finding User Points

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER' + "FIND" + 'ENTER'

The chartplotter exits from the User Points List page and redraws the chart. The selected point appears, with the cursor placed on it.

Deleting selected User Point

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER' + "CLR-ONE" + 'ENTER'

Deletes the selected User Point. A warning message appears, select "YES" and press 'ENTER' ('CLEAR' otherwise).

Deleting all User Points with the same symbol

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER' + "CLR-SYM" + 'ENTER'

Deletes all User Points which have the same identifier of that shown in the selected row. A warning message appears, select "YES" and press 'ENTER' ('CLEAR' otherwise).

Deleting all User Points with the same type

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER' + "CLR-TYP" + 'ENTER'

Deletes all User Points which have the same type of that shown in the selected row. A warning message appears, select "YES" and press 'ENTER' ('CLEAR' otherwise).

Deleting all stored User Points

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER' + "CLR-ALL" + 'ENTER'

A warning message appears, select "YES" and press 'ENTER' ('CLEAR' otherwise) to delete all stored User Points.

4.1.2 ROUTES

The following functions are used for the route management. The chartplotter handles routes from 1-25, which are permanently stored in the memory as they are created. Only one route can be selected for work at any one time.

4.1.2.1 Selecting route

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "CURRENT ROUTE" + 'ENTER'

Use the cursor key to insert the route number to work and press 'ENTER'. If the number is more than 25, the chartplotter emits three beeps.

4.1.2.2 Deleting route

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "DELETE ROUTE" + 'ENTER'

A window is opened: select "YES" and press 'ENTER' to confirm (select "NO" and press 'ENTER' otherwise). The route remains on the screen shaded until the screen is redrawn. To delete route see also Par. 4.1.1.4 and 4.1.2.4).

4.1.2.3 Reversing route

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "REVERSE ROUTE" + 'ENTER'

Reversing a route plan is most typically used to return to the point where the route originally started.

4.1.2.4 Selecting route Color

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE COLOR" + 'ENTER'

A window is opened: use the cursor keys to select the route color you want among the eight colors available. Press 'ENTER' to confirm. The route appears on the screen colored by the selected color. It is possible to select a different color for any route.

4.1.2.5 Finding information about a route: Route Report

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE REPORT" + 'ENTER'

If there are more than 8 Waypoints shown, use the cursor key to select another page.

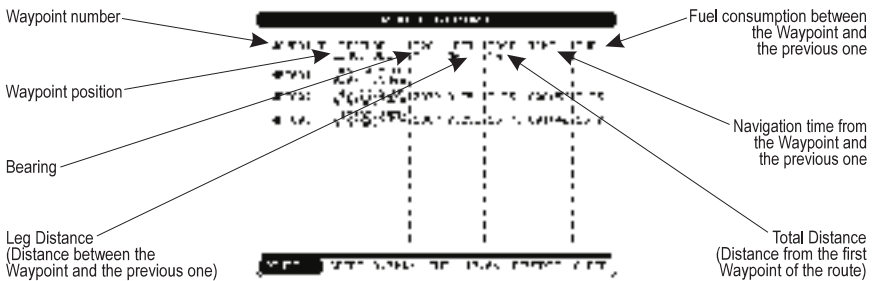


Fig. 4.1.2.5 - Route Data Report page

Selecting route

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE REPORT" + 'ENTER' + "ROUTE #" + 'ENTER'

Use the cursor key to select the route number and press 'ENTER'. The route, shown by straight segments, is centered on the screen, with the cursor on the central Waypoint. See also Par. 4.1.2.1.

Changing Speed & Fuel values

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE REPORT" + 'ENTER'

It is possible to modify the Speed and Fuel consumption values, respectively by selecting "SPEED" and "FUEL". Insert value by using the cursor key and pressing 'ENTER'.

Reversing route

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE REPORT" + 'ENTER' + "REVERSE" + 'ENTER'

Reversing a route plan is most typically used to return to the point where the route originally started. See also Par. 4.1.2.3.

Deleting route

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE REPORT" + 'ENTER' + "CLEAR" + 'ENTER'

A window is opened: select "YES" and press 'ENTER' to confirm (select "NO" and press 'ENTER' otherwise). The route remains on the screen shaded until the screen is redrawn. To delete the route see also Par. 4.1.1.4 and 4.1.2.2.

4.2 USING MARKS & EVENTS

You may place a Mark, as it is called, at your cursor position, while Event is created at your vessel position.

4.2.1 MARKS

You may tag a location on the chart with a Mark symbol and number, which you can record for later use. Every time you place the cursor on a Mark the following functions are available.

4.2.1.1 Adding Mark

- Select Advanced Mode + 'ENTER' + "MARK" + 'ENTER'

The new Mark appears on your cursor position. An info window containing Mark name, symbol and Latitude/Longitude is shown.

4.2.1.2 Deleting Mark

- Select Advanced Mode + Adding Mark or Place cursor on Mark

Press 'ENTER'. Select "DELETE" and press 'ENTER': the Mark remains on the screen shaded until the next screen is redrawn.

4.2.1.3 Goto

- Place cursor on Mark

Press 'DEST': a circle encloses the Mark symbol. A straight line is shown on the screen connecting the Target with the ship's position. When the Target is placed, all navigation data are referred to this Target.

4.2.1.4 Moving Mark

- Select Advanced Mode + Adding Mark or Place cursor on Mark

Press 'ENTER'. Select "MOVE" and press 'ENTER'. By moving the cursor with the cursor key, a dotted line connecting the Mark with the new position is shown:

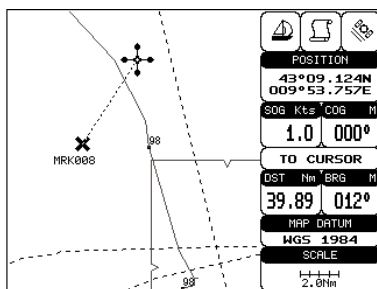


Fig. 4.2.1.4 - Moving Mark function (I)

Press 'ENTER':

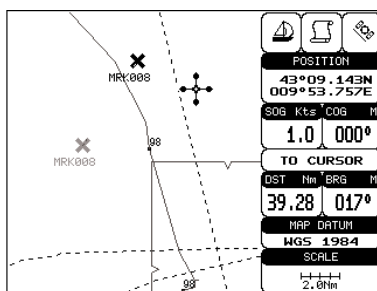


Fig. 4.2.1.4a - Moving Mark function (II)

The Mark is placed in the new position, the "old" Mark, remains on the screen shaded until the screen is redrawn.

4.2.1.5 Editing Mark

► Select Advanced Mode + Adding Mark or Place cursor on Mark
Press 'ENTER'. Select "EDIT" and press 'ENTER'. A window appears to modify Name, Symbol, Color and coordinates of the existing Mark.

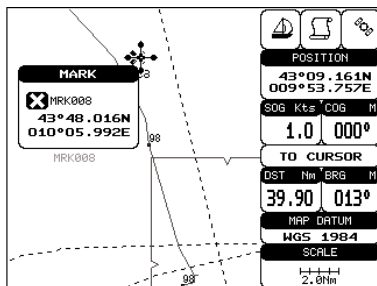


Fig. 4.2.1.5 - Edit Mark

Use the cursor key to select the field. If you have selected Name field, press 'ENTER': use the cursor key to insert the character (8 characters max), then press 'ENTER'. If Symbol field is selected press 'ENTER': a window with 16 different symbols appears. Use the cursor key to select the symbol and press 'ENTER'. If Color field is selected press 'ENTER': a window with 8 different colors appears, use the cursor key to select the desired color and press 'ENTER'. If Coordinates field is selected, press 'ENTER' and then use the cursor key to insert the value. Then press 'CLEAR'.

4.2.1.6 Finding information about Marks: User Points List page

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER'

A full window is opened showing information about all stored User Points (Marks, Events and Waypoints). Move up/down the cursor key to select the User Point you wish. If the page contains more than 8 User Points, the list continues in the next pages. See Par. 4.1.1.9.

4.2.2 EVENTS

In Navigate mode you may place a location with an Event symbol and number, directly on the ship's position. Move the cursor to exit from Navigate mode; place the cursor on an Event to access the following functions.

4.2.2.1 Adding Event

- Select Advanced Mode + 'MODE', then 'ENTER' + "EVENT" + 'ENTER'
An Event is placed directly on the ship's position.

4.2.2.2 Deleting Event

- Place cursor on Event
Press 'ENTER'. Select "DELETE" and press 'ENTER': the Event remains

on the screen shaded until the next screen is redrawn.

4.2.2.3 Goto

- Place cursor on Event

Press 'DEST': a circle encloses the Event symbol. A straight line is shown on the screen connecting the Target with the ship's position. When the Target is placed, all navigation data are referred to this Target.

4.2.2.4 Editing Event

- Place cursor on Event

Press 'ENTER'. Select "EDIT" and press 'ENTER'. A window appears to modify Name, Symbol, Color of the existing Event.

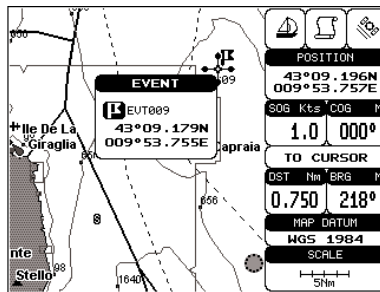


Fig. 4.2.2.4 - Edit Event

Use the cursor key to select the field. If you have selected Name field, press 'ENTER': use the cursor key to insert the character (8 characters max), then press 'ENTER'. If Symbol field is selected press 'ENTER': a window with 16 different symbols appears. Use the cursor key to select the symbol and press 'ENTER'. If Color field is selected press 'ENTER': a window with 8 different colors appears, use the cursor key to select the desired color and press 'ENTER'. Then press 'CLEAR'.

4.2.2.5 Finding information about Events: List User Points page

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER'

A full window is opened showing information about all stored User Points (Marks, Events and Waypoints). Move up/down the cursor key to select the User Point you wish. If the page contains more than 8 User Points, the list continues in the next pages. See Par. 4.1.1.9.

4.3 EBL & VRM FUNCTION

EBL & VRM function enables to create a dotted line and a circle respectively with direction and radius determined by the user.

4.3.1 PLACING EBL & VRM

- Select Advanced Mode + 'ENTER' + "EBL & VRM" + 'ENTER'

On the screen a dotted line and a circle appear: you can move in any direction you choose rotating the trackball. When the desired position is selected, press 'ENTER'. A window is shown containing the bearing value for the EBL and the radius value for the VRM.

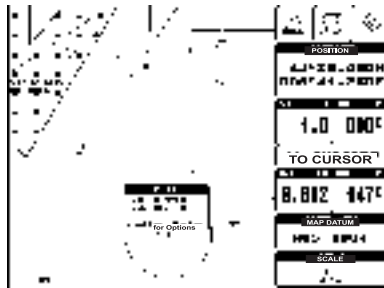


Fig. 4.3.1 - EBL & VRM

4.3.2 DELETING EBL & VRM

- Select Advanced Mode + Place cursor on the cross EBL & VRM + 'ENTER'

Select "DELETE" and press 'ENTER': the line and circle disappear from the screen.

4.3.3 EDITING EBL & VRM

- Select Advanced Mode + Place cursor on the cross EBL & VRM + 'ENTER'

Select "EDIT" and press 'ENTER': with the cursor key move the line and the circle, when the desired position is selected, press 'ENTER'. A window is shown containing the bearing value for the EBL and the radius value for the VRM.

4.4 MORE ABOUT A-B-C-D FUNCTION

The A-B-C-D function, explained in the previous paragraph 3.2, if Advanced Mode is selected, allows you not only to create the A, B, C, D points and to delete them, but also to modify and move them.

4.4.1 ADDING THE A-B-C-D POINTS

Place the cursor on the desired position and press 'A-B-C-D': the A point and an information window on A appear. Move the cursor, press 'A-B-C-D': the B point appears, connected to A with a straight segment; an information window on A-B segment (distance (DST), bearing (BRG) and total distance from the first point) appears. Moving the cursor, pressing 'A-B-C-D' places the C and D points (see previous Fig. 3.2.1).

4.4.2 DELETING THE A-B-C-D POINTS

When placing the cursor on the desired point (A, B, C or D) the information window appears. Press 'ENTER', select "DELETE" and press 'ENTER' again: the point is deleted. When the point is deleted, the cursor is placed on the previous point, if existed. The labels of the next points are renamed.

4.4.3 DELETING THE A-B-C-D SEGMENT

When placing the cursor on the desired point (A, B, C or D) or on segment between two points the information window appears. Press 'ENTER', select "DELETE ALL" and press 'ENTER' again: all points and connecting segments are deleted.

4.4.4 MOVING THE A-B-C-D POINTS

When placing the cursor on the desired point (A, B, C or D) the information window appears. Press 'ENTER', select "MOVE" and press 'ENTER': by the cursor key move the cursor, on the screen a dotted line connecting the point to move with the new position appears. By pressing 'ENTER' the point is placing in the new position.

4.4.5 INSERTING THE A-B-C-D POINTS

Placing cursor on the segment connecting two points, the information window appears. Select "INSERT" and press 'ENTER': by the cursor key move the cursor, on the screen a dotted line appears. By pressing 'ENTER' the new point is placing between the two existed points which are renamed.

4.4.6 NAVIGATING ON THE A-B-C-D POINTS

If fix received is good, place the cursor on the desired point A, B, C or D and press 'DEST'. When ship reaches the Destination point, navigation follows the next point (if exists). When Target is set, three options are available: STOP NAV, NEXT and PREV.

4.5 USING THE TRACK FUNCTIONS

The chartplotter can be set up for recording your track as you move and for plotting this track on the chart.

4.5.1 SELECTING ACTIVE TRACK

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "ACTIVE TRK" + 'ENTER'

Select the number of the active track. The default setting is 1.

4.5.2 ENABLING TRACK STORING

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "TRACKING" + 'ENTER'

To enable (On) or disable (Off) the track storing. It is not possible to use the track storing if you are not receiving a valid fix. The default setting is On.

4.5.3 DISPLAYING TRACK

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "VISIBLE" + 'ENTER'

To enable (On) or disable (Off) the displaying of track. The default setting is Off.

4.5.4 SELECTING TRACK COLOR

Selects the desired color among the eight colors available for the selected track.

- 'MENU' + 'ADVANCED SETTINGS' + 'ENTER' + 'TRACK' + 'ENTER' + 'COLOR' + 'ENTER'

4.5.5 DELETING TRACK

- 'MENU' + 'ADVANCED SETTINGS' + 'ENTER' + 'TRACK' + 'ENTER' + 'DISTANCE' + 'ENTER'

Deletes all track. After pressing 'ENTER' a warning window appears: select "Yes" and press 'ENTER' to confirm (select "No" otherwise).

4.5.6 SELECTING TRACK MEMORIZING TYPE

- 'MENU' + 'ADVANCED SETTINGS' + 'ENTER' + 'TRACK' + 'ENTER' + 'STEP UNIT' + 'ENTER'

Choose Distance (Dist) - the chartplotter can store a fix when the distance from its last stored position is greater than a defined distance; Time - the chartplotter can store a fix after a defined time; Auto - the software decides when storing a position, on the basis of the straight or curved track. The default setting is Time.

4.5.7 SELECTING DISTANCE

- 'MENU' + 'ADVANCED SETTINGS' + 'ENTER' + 'TRACK' + 'ENTER' + 'DISTANCE' + 'ENTER'

When the tracking function is On and the type of track storing is Distance, you can store a fix when the distance from its last stored position is greater than a defined distance. Choose in the range 0.01, 0.05, 0.1, 0.5, 1.0, 2.0, 5.0, 10.0 Nm (the distance unit is selected by the user, see Cap. 5). The default setting is 0.01 Nm.

4.5.8 SELECTING TIME

- 'MENU' + 'ADVANCED SETTINGS' + 'ENTER' + 'TRACK' + 'ENTER' + 'TIME' + 'ENTER'

When the tracking function is On and the type of track storing is Time, the chartplotter can store a fix after a defined time. Choose among 1, 5, 10, 30 sec, 1, 5, 10 min. The default setting is 1 sec.

4.6 USER C-CARD MENU

The chartplotter allows to copy information to an User C-CARD. You can also return the information to internal memory at a later time. This allows virtually unlimited storage.

➤ 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER'

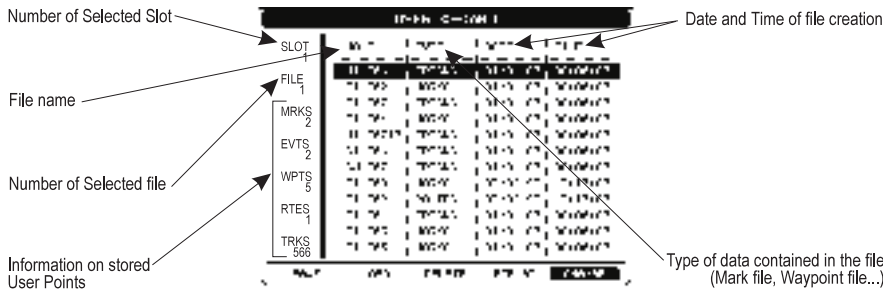


Fig. 4.6 - User C-CARD Menu

4.6.1 SAVING FILE

➤ 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "SAVE" + 'ENTER'

A window is opened to insert the file name and the type of data to save:

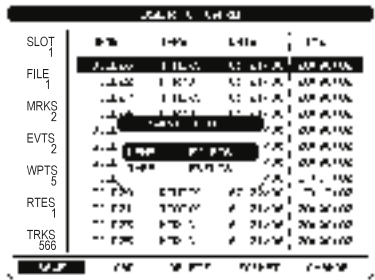


Fig. 4.6.1 - Save File function (1)

Select the file name. At first a default name is shown: use the cursor key to insert the name. Press 'ENTER'. Select the data type to save among "MARK", "EVENT", "ROUTE" or "TRACK".

Note

When naming a file, you may have trouble finding a name that uniquely identifies the file's contents. Dates, for example, are often used in filenames; however, they take up several characters, leaving you with little flexibility. The secret is to find a compromise, a point where you can combine a date with a word, creating a unique filename. The maximum length of the filename

is 8 characters. The characters may be numbers (0, ..., 9), letters (A, ..., Z) and spaces (for example legal identifiers are "ABC", "AA", "12121212", "A B C", "1 A 1", and so on).

Press 'CLEAR'. On the screen appears:

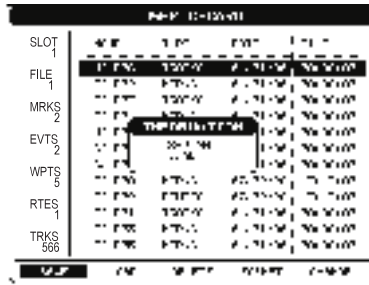


Fig. 4.6.1a - Save File function (II)

4.6.2 LOADING FILE

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "LOAD" + 'ENTER'

Before pressing 'ENTER', choose file name in the list shown on the screen using the cursor key.

4.6.3 DELETING FILE

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "DELETE" + 'ENTER'

A warning window is shown, select "YES" and press 'ENTER' to confirm deletion (select "NO" otherwise). This operation remove old or unnecessary files to clean up your User C-CARD. Remember that this option permanently erases the file.

4.6.4 FORMATTING USER C-CARD

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "FORMAT" + 'ENTER'

A warning window is shown, select "YES" and press 'ENTER' to confirm the formatting (select "NO" otherwise). The format of User C-CARD must be done before using a new User C-CARD: this operation prepares the User C-CARD to receive and store information.

4.6.5 CHANGING USER C-CARD

- 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "CHANGE" + 'ENTER'

Allows to change the User C-CARD.

5

Terms & Functions

This section explains the terms that may be unfamiliar to the reader. The symbol ■ indicates that the term is followed only by an explanation, while the symbol ► indicates that the term is more widely explained; you will also find a briefly description on how to select the related menu option, listing the operation a keys sequence with the menu names enclosed between double apices. For example 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER' means that you must press the 'MENU' key, using the cursor key to select the ADVANCED SETTINGS menu and press 'ENTER' key to access it; then use the cursor key to select the USER POINTS item and then press the 'ENTER' key to display the User Points page.

■ A-B-C-D

Select the A-B-C-D function that allows you to place the A, B, C, D points. In Basic Mode it is possible to place and delete them (see Par. 3.2), in Advanced Mode it is possible to place, move, navigate and delete them. (see Par. 4.4).

► About (page)

Selects a page that gives information on software and cartography version and general software specification (as user points number, routes number and so on). For more information see Par. 1.3.
'MENU' + "About..." + 'ENTER'

► Activate Simulation

Enables (On) or disables (Off) the Simulation mode. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SIMULATION" + 'ENTER' + "ACTIVATE SIMULATION" + 'ENTER'

► Active Track

Selects the number of the active Track. The default setting is 1.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "ACTIVE TRK" + 'ENTER'

► Additional Second Factor (ASF)

Sets the ASF for the slave in the selected chain. The default setting is 0.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "COORDINATE SYSTEM" + 'ENTER' + "TD" + 'ENTER' + "ASF1/2" + 'ENTER'

► Advanced Functions

When it is On the chartplotter works in Advanced Mode, otherwise when it is Off the chartplotter works in Basic Mode. The default setting is Off.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "ADVANCED FUNCTIONS" + 'ENTER'

➤ Advanced Mode

The chartplotter can operate in two different modes: Basic Mode and Advanced Mode. In Advanced Mode it is possible to have more available functions, for example it is possible to handle Waypoints.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "ADVANCED FUNCTIONS" + 'ENTER' + "On" + 'ENTER'

➤ Advanced Settings (menu)

Selects the Setup, Map Setting, Fix, Navigate, Track, Compass, Alarms, Simulation, Route menus and the User Points page and User C-Cards menu.

'MENU' + "ADVANCED SETTINGS" + 'ENTER'

➤ Alarms (menu)

Sets the desired value for the Arrival Alarm, XTE Alarm, Anchor Alarm, Depth Alarm. Also you can set the preferred value for the Grounding Alarm, Grounding Alarm Range, Grounding Alarm Report.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ALARMS" + 'ENTER'

➤ Alter = Alternate Solution

Turns On/Off the Alternate Solution in the chain. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "COORDINATE SYSTEM" + 'ENTER' + "TD" + 'ENTER' + "Alter" + 'ENTER'

➤ Altitude (Unit)

Sets the altitude (altitude of GPS Antenna on the medium sea level) unit among Ft = Feet, FL = Flight Level and Mt = Meters. The default setting is Ft.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "ALTITUDE" + 'ENTER'

➤ Anchor Alarm

This function allows inserting of the limit of anchor dragging; beyond that, the alarm is activated. The chartplotter computes the distance between the current GPS position and the GPS position saved at the activation of the anchor alarm in the menu. If the computed distance exceeds the value set in the menu, the chartplotter shows the alarm message and starts the acoustic alarm. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ALARMS" + 'ENTER' + "ANCHOR ALARM" + 'ENTER'

➤ Arrival Alarm

Specifies the radius of a circle around the Waypoint of a route; when your vessel reaches this circle the alarm sounds. You can disable (Off) the Arrival Alarm or insert value. The default setting is 1.00 Nm.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ALARMS" + 'ENTER' + "ARRIVAL ALARM" + 'ENTER'

■ Arrival Time

The estimated time of day you will reach your destination, based on your current speed and track from GPS.

➤ Attention Areas

Enables (On) or disables (Off) the displaying of the Attention Areas (areas in which special attention by the mariner is required, because of natural or man-made hazards, or sailing regulations and restrictions). Moreover a special symbol (!) is placed inside the area selecting On. This is valid also for the categories: FISHING FACILITY, MARINE FARM/CULTURE, MILITARY PRACTICE AREA, RESTRICTED AREA, SEAPLANE LANDING AREA. When the area is small, it is identified only by the boundary. The default setting is Contour.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "ATTENTION AREAS" + 'ENTER'

➤ Auto Info

The type of Automatic Info is user selectable. The possible settings are: **Off**: disabled, no automatic info shown at all; **On Points**: only on points. This is the default setting. **On All**: on all objects (points, lines and areas).

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "AUTO INFO" + 'ENTER'

■ Azimuth

The angular measurement from the horizon to a satellite or another object.

➤ Basic Mode

The chartplotter can operate in two different modes: Basic Mode and Advanced Mode. In the first mode there is a restricted number of functions, and it is not possible to handle Waypoints, Marks, Events and A-B-C-D function.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "ADVANCED FUNCTIONS" + 'ENTER' + "Off" + 'ENTER'

➤ Basic Settings (menu)

Enables or disables Advanced Functions and Depth Window; selects the Language, sets the desired setting for Distance, Speed, Depth and Altitude unit, Map Orientation, Course Vector, User Points and select the Input/Output menu and Voice mode.

'MENU' + "BASIC SETTINGS" + 'ENTER'

■ Beacon

A prominent, specially constructed object forming a conspicuous vertical mark as a fixed aid to navigation.

➤ Bearings

Selects either degrees magnetic, Auto Mag, or true, True. If magnetic readings are selected the variation is computed automatically for every zone as soon as the chart is displayed. The default setting is Auto Mag.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "COMPASS" + 'ENTER' + "BEARINGS" + 'ENTER'

➤ Beeper

Turns On/Off the sound after pressing a key ("beep"). The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "BEEPER" + 'ENTER'

■ BRG = Bearing

It is the angle between the North (True or Magnetic) and a destination. It represents the direction to follow.

■ Buoy

A floating object moored to the sea bottom in a particular (charted) place, as an aid to navigation.

■ Buoys & Beacons

Buoys and Beacons are used to indicate to mariners recommended or established routes, underwater dangers, restrictions and regulations. They can be lighted or not and - for the color chartplotter - are coloured according to their international code.

➤ Cable Wiring - GPS

Displays the Cable Wiring page for GPS.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "CABLE WIRING - GPS" + 'ENTER'

➤ Cable Wiring - Power & I/O

Displays the Cable Wiring page for Power and I/O.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "CABLE WIRING - POWER & I/O" + 'ENTER'

➤ Calibration

The variation table is used to match magnetic value readout on the chartplotter comparable with the

value given by the compass of the boat. In other words, since the compass of the boat must be compensated (due to the iron masses, ...), we use the same values given by the chartplotter. This means that, for example, if the BRG to the next Waypoint readout in the chartplotter display is "X" Mag degree, if you steer the boat reading "X" Mag degree from the compass, you are driving well toward the next Waypoint.
'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "COMPASS" + 'ENTER' + "CALIBRATION" + 'ENTER'

➤ Cartography

Turns On/Off the Cartography. Used to zoom-in and pan everywhere regardless the existence of data. While in "virtual cartography" (Cartography Off) by setting Cartography On from menu, the chartplotter displays the previous scale level with charts. Again while in Cartography On, the chartplotter will work in the same way also when you exit from the charts coverage, panning with the cursor or because of a ship position change. When in Cartography Off, it is also possible to have virtual cartography between two subsequent scale levels with charts. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "CARTOGRAPHY" + 'ENTER'

➤ Chain

Selects the chain. The Loran chains are groups of transmitting stations that use timed radio pulse transmissions. In each of these chains there is a master station and two or more slave or secondary stations. Stations belonging to a same chain transmit pulses in timing groups: a different time base identifies each chain. The time base of each chain is the Group Repetition Interval or GRI. This GRI identifies the chain in unique mode. For example the GRI = 4990 identifies the chain of Central Pacific zone. The default setting is 9970.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "COORDINATE SYSTEM" + 'ENTER' + "TD" + 'ENTER' + "Chain" + 'ENTER'

➤ Change (User C-CARD)

Changes the current User C-CARD.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "CHANGE" + 'ENTER'

➤ Chart Boundaries

Enables (On) or disables (Off) the displaying of the Chart Boundaries. Selecting Auto instead, if we are in background charts only the first charts level contained in the C-CARD are displayed, if we are in a charts level contained in the C-CARD the next four charts level are displayed. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "CHART BOUNDARIES" + 'ENTER'

➤ Chart Settings (menu)

Turns On/Off the display of coordinates (Lat/Lon Grid), Chart Boundaries, Cartography, Mixing Levels and Declutter.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER'

■ COG = Course Over Ground

Direction of the path over ground actually followed by a vessel.

➤ Color (Track)

Selects the desired color for the track.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "COLOR" + 'ENTER'

➤ Compass (menu)

Sets the desired value for Bearing and Magnetic Variation, and selects the Calibration page.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "COMPASS" + 'ENTER'

➤ **Compute Correction**

Corrects fixes from the positioning instrument. By placing the cursor on the ship's real position and selecting this option, the error is calculated and internally memorized for appropriate correction, but not applied.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX " + 'ENTER' + "COMPUTE CORRECTION" + 'ENTER'

➤ **Coordinate System**

Sets your preferred Coordinate System among ddd mm ss, ddd mm.mm, ddd mm.mmm, UTM, OSGB, TD. The default setting is ddd mm.mmm.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "COORDINATE SYSTEM" + 'ENTER'

■ **Correction**

To compute fix error in automatic mode, place cursor on ship's real position and then follow the procedure (compute correction). It is also possible to compute the fix error in manual mode (correction offset). Once you computed the error, you can turn the fix correction On or Off.

➤ **Correction Offset**

Manual correction of fix position.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX" + 'ENTER' + "CORRECTION OFFSET" + 'ENTER'

➤ **Course Vector**

Disables (Off) or sets time as : 2, 10, 30 min, 1, 2 hours, Infinite. The default setting is Infinite.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "COURSE VECTOR" + 'ENTER'

■ **Cross Track error = XTE**

The distance from the ship's present position to the closest point on a line between the origin and destinations Waypoints of the navigation leg being travelled.

■ **CTS = Course To Steer**

The optimum direction the boat should be steered in order to efficiently make headway back to the courseline while also proceeding toward the destination Waypoint.

➤ **Cultural Features**

Enables (On) or disables (Off) the displaying of the Cultural Features (any man-made topographic feature as built-up area, buildings, roads, ...). The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER' + "CULTURAL FEATURES" + 'ENTER'

■ **Current**

Non-periodical movement of sea-water, generally horizontal, due to many causes such as different temperatures and prevalent winds. Some may be temporary, others permanent.

➤ **Current (Route)**

Selects the active route:

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "CURRENT ROUTE" + 'ENTER'

➤ **Current Map Settings Table**

Displays the current settings for Map Setting items.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CURRENT MAP SETTINGS TABLE" + 'ENTER'

➤ **Cursor Control**

Enables (On)/disables (Off) the cursor control. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SIMULATION" + 'ENTER' + "CURSOR CONTROL" + 'ENTER'

➤ **Customize Map (menu)**

This function allows the user to customize the following selections and is divided into the following setting menus: Marine Settings, Depth Settings, Land Settings and Chart Settings.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER'

➤ **Date (simulation)**

Sets the date of the simulated fix.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SIMULATION" + 'ENTER' + "DATE" + 'ENTER'

➤ **Date Format**

Sets you preferred date between MM-DD-YY (month-day-year) and DD-MM-YY (day-month-year). The default setting is MM-DD-YY.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "DATE FORMAT" + 'ENTER'

■ **Datum**

The Latitude and Longitude lines printed on any map are based on certain models of the shape of the earth: these models are called Datum or Coordinate Systems. There are many different Datum in use, each one gives different Lat/Lon positions for an identical point on the surface of the earth.

➤ **Dead Reckoning**

Enables (On) or disables (Off) the Dead Reckoning. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX" + 'ENTER' + "DEAD RECKONING" + 'ENTER'

➤ **Declutter**

Turns On/Off. When it is On removes overlapping text (e.g. Names, Spot Soundings etc.). The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "DECLUTTER" + 'ENTER'

■ **Default**

Indicates a value or a setting which is used if the user has not defined a particular value. You can modify this value using the menu settings.

➤ **Delete (file)**

Deletes file from User C-CARD:

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "DELETE" + 'ENTER'

➤ **Delete (route)**

To delete the selected route.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "DELETE ROUTE" + 'ENTER' + "YES" + 'ENTER'

➤ **Delete (Track)**

To clear the stored track.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "DELETE" + 'ENTER' + "YES" + 'ENTER'

➤ **Delete Selection (Track)**

To clear the selected track.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "DELETE SELECTION" + 'ENTER'

➤ **Depth (Unit)**

Sets the depth units among Ft = Feet, FM = Fathoms and Mt = Meters. The default setting is Ft.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "DEPTH" + 'ENTER'

➤ Depth Alarm

Turns On/Off the Depth Alarm. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ALARMS" + 'ENTER' + "DEPTH ALARM" + 'ENTER'

➤ Depth Areas

Turns On/Off the displaying of Depth Areas (imaginary lines connecting points of equal water depth). The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH AREAS" + 'ENTER'

➤ Depth Areas <

Sets a min reference depth value. The default setting is 5 Ft.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH AREAS <" + 'ENTER'

➤ Depth Areas >

Sets a max reference depth value. The default setting is 30 Ft.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH AREAS >" + 'ENTER'

■ Depth Contours

Imaginary lines connecting points of equal water depth (see also Bathymetric Lines).

➤ Depth Graph 1/2 screen

Selects the Depth Graph displaying on 1/2 of the screen.

'PAGE' more times

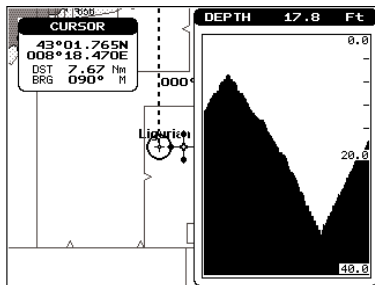


Fig. 5 - The Depth Graph 1/2 screen

➤ Depth Graph 1/3 screen

Selects the Depth Graph displaying on 1/3 of the screen.

'PAGE' more times

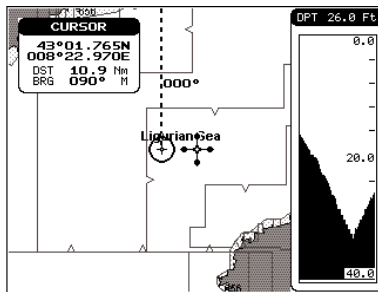


Fig. 5a - The Depth Graph 1/3 screen

➤ Depth Lines & Soundings

Turns On/Off the displaying of Depth Lines and Soundings. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH LINES & SOUNDINGS" + 'ENTER'

➤ Depth Lines & Soundings <

Sets a max reference depth & soundings value. The default setting is 09999 Ft.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH LINES & SOUNDINGS <" + 'ENTER'

➤ Depth Lines & Soundings >

Sets a min reference depth & soundings value. The default setting is 0 Ft.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER' + "DEPTH LINES & SOUNDINGS >" + 'ENTER'

➤ Depth Settings (menu)

Turns On/Off the display of Depth Areas and Depth Lines & Soundings.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "DEPTH SETTINGS" + 'ENTER'

➤ Depth Window

Turns On/Off the display of Depth Window on the screen. The default setting is Off.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "DEPTH WINDOW" + 'ENTER'

■ DGPS = Differential GPS

Provides even greater positioning accuracy than standard GPS.

➤ DGPS Input

Selects the DGPS Input between 4800 Baud and 9600 Baud. The default setting is 4800 Baud.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "DGPS INPUT" + 'ENTER'

➤ Display Mode

To simplify the customization of the chart display, the map settings are now re-organized in modes allowing the user to choose the preferred setting. Pre-programmed settings are user selectable from Full, Simple, Fishing, Low and Custom. The default setting is Custom.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "DISPLAY MODE" + 'ENTER'

➤ Distance (Track)

When the tracking function is On and the type of track storing is Distance, you can store a fix when the distance from its last stored position is greater than a defined distance. Choose in the range 0.01, 0.05, 0.1, 0.5, 1.0, 2.0, 5.0, 10.0 Nm (the distance unit is selected by the user). The default setting is 0.01 Nm.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "DISTANCE" + 'ENTER'

➤ Distance (Unit)

Sets the distance unit among Nm = nautical miles, Sm = statute miles e Km = kilometers. The default setting is Nm.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "DISTANCE" + 'ENTER'

■ DTG = Distance To Go

The actual distance to reach the Target.

➤ EBL = Electronic Bearing Line

Dotted line with direction selectable by the user (see Par. 4.3).

Select Advanced Mode + 'ENTER' + "EBL & VRM" + 'ENTER'

➤ Echosounder AVAILABLE ONLY IF THE CHARTPLOTTER IS CONNECTED TO THE VOICE NAVIGATION SYSTEM

Enables (On) or disables (Off) the Echosounder Voice mode. If it is On, the Depth message is spoken. The message is spoken if a valid depth data is received by the chartplotter or if it is in Simulation mode. The default setting is Off.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "VOICE" + 'ENTER' + "ECHOSOUNDER" + 'ENTER'

➤ Event

User point that refers to the ship's position. It is simply a way of marking where the boat is (see Par. 4.2).

Inserting Event: Select Advanced Mode + 'MODE' + 'ENTER' + "EVENT" + 'ENTER'

Deleting Event (Advanced Mode): Place cursor on Event + 'ENTER' + "DELETE" + 'ENTER'

Deleting Event (Basic Mode): Place cursor on Event + 'CLEAR'

Editing Event: Select Advanced Mode + Place cursor on Event + 'ENTER' + "EDIT" + 'ENTER' + Modify Symbol, Name, Color + 'CLEAR'

➤ External Waypoint

The coordinates of a Waypoint, received from a GPS or a LORAN connected to the chartplotter, can be stored into the chartplotter, if the GPS or the Loran are NMEA-0183 protocol compatible and support the \$BWC sentence (this symbol remains on the screen for 30 seconds). You may save it by placing a Waypoint or a Mark onto that symbol. As soon as the chartplotter receives another \$BWC sentence with the coordinates of a new Waypoint, the symbol moves to the new point. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "EXTERN WPT" + 'ENTER'

■ File

It is a collection of information (of the same type) stored on a User C-CARD. Each file must have a unique name, ideally one that describes its contents. Filenames are kept in a directory on each User C-CARD (see Par. 4.6).

➤ Filter Dump

Sets the Filter step. Move cursor key up/down to insert value in the range [500 - 12000], move it to the left/right to move the cursor, press 'ENTER'. A bigger value means on heavy filter and it is applied to both position and speed filter. The default value is 500.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX" + 'ENTER' + "FILTER DUMP" + 'ENTER'

➤ Find

The chartplotter allows finding Nearest Services, Port By name, Tide Stations, Wrecks, Obstructions.

'MENU' + "FIND" + 'ENTER'

➤ Fix (menu)

Turns On/Off the Dead Reckoning, Fix Correction, the Position Filter and the Speed Filter, enables the Compute Correction and Correction Offset functions, sets the desired value for Filter Dump and Static Navigation

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX" + 'ENTER'

➤ Fix Correction

Turns On/Off the Correction from the positioning system. If the new Correction is calculated, but the Correction is not enabled, the ship's position is not changed. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX" + 'ENTER' + "FIX CORRECTION" + 'ENTER'

➤ Fix Datum

Selects the Fix Datum among 130 items. WGS 1984 is the default Fix Datum.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "FIX DATUM" + 'ENTER'

➤ Formatting

The formatting of a User C-CARD must be done before using a new User C-CARD: this operation prepares the User C-CARD to receive and store information. Before you start the formatting procedure, insert a new User C-CARD into the slot. Be sure to label it; the label will remind you that you

have formatted the User C-CARD, and will help you identify its contents. An used User C-CARD can also be formatted; if a used User C-CARD is formatted, however, all previously stored data on the User C-CARD will be completely deleted (see Par. 4.6).

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "FORMAT" + 'ENTER'

➤ **Goto**

Sets a particular mark on the map, called Target or Destination.
'DEST'

■ **GPS = Global Positioning System**

It is a satellite based navigation system operated by the US Department of Defense. It gives the navigator a position 24 hours a day, 365 days a year under any weather conditions.

➤ **GPS Data Page**

The GPS Data Page shows in graphic mode GPS data.

'PAGE' more times

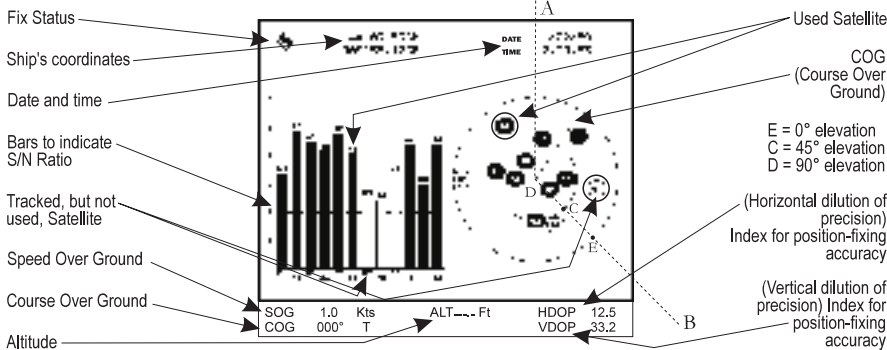


Fig. 5b - GPS Data Page

On the right side of the screen (see Fig. 5b), there is a polar representation of the azimuth and elevation of each satellites. The circle contains a number indicating the PRN of the satellite and it is filled when it is used for the fix solution. On the left side there are histograms indicating the S/N ratio (SNR). The bar is filled when the satellite is used for solution. As example, the satellite with PRN=10 is used for solution with S/N=44, Azimuth=127degree and Elevation=70degree. When a valid fix is received, the Lat/Lon, Date, Time, HDOP, VDOP, SOG, COG and Altitude are shown in the page.

➤ **Graphic Data Page**

The Graphic Data Page shows in graphic mode navigation data.

'PAGE' more times

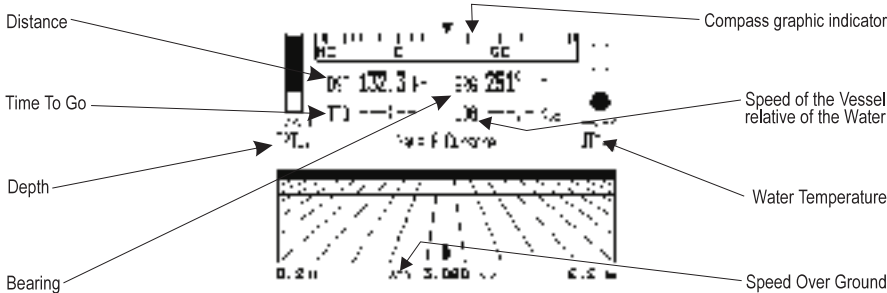


Fig. 5c - Graphic Data Page

➤ Grounding Alarm

The chartplotter is provided with a function that, by querying the map's data, verifies potential danger to navigation due to shallow water, land, rocks, obstructions and shoreline constructions. The maps are scanned periodically (every 10 seconds). When the Grounding Alarm is active, the chartplotter scans an area in front of the boat. This area is identified by a triangle drawn in front of the boat icon whose direction is determined by the current boat heading. The length of the triangle is user selectable and its angle is 30 degrees. If any of the above objects are found, the chartplotter notifies the danger on a dedicated warning message box in the Grounding Alarm Report page. The Grounding Alarm is switched Off by default after a Master Reset. Once the Grounding Alarm has been activated, a warning message is shown.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ALARMS" + 'ENTER' + "GROUNDING ALARM" + 'ENTER'

Note

The Grounding Alarm function only operates with the new NT+ C-CARDS. It also affects the speed of the redraw of the screen. If this function is not used it maybe disabled.

➤ Grounding Alarm Range

Allows setting the length of the sector to be detected among 0.25, 0.5, 1.0 Nm. The default setting is 0.25 Nm. When any of the searched objects is found in the scanned area, a tick marker is printed on the relative box in the Grounding Alarm Report page to identify which dangerous objects have been currently detected.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ALARMS" + 'ENTER' + "GROUNDING ALARM RANGE" + 'ENTER'

➤ Grounding Alarm Report

Allows displaying the report of the dangerous objects currently detected.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ALARMS" + 'ENTER' + "GROUNDING ALARM REPORT" + 'ENTER'

➤ Heading (Simulation)

Sets the desired value for heading in Simulation mode. The default setting is 000° M.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SIMULATION" + 'ENTER' + "HEADING" + 'ENTER'

■ HDG = Heading

The horizontal direction in which a ship actually points or heads in any moment (see also COG).

■ HDOP = Horizontal Dilution Of Precision

It is the index for position-fixing accuracy. The smaller the HDOP value, the more accurately the position can be fixed.

➤ Home

From the chart display, if the GPS computing a valid fix position and the chartplotter is not in Home mode, pressing 'CLEAR' sets Home mode. When Home (called also Navigate) mode is set, the cursor is not shown anymore and all cartographic functions (zoom, scroll, etc.) are leaded by the fix position. The fix is centered in the map display and the map scrolls underneath as the fix position changes. As soon as the cursor key is touched, Home mode is deactivated and the cursor symbol is shown. Note that although the cursor symbol is not displayed when Home mode is active, its coordinates must be updated with the fix position coordinates.

If a valid fix position is not received and 'CLEAR' is pressed, the chartplotter emits a triple beep.

Activate Home mode (if not into a menu): 'CLEAR'

Exit from Home mode: move the cursor

➤ Info page

This page combines the Info Tree and the Expanded Info pages; this gives the advantage of showing the

details of the object selected on the Info Tree while the cursor is moving through the Info Tree's items. The upper side of the page contains the Info Tree and the Lower side contains the expanded information. While moving the cursor through the Info Tree, all the relevant information of the selected object is shown on the lower part of the page.

'INFO'

➤ Input/Output (menu)

Selects the proper format for the NMEA0183 PWR I/O Port, NMEA0183 GPS Port, DGPS Input, NMEA Output Format and Printer Output. Displays also the Cable Wiring - Power & I/O and Cable Wiring - GPS.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER'

➤ Land Settings (menu)

Turns On/Off the display of Natural Features, Rivers & Lakes, Cultural Features and Landmarks.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER'

➤ Landmarks

Turns On/Off the displaying of the Landmarks (any prominent object such as monument, building, silo, tower, mast, ..., on land which can be used in determining a location or a direction). The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER' + "LANDMARKS" + 'ENTER'

➤ Language

Selects the language in which you wish information to be displayed (for screen labels, menus and options, but it is not affect the map information). The default setting is Italian (see Par. 2.4).

'MENU' + "BASIC SETTINGS" + 'ENTER' + "LANGUAGE" + 'ENTER'

■ Latitude

The angular distance North or South of the equator measured by lines encircling the earth parallel to the equator in degrees from 0° to 90°.

■ LAT/LON

Coordinate system using Latitude and Longitude coordinates to define a position on earth.

➤ Lat/Lon Grid

Turns On/Off the displaying of the Latitude and Longitude Grids. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "LAT/LON GRID" + 'ENTER'

➤ Light Sectors

Turns On/Off the displaying of Light Sectors. The default setting is On. Light Sectors are not displayed when Nav-Aids option is set to Simplified or Off (the display of Light Sectors is decided by the cartographic Library).

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "LIGHT SECTORS" + 'ENTER'

➤ Load (file)

Loads file from User C-CARD:

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "LOAD" + 'ENTER'

■ LOG

Speed of the vessel relative to the water.

■ Longitude

The angular distance East or West of the prime meridian (Greenwich meridian) as measured by lines perpendicular to the parallels and covering at the poles from 0° to 180°.

■ Loran

The Loran Chains are groups of transmitting stations that use timed radio pulse transmissions.

■ Magnetic Deviation

The angle between the Magnetic North and the Compass North.

■ Magnetic Variation

The angle between the magnetic and geographic meridians at any place, expressed in degrees West or East to indicate the direction of magnetic North from true North. It changes from point to point, and (at the same point) with time.

➤ Map Datum

Selects the Map Datum among 130 items. WGS 1984 is the default Map Datum.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "MAP DATUM" + 'ENTER'

➤ Map Orientation

Selects the orientation of your chart according to: North (the map is shown with North upwards), Head (the map is shown with the ship's current heading upwards), Course (the map is displayed with the currently selected course leg upwards). The default setting is North. See also par. 3.3.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "MAP ORIENTATION" + 'ENTER'

or

'MENU' + "BASIC SETTINGS" + 'ENTER' + "MAP ORIENTATION" + 'ENTER'

➤ Map Setting (menu)

One of the many advantages of the C-MAP cartography is the ability to select the information you want to display. The user may choose either to display or not on the screen the selected objects, depending on his specific requirement. Use the Map Setting menu to select the cartographic objects to display on the screen.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER'

➤ Mark

Reference points related to cursor position (see Par. 4.2).

Inserting Mark: Select Advanced Mode + 'ENTER' + "MARK" + 'ENTER'

Deleting Mark (Advanced Mode): Place cursor on existing Mark + 'ENTER' + "DELETE" + 'ENTER'

Deleting Mark (Basic Mode): Place cursor on existing Mark + 'CLEAR'

Editing Mark: Select Advanced Mode + Place cursor on existing Mark + 'ENTER' + "EDIT" + 'ENTER' + Modify Symbol, Name, Coordinates, Color + 'CLEAR'

Moving Mark: Select Advanced Mode + Place cursor on existing Mark + 'ENTER' + "MOVE" + 'ENTER' + move cursor + 'ENTER'

➤ Marine Settings (menu)

Turns On/Off the display of Names, Nav-Aids, Light Sectors, Attention Areas, Tides & Currents, Seabed Type, Ports & Services, Tracks & Routes, Underwater Objects.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER'

➤ Mixing Levels

Turns On/Off. When the map coverage at the current zoom level does not fill the entire screen, the chartplotter draws the rest of the map expanding the cartographic information read from, at most, two zoom levels above the current zoom level. For this reason the map is drawn three times: firstly it draws the two levels before the current level and then the current level. The area covered by the cartographic data read from the previous levels is identified by a dotted pattern. When the cursor is moved on an area not covered by data of the current level and the Cartography item is switched Off, the chartplotter zooms out to the first level covered by cartographic data. When the Cartography item is switched On, the cursor can be moved on the areas obtained from the previous levels but no information is provided

on the objects found on that area since it is considered not suitable for navigation at that scale level. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "CHART SETTINGS" + 'ENTER' + "MIXING LEVELS" + 'ENTER'

Note

The Mixing Levels function works only with the new NT C-CARDS. It also affects the speed of the redraw of the screen. If this function is not used it may be disabled.*

► MOB = Man OverBoard

It is an important function useful in the case someone or something falls overboard.

Inserting MOB

Press 'MOB' to place MOB symbol at ship's coordinates: the message "MOB Activate" is shown for a few second, then disappears. Data displayed in Text Area are related to MOB.

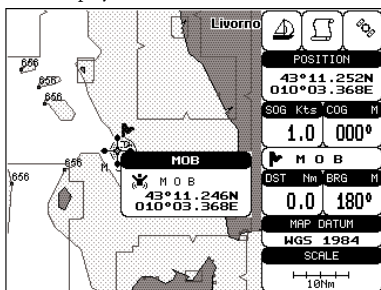


Fig. 5e - Man Overboard

Deleting MOB

Place cursor on MOB, press 'ENTER', select 'CANCEL' and press 'ENTER' again. The MOB symbol remains on the screen shaded until the next screen redraws.

► Names

Turns On/Off the displaying of the Names. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "NAMES" + 'ENTER'

► Natural Features

Turns On/Off the displaying of the Natural Features (any topographic feature formed by the action of natural processes: coastlines, relief, glaciers, ...). The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER' + "NATURAL FEATURES" + 'ENTER'

► Nav-Aids

Selects the desired setting among US/US Simple/INT/INT Simple/Off. The default setting is US. When selected it affects Lights, Signals, Buoys & Beacons display.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "NAV-AIDS" + 'ENTER'

► Navigate (menu)

Selects the desired setting for Map Orientation, Orientation Resolution, Coordinate System, Map Datum, Fix Datum and Roll Road Scale. Enable the Reset Total Trip and Reset Partial Trip functions.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER'

► Navigate (mode)

In Operating mode (called also Home mode) all operations refer to the ship's position.

Enter Navigate: 'MODE'

Exit from Navigate: move the cursor

► Navigation AVAILABLE ONLY IF THE CHARTPLOTTER IS CONNECTED TO THE VOICE NAVIGATION SYSTEM

Enables (On), disables (Off) or insert the time (2, 5, 10, 15 minutes) for the Navigation Voice mode. If it is On, the message is always sent, as fast as possible. Instead if it is one among the available values, for example 2 minutes, the message is sent related to the selected time, in the previous example every two minutes.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "VOICE" + 'ENTER' + "NAVIGATION" + 'ENTER'

► Navigation Data Page

Shows information about speed (SOG) and course (COG) of the ship, status of the received signal, ship's coordinate and other general information.

'PAGE' more times

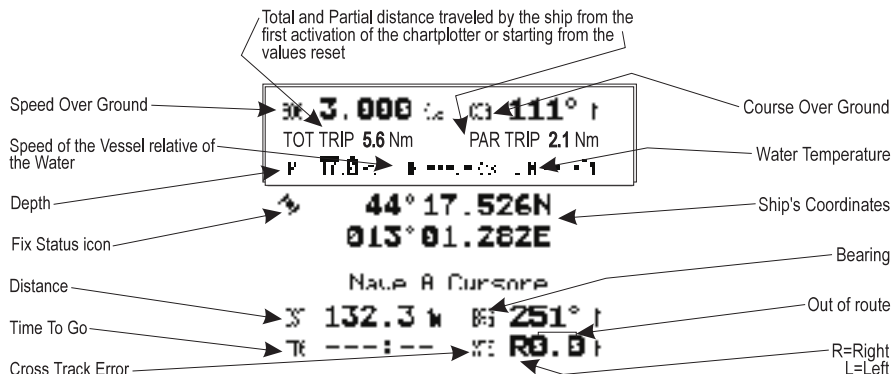


Fig. 5e - Navigation Data Page

► Nearest Services

To locate and display the nearest available facilities of a particular type (i.e. the nearest Hospital, sailmaker, bank, etc.). The icons list of the available services is shown on the screen.

'MENU' + "FIND" + 'ENTER' + "NEAREST SERVICES" + 'ENTER'

■ NMEA-0183

The NMEA-0183 Data Interface Standard was developed by the National Marine Electronics Association of America. It is an international standard that enables equipment from many different manufacturers to be connected together and to share information.

► NMEA-0183 GPS Port

Sets the format for the navigation data input Port (GPS). For example to set the Port as NMEA-0183 (4800 Baud Rate, Parity None, 8 Bits Number, 1 Stop Bit and Normal Polarity) you must select 4800-N81-N. The available choice is among (1200-N81-N), (1200-N81-I), (4800-N81-N), (4800-N81-I), (9600-O81-N), (9600-O81-I). The default setting is (4800-N81-N).

'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "NMEA0183 GPS PORT" + 'ENTER'

► NMEA-0183 PWR I/O Port

Sets the format for the navigation data input Port (PWR & I/O). For example to set the Port as NMEA-0183 (4800 Baud Rate, Parity None, 8 Bits Number, 1 Stop Bit and Normal Polarity) you must select 4800-N81-N. The available choice is among (1200-N81-N), (1200-N81-I), (4800-N81-N), (4800-N81-I), (9600-O81-N), (9600-O81-I). The default setting is (4800-N81-N).

'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "NMEA0183 PWR I/O PORT" + 'ENTER'

➤ NMEA Output Format

Disables (Off) or sets the interface among 0183, 0180, 0180/CDX. The default setting is 0183.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "NMEA OUTPUT FORMAT" + 'ENTER'

➤ Obstructions

Finds the nearest Obstructions:

'MENU' + "FIND" + 'ENTER' + "OBSTRUCTIONS" + 'ENTER'

➤ Orientation Resolution

It is the resolution angle for the Map Orientation, range [5, 30] degrees. The default setting is 15°.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "ORIENT. RESOLUTION" + 'ENTER'

➤ OSGB = Ordnance Survey of Great Britain

A coordinate system describing only Great Britain. Generally used with GBR36 datum, which also describes only Great Britain. This coordinate system cannot be used in any other part of the world.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "COORDINATE SYSTEM" + 'ENTER' + "OSGB" + 'ENTER'

➤ Pair

Selects the pair of stations in the selected chain. The default setting is W X.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "COORDINATE SYSTEM" + 'ENTER' + "TD" + 'ENTER' + "Pair" + 'ENTER'

➤ Palette

It is possible to set the palette used to enhance the visibility of the screen depending on the surrounding light condition. The possible choices are Normal, Classic, Night and Sunlight. The default setting is Normal. **Normal** is recommended when the chartplotter is not exposed to the direct sunlight. When this mode is set the maps are displayed in order to use colors as similar as possible to the ones used in the original paper charts. **Classic** is also recommended when the chartplotter is not exposed to the direct sunlight. The colors used are the same colors used on NT cartography. **Night** is recommended when the environment is dark in order to reduce the glare of the display. The chartplotter displays maps and screen in darker colors. **Sunlight** is designed to enhance the visibility of the screen when the chartplotter is exposed to the sunlight. The maps are much brighter than in the other modes and the depth areas are filled with white color so different depth areas are not easily distinguishable.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "PALETTE" + 'ENTER'

➤ Port By Name

To locate and display the port inserting the name. The icons list of the available services is shown on the screen.

'MENU' + "FIND" + 'ENTER' + "PORT BY NAME" + 'ENTER'

■ Port Info

The Port Info function is a combination of a new Port Info database containing all the relevant Safety and Navigational information normally found in good pilot books and a new presentation software which displays special Port Facility Symbols (see Par. 3.5.3).

➤ Ports & Services

Turns On/Off the displaying of Ports and Services (areas along shore with facilities for mooring, down-loading and uploading of ships, generally sheltered from waves and winds. Port installations are piers, wharves, pontoons, dry docks, cranes...). The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "PORTS & SERVICES" + 'ENTER'

➤ Position Filter

Turns On/Off the Position Filter. In case of a jittering fix this option makes the ship' position more stable and the track smoother. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX" + 'ENTER' + "POSITION FILTER" + 'ENTER'

➤ **Printer Output**

Disables the print screen (Off) or select Baud Rate among [300, 600, 1200, 2400, 4800, 9600].

'MENU' + "BASIC SETTINGS" + 'ENTER' + "INPUT/OUTPUT" + 'ENTER' + "PRINTER OUTPUT" + 'ENTER'

■ **Print screen**

The user can print the screen image on paper, if the chartplotter is connected to a printer (see Par. 2.7 and 6.5).

➤ **Reset Partial Trip**

Resets the partial distance traveled by the ship from the first activation of the chartplotter or starting from the values reset. The partial trip value is shown on the top of the Navigation Page.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "RESET PARTIAL TRIP" + 'ENTER'

➤ **Reset Total Trip**

Resets the total distance traveled by the ship from the first activation of the chartplotter or starting from the values reset. The total trip value is shown on the top of the Navigation Page.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "RESET TOTAL TRIP" + 'ENTER'

➤ **Rivers & Lakes**

Turns On/Off the displaying of Rivers and Lakes. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "LAND SETTINGS" + 'ENTER' + "RIVERS & LAKES" + 'ENTER'

➤ **Rolling Road Scale**

Sets you preferred Rolling Road Scale among 0.2, 0.5, 1.0, 2.0, 4.0, 10.0. The default setting is 0.2.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "ROLL ROAD SCALE" + 'ENTER'

➤ **Route**

Sequence of Waypoints connected by segments. Among the available routes, only one is the active route, which is shown by a straight line and arrows to indicate the direction. The first Waypoint of the active route is surrounded by a circle (see Par. 4.1.2).

Selecting Route: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "CURRENT ROUTE" + 'ENTER'

Deleting Route: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "DELETE ROUTE" + 'ENTER'

Reversing Route: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "REVERSE ROUTE" + 'ENTER'

Route Report: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE REPORT" + 'ENTER'

Selecting Route Color: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE COLOR" + 'ENTER'

➤ **Route (menu)**

Allows route management.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER'

➤ **Route Color**

Selects color for the desired route.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "ROUTE COLOR" + 'ENTER'

➤ **Route Report**

Gives information on the selected route.

Selecting Active Route: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "REPORT" + 'ENTER' + "ROUTE #" + 'ENTER'
 Inverting Route: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "REPORT" + 'ENTER' + "INVERT" + 'ENTER'
 Deleting Route: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "REPORT" + 'ENTER' + "CLEAR" + 'ENTER'
 Selecting Speed: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "REPORT" + 'ENTER' + "SPEED" + 'ENTER' + insert value
 Selecting Fuel: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "REPORT" + 'ENTER' + "FUEL" + 'ENTER' + insert fuel

➤ Route Reverse

Reversing a route plan is most typically used to return to the point where the route originally started.
 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ROUTE" + 'ENTER' + "INVERT" + 'ENTER'

➤ Save (file)

Saves file on User C-CARD:

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER' + "SAVE" + 'ENTER'

➤ Seabed Type

Enables (On) or disables (Off) the displaying of the Seabed Type.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "SEABED TYPE" + 'ENTER'

➤ Setup (menu)

Turns On/Off the Beeper, External Waypoint; selects the desired setting for Palette, Time Reference, Time Format, Date Format, Wind Speed, Auto Info and Ship Icon Mode.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER'

➤ Ship Icon Mode

Sets the ship icon as Steady or Blinking. The default setting is Blinking.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "SHIP ICON MODE" + 'ENTER'

■ Simulation

Used in order to use your chartplotter without input data. It generates a display with a moving vessel, so that you can practice using the controls in safety.

➤ Simulation (menu)

Enables (On)/disables (Off) Activate Simulation; it is possible to insert desired values for Speed, Heading, Date and Time and selects the Cursor Control function.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SIMULATION" + 'ENTER'

■ SNR = Signal to Noise Ratio

The ratio of the magnitude of a signal that of the noise (interference).

■ SOG = Speed Over Ground

A calculation of the rate of movement of the ship over the ground.

■ Speed

The current velocity at which you are travelling, relative to a ground location.

➤ Speed Filter

Turns On/Off the Speed Filter. When it is On, you can filter the speed of the ship, to optimize it. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX " + 'ENTER' + "SPEED FILTER" + 'ENTER'

➤ Speed (Simulation)

Sets the value for speed in the Simulation mode. The default setting is 01.0 Kts.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SIMULATION" + 'ENTER' + "SPEED" + 'ENTER'

➤ Speed (Unit)

Sets the speed unit among Kts = knots, Mph = miles per hour e Kmh = kilometers per hour. The default setting is Kts.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "SPEED" + 'ENTER'

➤ Static Navigation

Sets up a threshold for the speed. When the speed received from the positioning device is under that threshold, the chartplotter displays zero. The default value is 0.5 Kts.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "FIX" + 'ENTER' + "STATIC NAVIGATION" + 'ENTER'

➤ Step Unit (Track)

Choose Distance (Dist) - the chartplotter can store a fix when the distance from its last stored position is greater than a defined distance; Time - the chartplotter can store a fix after a defined time; Auto - the software decides when storing a position, on the basis of the straight or curved track. The default setting is Time.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "STEP UNIT" + 'ENTER'

■ STR = Steering

The difference between COG and CTS. If COG is 25° and CTS is 30°, then STR is 5° Right.

➤ Target

In order to tag on the chart the point, towards which the ship is Heading, you can use a special mark, called Target. When the Target is placed, all navigation data are referred to this Target (see Par. 3.4, 4.1.1.4, 4.2.1.3, 4.2.2.3).

Inserting Target : place cursor + 'DEST'

Deleting Target (Basic Mode) : place cursor on Target + 'CLEAR'

Deleting Target (Advanced Mode) : place cursor on Target + 'ENTER' + 'DELETE' + 'ENTER'

➤ TD = Time Difference

Loran-C positions are determined by precise timing of the intervals between reception of pulses transmitted by pairs of stations in the selected chain. Between any two stations a ship must be located somewhere along a line of possible positions where the measured Time Difference, TD, between arrival of pulses from those stations would be observed. The TD is measured from the time of reception of the master station signal to the time of reception of the slave station signal.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "COORDINATE SYSTEM" + 'ENTER' + "TD" + 'ENTER'

■ Tide

The periodic rise and fall of the surface of oceans, bays, etc., due principally to the gravitational interactions between the Moon and Earth.

■ Tide Info

The Tide Info feature is the combination of a new tide heights database that will be included within new C-CARDS and new features which calculate the tide graph for all primary and secondary ports world-wide. This function can calculate the tide heights for any past or future date and as a by-product of this calculation will also display the Maximum and Minimum Tide height and time for the day selected plus the times of Sunrise and Sunset. At some chart levels, the chartplotter will display a new Tide Diamond Symbol for every Port or tide point in the database covered by that particular C-CARD (see Par. 3.5.4).

➤ Tide Stations

Finds the nearest Tide Stations (up to 10) on the map, from the boat position - if a valid fix is received - or from the cursor position - if the fix position is not good.

'MENU' + "FIND" + 'ENTER' + "TIDE STATIONS" + 'ENTER'

➤ Tides & Currents

Turns On/Off the displaying of Tides and Currents. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "TIDES & CURRENTS" + 'ENTER'

➤ Time (simulation)

Sets the time of the simulated fix.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SIMULATION" + 'ENTER' + "TIME" + 'ENTER'

➤ Time Format

Sets you preferred time between 12 hour and 24 hour. The default setting is 24 hour.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "TIME FORMAT" + 'ENTER'

■ Time Line

The location where the ship will be after the time set by the user.

➤ Time Reference

Sets UTC or Local Time. The default setting is UTC.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "TIME REFERENCE" + 'ENTER'

➤ Time (Track)

When the tracking function is On and the type of track storing is Time, the chartplotter can store a fix after a defined time. Choose among 1, 5, 10, 30 sec, 1, 5, 10 min. The default setting is 1 sec.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "TIME" + 'ENTER'

➤ Track (menu)

As long as the chartplotter is connected to a positioning instrument, it stores all points in its memory. The chartplotter can store a fix when the distance from its last stored position is greater than a defined distance or after a defined time. A line connects such points and represents the past course, called the track of the ship (see Par. 4.4).

Active Track selecting: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "ACTIVE TRK" + 'ENTER'

Track storing ON/OFF: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "TRACKING" + 'ENTER'

Visible ON/OFF: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "VISIBLE" + 'ENTER'

Step unit selection: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "STEP UNIT" + 'ENTER'

Deleting Track: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "CLEAR" + 'ENTER' + "YES" + 'ENTER'

Track color selecting: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "COLOR" + 'ENTER'

➤ Tracking

Turns On/Off the track storing. It is not possible to use the track storing if you are not receiving a valid fix. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "TRACKING" + 'ENTER'

➤ Tracks & Routes

Turns On/Off the displaying of Tracks and Routes (recommended and established routes for ships at sea, including traffic separation schemes, deep water routes, ...). The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "TRACKS & ROUTES" + 'ENTER'

■ TRN = Turning

The difference between COG and BRG. If COG is 80° and BRG is 75°, TRN is 5° Left.

■ TTG = Time To Go

The estimated time needed to reach your destination, based on your current speed and the distance to destination.

➤ Underwater Objects

Turns On/Off the displaying of Underwater Objects. (Diffuser, Obstruction, Wreck, Cable - submarine, Cable area, Pipeline area, Pipeline - submarine/on land. The default setting is On.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "MAP SETTING" + 'ENTER' + "CUSTOMIZE MAP" + 'ENTER' + "MARINE SETTINGS" + 'ENTER' + "UNDERWATER OBJECTS" + 'ENTER'

➤ User C-CARD

The chartplotter uses the optional user C-CARD to save user data: it is a convenient medium to store and retrieve your information. Before a new user C-CARD can be used, you must format it. The formatting function initializes the user C-CARD and prepares it for storing information. Remember that if an user C-CARD is not blank, formatting it will destroy any data already present on the user C-CARD (the user C-CARDS must be formatted in order to be reused, this operation means all old data memorized on the user C-CARD will be lost). Data stored on user C-CARD are grouped in files.

Select USER C-CARD menu: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER C-CARD" + 'ENTER'

■ User Point

Place on the chart identified by its coordinates and displayed on the screen with a reference symbol (see Mark, Waypoint and Event).

➤ User Points

Turns On/Off/Icon the displaying of the User Point Name. The default setting is On.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER'

➤ User Points (List)

Displays the User Points List page on the screen (see Par. 4.1.1.8).

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER'

■ UTC = Universal Time Coordinated

A time scale based on the rotation of the earth that is used by most broadcast time services.

➤ UTM = Universal Transverse Mercator

Metric Grid system used on most large and intermediate scale land topographic charts and maps.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "NAVIGATE" + 'ENTER' + "COORDINATE SYSTEM" + 'ENTER' + "UTM" + 'ENTER'

➤ (Magnetic) Variation

It is possible to calculate the Magnetic Variation in an Automatic or manual mode, by inserting the step for calculation of Magnetic Variation. The default setting is Automatic.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "COMPASS" + 'ENTER' + "VARIATION" + 'ENTER'

➤ Visible (Track)

To enable (On) or disable (Off) the displaying of track. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "TRACK" + 'ENTER' + "VISIBLE" + 'ENTER'

➤ VOICE AVAILABLE ONLY IF THE CHARTPLOTTER IS CONNECTED TO THE VOICE NAVIGATION SYSTEM

The chartplotter has two different vocal modes, Navigation and Echosounder. According to what mode is selected the messages spoken from the chartplotter are different.

'MENU' + "BASIC SETTINGS" + 'ENTER' + "VOICE" + 'ENTER'

➤ VRM = Variable Range Marker

Circle with radius selectable by the user (see Par. 4.3).

Select Advanced Mode + 'ENTER' + "EBL & VRM" + 'ENTER'

➤ Waypoint

Any point to which one intends to navigate. A sequence of Waypoints makes up a route plan (see Par. 4.1.1).

Inserting Waypoint: Select Advanced Mode + 'ENTER' + "WAYPOINT" + 'ENTER'

Moving Waypoint: Select Advanced Mode + Place cursor on existing Waypoint + 'ENTER' + "MOVE" + 'ENTER' + move cursor + 'ENTER'

Deleting Waypoint (Basic Mode): Place cursor on existing Waypoint + 'CLEAR'

Deleting Waypoint (Advanced Mode): Place cursor on existing Waypoint + 'ENTER' + "DELETE" + 'ENTER'

Editing Waypoint: Select Advanced Mode + Place cursor on existing Waypoint + 'ENTER' + "EDIT" + 'ENTER' + Modify symbol, Cursor, Color and coordinates + 'ENTER'

Inserting Waypoint: Select Advanced Mode + Place cursor on route leg + 'ENTER' + "INSERT." + 'ENTER' + move cursor + 'ENTER'

Finding Waypoint: 'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "USER POINTS" + 'ENTER' + "FIND" + 'ENTER'

■ WGS-84 = World Geodetic System 1984

Coordinate System or Datum developed by the Defense Mapping Agency (DMA).

➤ Wind Speed (unit)

Selects the Wind Speed unit among Kts = Knots, m/s and Km/h = kilometers per hour. The default setting is Kts.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "SETUP" + 'ENTER' + "WIND SPEED" + 'ENTER'

➤ Wrecks

Finds the nearest Wrecks:

'MENU' + "FIND" + 'ENTER' + "WRECKS" + 'ENTER'

■ Zoom-In

Shows more detail in a smaller area. Expands map scale; scale value is refreshed. When Plotter Mode option is set On from the map configuration setup, it allows zooming into map scales not covered by cartographic details. Pressing and holding "ZOOM IN" allows fast zoom function.

■ Zoom-Out

Operates similarly to zoom-in, but in the reverse, showing a wider but less detailed view. Compresses map scale; scale value is refreshed. When Plotter Mode option is set On from the map configuration setup, it allows zooming into map scales not covered by cartographic details. Pressing and holding "ZOOM OUT" allows fast zoom function.

➤ XTE Alarm

Disables the XTE Alarm (Off) or selects the desired value. The default setting is Off.

'MENU' + "ADVANCED SETTINGS" + 'ENTER' + "ALARMS" + 'ENTER' + "XTE ALARM" + 'ENTER'

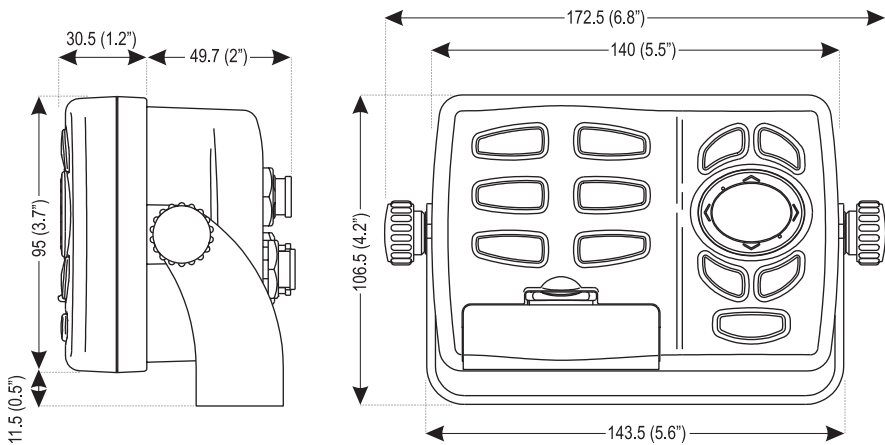
6

For the Technician

6.1 TECHNICAL SPECIFICATIONS

- **Power consumption** : 3 Watt max, 10 - 35 Volt dc
- **Interface** : NMEA0183
- **Autopilot Interface** : NMEA-0180, NMEA-0180/CDX, NMEA-0183
- **Display Resolution** : 640 x 480 pixels
- **Cartography** : **C-MAP NT⁺ C-CARD**
- **Operating temperature range**: 0/+55 degrees Celsius
- **Memory** : Non volatile with battery back-up
- **Keyboard** : Silicon rubber, backlight
- **Weight** : 600 gr.
- **Accessories** : External Bracket kit
2 Fuses 1 Amp. + fuseholder
I/O cable (CBC0FS0603)
Power supply and I/O (CBC0FS0709)
Quick Reference Guide
User Manual

• **Dimensions:** (mm[inch]) :



6.2 INSTALLATION

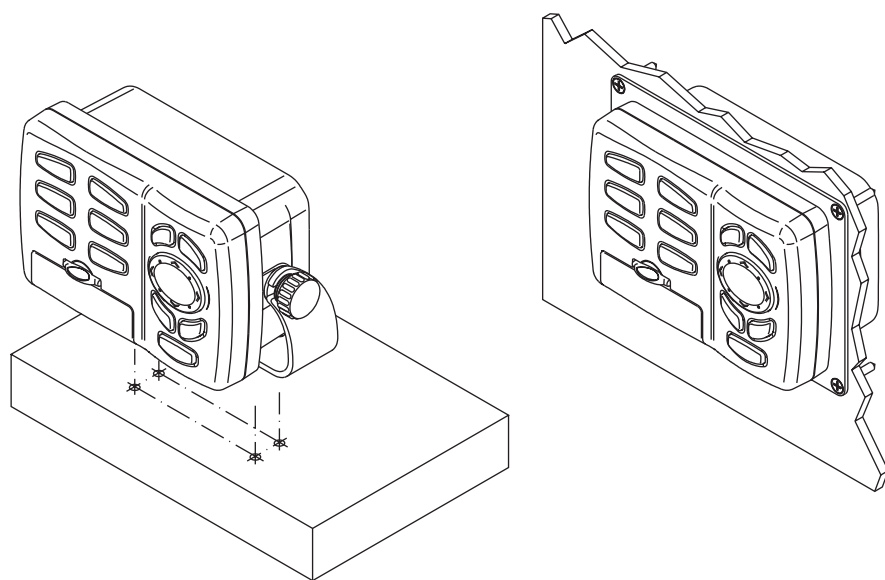
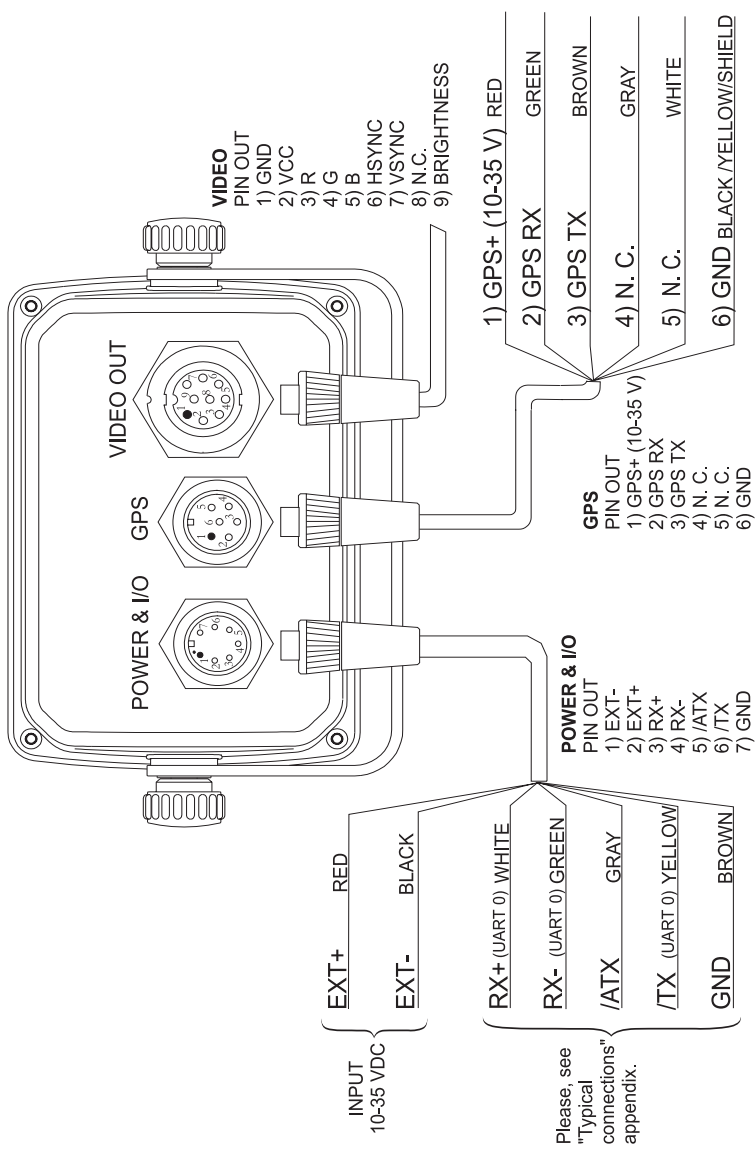


Fig. 6.2 - Installation types

6.3 EXTERNAL WIRING

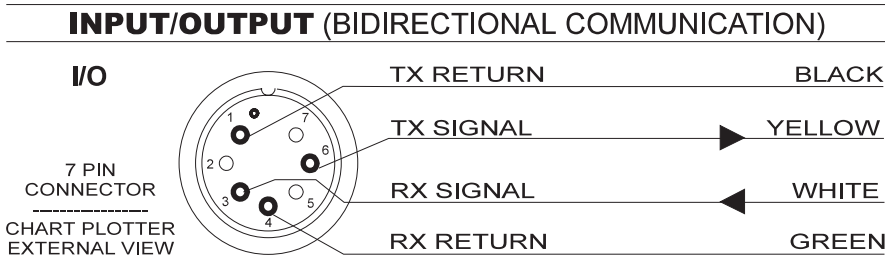
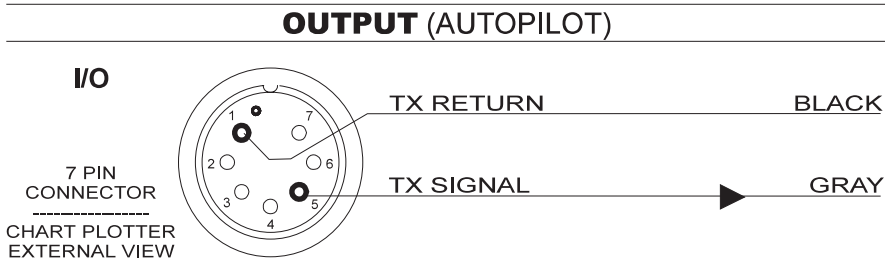
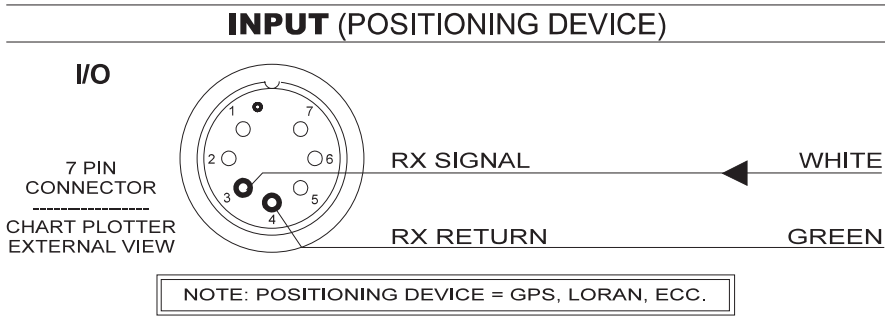
After having chosen the installation type, connect the chartplotter to the power supply.



Note: Black, Yellow and Shield wire are connected together on Pin No. 6.

6.4

TYPICAL CONNECTION - "POWER & I/O" Connector

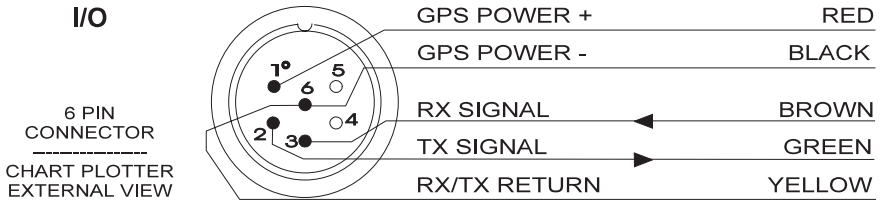


NOTE:

Wire colors are referred to the supplied 7-wires cable.

GPS SENSOR (10-35)

GPS PORT



NOTE:

Wire colors are referred to the supplied 6-wires cable.

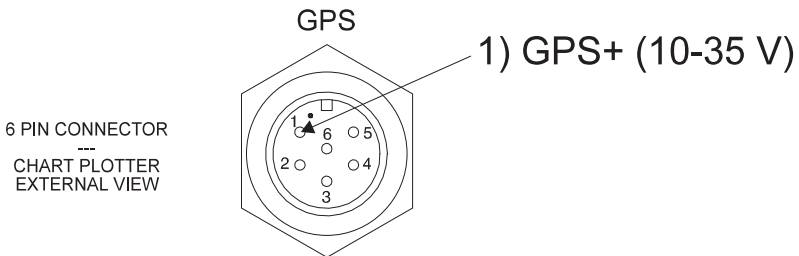
WARNING ! ! !

The "GPS Port" on this unit supplies a 10-35Vdc voltage (on pin 1) to power a GPS Sensor.

Caution

Do not attempt to connect a 5Vdc GPS Sensor to this port as the over voltage will cause serious damage to the GPS Sensor.

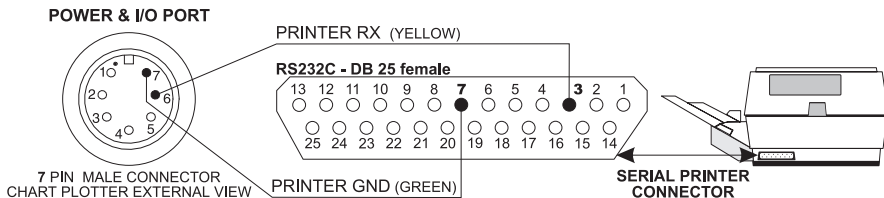
If you have any doubts as to the GPS Sensor operating voltage, please contact your local agent before you complete this installation.



6.5 PRINTER SPECIFICATIONS

6.5.1 PRINTING ON SERIAL PRINTER

The printer must be connected to the chartplotter via a serial cable with 2 wires from the 7 Pin Conxall Connector as shown in the following figure:

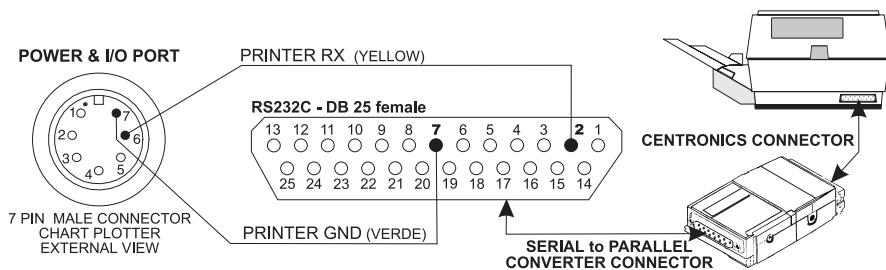


The printer serial interface RS232 must be set as follows:

- 8 bit data
- 1 stop bit
- no parity
- 9600 Baud Rate (see Note)
- Data protocol: Ready/Busy
- Carrier detect : Disabled
- Clear to send : Disabled
- Data set ready : Disabled
- CR definition : CR only
- LF Definition : LF only
- Page Length : 11"

6.5.2 PRINTING ON PARALLEL PRINTER

The printer must be connected by using a serial to parallel converter.



The serial to parallel converter must be set as follows:

- 9600 Baud Rate (see Note (*)) at the end of the paragraph)
- Handshake : XON/XOFF
- Data Length : 8"
- Parity : none
- Direction : S-P

Note (*)

This setting depends on the selection of printer output Band Rate done in the chartplotter. It is recommended to use the maximum Band Rate (9600) to reduce the time necessary for printing.

The printer should be compatible with the following formats:

- EPSON LQ 2500
- IBM PROPRINTER XL24 in AGM mode.

6.6 SYSTEM TEST

If you have connected your position-finding device according to the instructions, and chosen the proper menu selection for your device, and are still having problems with your chartplotter, the extended auto-test should help determine the problem. Make sure the chartplotter is turned Off. While pressing and holding any other key, turn the chartplotter On. A new menu will appear on the display:

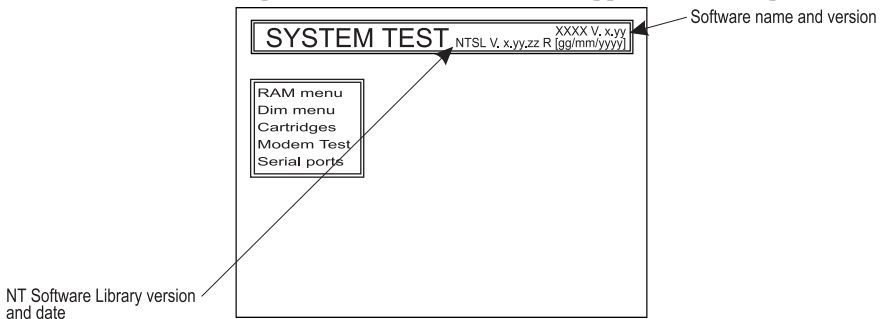


Fig. 6.6 - System Test

Use the cursor key to select the desired test: this will display in reverse video and with the relative menu window. To choice the test press 'ENTER'. To exit from any submenu press 'CLEAR'. To exit from the System Test turn Off the chartplotter.

6.6.1 RAM MENU

This test verifies the integrity of the memories and if desired during this test all the internal memory can be erased and the default setting restored.

■ RAM Test

To verify the integrity of the RAM. If on the screen the message "ERROR" appears, the RAM is physically damaged.

■ **RAM Clear**

To clear internal memory. If the chartplotter exhibits unusual behaviour, or appears to be malfunctioning, it may be possible to correct the problem by clearing RAM.

This operation will erase all Marks, Events, Routes, stored track plots and destinations. It will also return all selections (Input Data Format, Autopilot selection, etc.) to original default values. To confirm to clear RAM press 'ENTER' again (but if at this time you do not wish to clear RAM press 'CLEAR').

6.6.2 DIM MENU

To select the desired value for brightness and keypad light.

■ **Contrast**

Each time you pressed the cursor key to right, the screen will decrease brightness, instead of to left it will increase brightness.

■ **Backlight**

The second option allows to set the backlight. Operates in similar mode as Contrast.

6.6.3 CARTRIDGES

To check the C-CARD and its connector.

■ **Background ROM**

To test the WorldWideBackground. If there is not a malfunction, the code of the Background and the message "OK" are shown, but if the Background is defective the message "Faulty" is shown.

■ **C-CARD Test**

To test the C-CARD. There are three possible situations:

1. if there is a C-CARD inserted in the slot and there is not a malfunction, the name of the C-CARD zone and the message "OK" are shown.
2. if there is a C-CARD inserted in the slot, but it is a damaged C-CARD, the name of the C-CARD zone and the message "Faulty" are shown.
3. if there is not any C-CARD inserted in the slot, the message "not present" is shown.
4. if there is an User C-CARD inserted in the slot, the message "USER C-CARD" is shown.

■ C-CARD Connector

Indicates if there is a malfunction in the connector. It is used only in production.

6.6.4 SERIAL PORTS

If you are having problems receiving data from the position-finding instrument, this test should help determine the problem.

■ Change Parameters

To change the parameters of the serial interface. This menu allows to select the **Port** (Signal Source) between UART0 or UART1, the **Baud Rate** between 4800 or 9600, the **Data Bits** (Word Length) between 7 or 8, the **Parity** between even, odd or none, the **Stop Bits** between 1 or 2, the **Polarity** between "+" or "-". Default settings are: Port = UART1, Baud Rate = 4800, Data Bits = 8, Parity = none, Stop Bits = 1, Polarity = +.

■ Input Data Display

To allow the chartplotter to act as a computer terminal and display the incoming data exactly as it received.

If the data displayed on the screen is unrecognizable, you may have selected the wrong input parameters for your particular receiver, for example, NMEA-0182 instead of NMEA-0183. Check your receiver manual to be sure that you have selected the proper interface format. If the screen is blank, you may have a broken connection, and no data is being received.

Use 'ZOOM IN' to stop (or continue after pause) data displaying, 'ENTER' to show data in hex or ASCII mode (normal or small) and 'CLEAR' to exit.

A

C-Forecast

C-Forecast is a innovative meteorological forecasting system with the ability to visualise the weather forecast, for a given area, directly on to the area related cartography on a chart plotter. The weather data is transferred very quickly to the plotter thanks to C-COM, a device for data-transfer via GSM developed by C-MAP.

In order to access the C-Forecast, it is necessary to set up a subscription. The only other cost will be the GSM-call to the remote weather report server, normally lasting less then a minute.

With C-Forecast it is possible to receive weather information regarding the wind, speed and direction, as well as the height of the waves in the area. The weather data will be superimposed on to the C-MAP NT⁺ cartography and visualised directly on the plotter screen.

In order to access the C-Forecast, the plotter must have the necessary software to make the connection, through the GSM-modem (C-COM), with the weather data server.

The area covered by the weather information is determined by either the actual position and heading, given by the onboard GPS, or co-ordinates entered manually by the user. The user variable features can be pre-set through the C-Forecast menu on the plotter (see fig.A) together with the level of detail. To see the area covered by the C-Forecast, please refer to the c-forecast.c-map.com web site.

The weather forecast is covering a period of 48-hours, within which the user can collect the information for any period of 6 hours (Example: At 2 PM on the 21st of March 2002 a users request a weather forecast, the forecast will cover the period for the following 6 hours based on the predicted weather situation at the time of collection, ending at 8 PM on the 21st of March 2002). The weather information on the C-Forecast server is revised every hour, covering the following 48 hours.

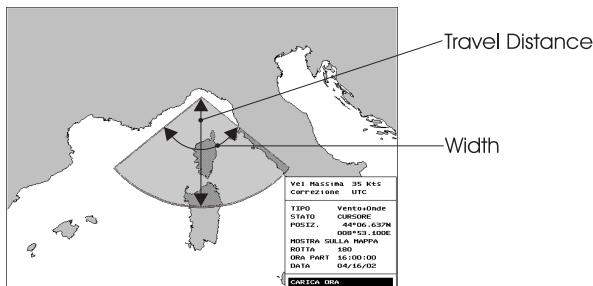


Fig. A - Preview of the area covered by the requested weather forecast

The coverage of the weather forecast in each instant is determined by the maximum speed of the boat given at the time of subscription (see Fig. A and table Aa below).

COVERAGE OF THE FORECASTING AREA		
Maximum Speed(Knt)	Width in Degree	Travel Distance (Nm)
5	160	30
10	150	60
15	140	90
20	130	120
25	120	150
30	110	180
35	100	210
40	90	240

Fig. Aa - Table of the area covered by the forecast

A.1 PRESENTATION OF DATA

The information received from the weather data server consists of two types of information which will be shown on the plotter screen, represented by two different icons, one relating to wind and the other to waves.

The icon for wind is a circle with an arrow pointing towards the center where the arrow represents the direction of the wind, it will show a number this represents speed (shown in units according to measurements pre-set by the user - see the left column in Fig. A.1). It is possible to pre-set an upper limit for the wind speed and connect this limit to an alarm which will alert and request navigator action (see the

right column in Fig. A.1). The colour of the wind icon will change to red when the wind speed limit has been reached (preset by the user in the menu).



Fig. A.1 - Wind icon in condition: Normal (left) and condition alarm (right)

The icon for the waves is a circle with a number representing the height of the waves (shown in units according to measurements preset by the user), see the left column of Fig. A.1a. It is possible to preset an upper limit for the height of the waves and connect this limit to an alarm which will alert and request navigator action (see the right column in Fig. A.1a). The colour of the wave height icon will change to red when the height limited has been reached (preset by the user in the menu).



Fig. A.1a - Icon for waves, condition: normal (left) and for alarm (right)

The weather information received from the C-Forecast server is saved in the chart plotters memory. The information can be accessed and used in two ways, by using the chart plotter in ‘navigation’ mode or in ‘browse’ mode (see Fig. A.1.1).

For every point for which forecast data have been collected, the information saved to memory contains the data for the subsequent 6 hours from the time of collection. The area covered by the data in each instants is determined by the maximum speed of the boat indicated at the time of subscription.

Every point for which weather data have been received, the predictions will cover the maximum travel distance, if departure happens at the same time as receipt of the weather data, and the travel speed is at the maximum speed for the full 6 hours. The significance of this is that there is no need for collecting further information from the C-Forecast server, until the end of the 6th hour covered by every circle. As you can see from Fig. A.1b, from the time of collection, the travel time covered is reduced by an hour until the last hour where you will have to collect a new prediction covering the following 6 hours.

Hours of Navigation	Hours covered by the forecast
1 ^a	6
2 ^a	5
3 ^a	4
4 ^a	3
5 ^a	2
6 ^a	1

Fig. A.1b - Table of hours covered by the weather forecast

A.1.1 PRESENTATION OF WEATHER INFORMATION

A.1.1.1 Viewing the information in Navigation mode

The Navigation mode allows the user to view on screen the weather information superimposed directly onto the cartography (the wind or the waves – not both simultaneously), the area shown is relative to the position of the boat (plotted by the onboard GPS, or in simulation mode given by the simulator). The data is relative to the time of day and information received or simulated. The type of information shown on the screen depends on the option chosen by the user in the menu: Video settings - the 3 options are: no information, wind or waves. The information shown is presented as a serie of icons - wind or waves. The amount of icons presented on screen, depend on the position from where the information was collected and the maximum travel speed.

- Example 1: If the boat is traveling at maximum speed all the icons will show up on the screen.
- Example 2: If the boat is laying still without moving position, no icons will show.

If the boat travels at maximum speed and reaches the area covered by the information of the 6th hour, the related '6th hour information' will be available on screen. However if the boat arrived at the same area covered by the '6th hour information', after the 6th hour, no information would shown, - the information saved in memory is regarded not up-to-date by the plotter after the 6th hour and discarded, and new weather information will have to be collected from the C-Forecast server.

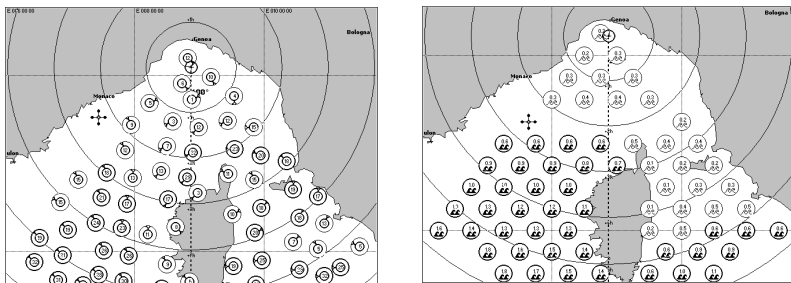


Fig. A.1.1.1 - Mode Navigation: Icons showing wind (left) and the icons for waves (right)

A.1.1.2 Viewing the weather information in Browse mode

The Browse mode allows the user to view on screen (superimposed onto the cartography) the information related to wind or waves. The user can directly chose the time and area covered in order to evaluate the situation at the time of arrival in the area.

To activate the Browse mode, simply chose in the menu - preview. As soon as the user has activated Browse mode, the cartography center on the point to which

weather information have been collected and saved. It is possible to use the cursor to move the 'view' around the area covered by the 6 hours weather forecast and change the view between wind and waves.

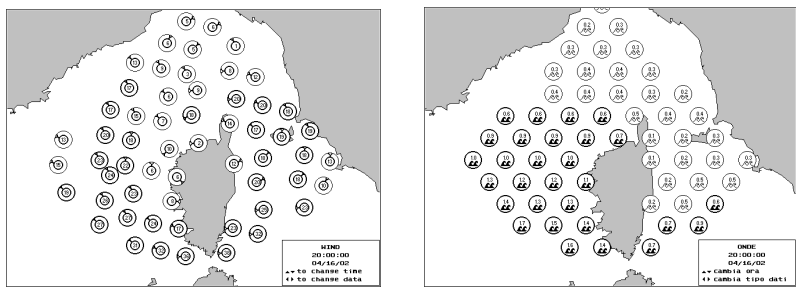


Fig. A.1.1.2 - Mode Browse: Icons for wind (left) and icons for waves (right)

A.2 SYSTEM SET-UP C-FORECAST

To set-up and access the C-Forecast weather forecasting system a serie of steps must be completed, please read the following carefully:

- Sign up for subscription with C-Forecast. Contact the local reseller or contact directly your local C-MAP office.
- Connect the chart plotter with the C-COM module.
- Insert the GSM SIM cart into the C-COM module (SIM-card not included).
- The chart plotter has two serial connections ports for exchange of data. Choose one of these to make the connection to the C-COM module.
- Open set-up in the menu of the chart plotter and insert the identification code of the subscription, included in the subscription documentation received from C-MAP.
- Insert also the telephone number for the C-Forecast server, included in the subscription documentation received from C-MAP.
- Remember to insert the SIM PIN number (received together with the SIM-card).

When the above steps have been completed, it will immediately be possible to receive weather information from the C-Forecast server in the following way:

- Insert the position from where the boat will depart (manually or by use of the GPS).
- Insert the direction in which the boat will travel.
- Insert the date and time of departure (ETA).
- Start the transfer of weather information.

A.2.1 INSTALLATION OF HARDWARE COMPONENTS

A.2.1.1 Electrical connection

The data connection between the C-COM module and the chart plotter is done by using a serial port (it is possible on some chart plotter to a port of your choice).

To make the electrical connection refer to table below, and chose the data related to the chart plotter to which the data connection is made.

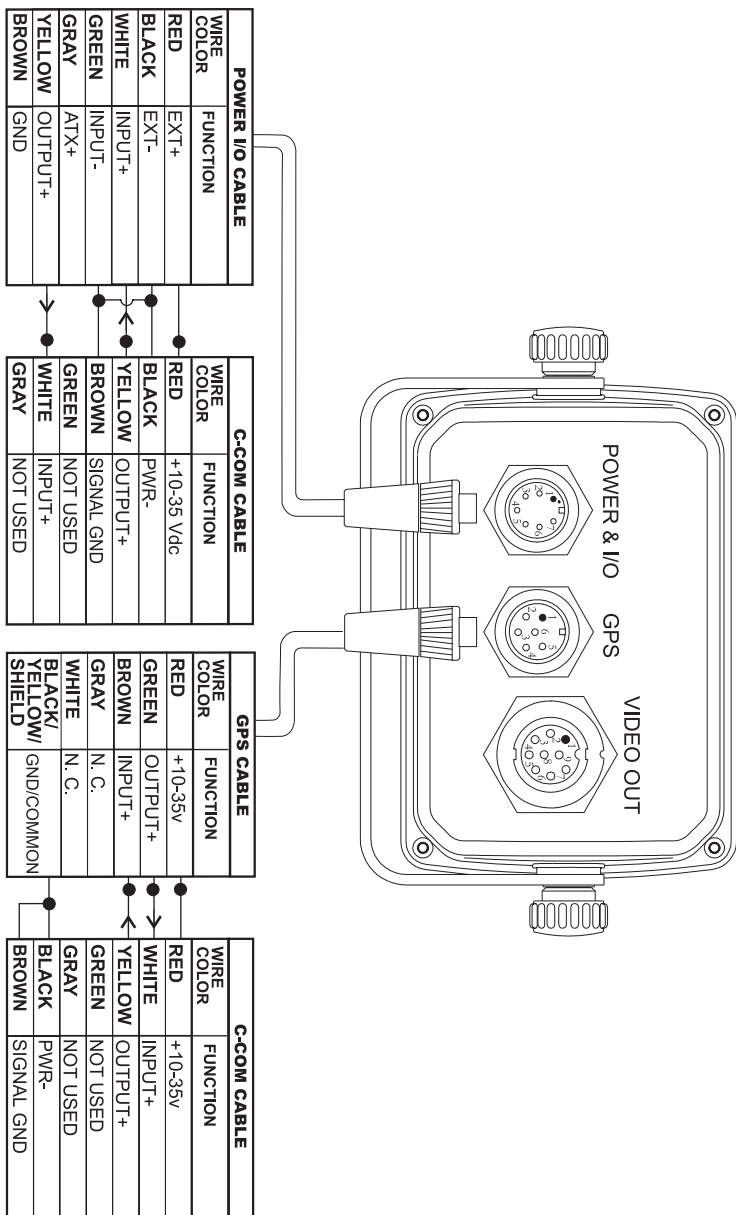


Fig. A.2.1.1 - Electrical connection to chart plotters controller type with two port access

A.2.1.2 Verification of C-COM module

The Modem Test (can also read; SYSTEM TEST *) makes it possible to test the and verify a connection between the C-COM and the chart plotter.

Note (*)

To start the SYSTEM TEST switch on the chart plotter using 'PWR' and any other key.

The Modem Test controls that there is a communication between the chart plotter and the C-COM by for a short time transmitting a serie of diagnostic commands to the C-COM and verify the result.

If the chart plotter is build with two serial ports, it is possible to chose which port to use for connection with the C-COM module.

The diagnostic screen for Modem Test will show the following information:

- a. MODEM OK: #
- b. MODEM ERROR: #
- c. MODEM TIMEOUT ERROR: #

a. If the number (#) by the MODEM OK shows 0, it's an indication that the connection between the chart plotter and the C-COM module is established and the C-COM is responding correctly. No problems have been found.

b. If the number (#) by the MODEM OK is different to 0, it shows that the connection to the C-COM module has not been made - the C-COM module may be defect.

c. If the number (#) by the MODEM TIMEOUT ERROR is different to 0, it shows that the C-COM module is responding but the link to the chart plotter has not been made.

The error may be for one of the following reasons:

- The C-COM is not connected or not connected correctly to the chart plotter.
- The C-COM module has not got a power supply.
- The serial port to which the link between the C-COM and the chart plotter is made, is not the correct port, to which the C-COM should be connected.

A.2.1.3 The GSM SIM-card

The GSM SIM-card must be of a type which will allow data transfer. The SIM-card must be inserted into the SIM-slot in the C-COM module. If the GSM SIM-card need a PIN-code inserted, for the SIM-card to be activated, then this can be done in the C-Forecast operation menu. The chart plotter does not accept deactivation of the PIN-code.

A.2.2 INSTALLATION OF SOFTWARE

A.2.2.1 Registrations of user ID

The user identification number is a string of 16 characters and numbers “####-####-####-####”. The character “-” is not a part of the code and is only used to make the code more legible and is not to be inserted.

The code is supplied together with the subscription documents from C-MAP. The registration code can only be used in one (1) chart plotter. The C-Forecast server will associate the code and the chart plotter in which the code was first used. During the connection start-up, the C-Forecast server will compare the registration information and the code identifying the chart plotter and will only connect to a known chart plotter.

Note

The Registration Code is contained in the chart plotter and can after insertion not be changed by the user. However if the user wish to change the subscription, for the reason of change to an other chart plotter (for example change to and other model or change because of faulty chart) it is necessary to contact C-MAP directly in order to transfer the subscription to the new char plotter.

A.2.2.2 Inserting the telephone number of the C-Forecast server

The telephone number through which the C-COM will make the connection with the C-Forecast server must be inserted in the menu part - C-Forecast set-up.

A.2.2.3 Activation of the serial port

Some chart plotters are build with more than one serial port, it is therefor necessary to chose which port is to be used. The user can do this in the menu part - C-Forecast set-up.

A.2.3 TRANSFER OF WEATHER DATA

Before the data transfer can start, it is necessary to insert: Time of departure (ETD), current position (PO) manually or obtained from the GPS and the heading. All the data transfer function are available in the menu - C-Forecast, Preview download.

A.2.3.1 Insert current date and time

Normally the chart plotter will receive date and time through the build in or attached GPS, or in simulation mode - manually. In case it is necessary to insert the date and time manually, before collection of data from C-Forecast, it is done in the menu - C-forecast, preview, date and time (ETD).

If the date and time are not inserted the server can not provide any informa-

tion or the transferred information may be of no value for navigation.

A.2.3.2 Selection of an area from which to get weather data

The area covered by the weather data is variable according to the type of subscription, the point of departure and the heading.

Inserting of point of departure

The point of departure can be set by the user either directly from the GPS - actual or simulated position, by using cursor position or by inserting the numeric co-ordinates manually.

Inserting heading

The heading will represents the central line of the area covered by the weather information. The heading, is normally received from the GPS, but can manually be modified by the user.

A.2.3.3 Selecting type of weather information to be collected

It is possible to select the type of data to be collected from the options below:

- Wind: only the direction and pressure/speed
- Waves: only height
- Wind + Waves: both the above

A.2.3.4 Download of data

If the previous options/settings have been carried out, it is now possible to download the weather information using the menu item - C-Forecast; download preview.

When the download function is activated, the preview window will close and a window containing the current subscription detail will appear, you can have two types of subscription - Download or Period:

If the subscription is 'Period' the C-Forecast server will show the expiry data. Or if the subscription is 'Download' the C-Forecast server will show the remaining number of downloads available and the expiry date.

This information can be saved to the chart plotter's memory and the updated information will be shown before each download.

The first time the chart plotter is connected or after a 'Master Reset' the above information is not available, in this case the window will not show any information. At the following collection of weather information, the subscription information will be restored to the system.

Note

The date-format setting can be change by the user, in the chart plotter menu.

Error messages

A window will appear on screen in case of error, with a description of the error.

SIM-card PIN Error

- If the GSM SIM-card in use has PIN-code activation and the PIN-code has not been inserted in the set-up menu of C-Forecast, a message will appear “PIN SIM not entered”.
- If the PIN-code inserted is not correct, a message will appear “incorrect PIN SIM”.
- If the “incorrect PIN SIM” message appears more than 3 times, a message will appear “incorrect PIN SIM - SIM locked”.

Other Errors

Subscription not found (user not registered).

Incorrect Password (for future use).

Incorrect Registration Code.

Licence not found.

Licence not active.

Licence expired.

Licence data not yet started.

No Download available (only subscription, Download).

Subscription not authorised (C-Forecast server not available).

Insufficient number of download available.

A.3 MENU SETTINGS

All menu settings are reached from the C-Forecast menu selected from the main Menu. The C-Forecast menu contains the following items: C-Forecast Set-Up, Download Preview and Browse.

A.3.1 C-FORECAST SETUP MENU

From the C-Forecast Set-Up menu it is allowed entering the information specified in the subscription and the other settings relative to the display of the weather information on the map. Once the main Menu is shown on the screen, to select the

C-Forecast SetUp menu follow the procedure:

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER'

The C-Forecast Setup menu is shown on the screen.

A.3.1.1 Display

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER' + "DISPLAY" + 'ENTER'

Display is the type of weather information to be shown on the map: Wind, Waves and Off. Wind and waves cannot be displayed simultaneously. The default setting is Off.

A.3.1.2 Wind Speed Alert

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER' + "WIND SPEED ALERT" + 'ENTER'

Wind Speed Alert is the wind speed above which all icons are drawn in a different color/shape (the color icon becomes red when the wind speed exceeds the speed limit set by menu). The value can be in the range from 0 to 250 k/h or it can be set Off. The default setting is Off.

A.3.1.3 Waves Height Alert

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER' + "WAVES HEIGHT ALERT" + 'ENTER'

Waves Height Alert is the wave height above which all icons are drawn in a different color/shape (the color icon becomes red when the wave speed exceeds the speed limit set by menu). The value can be in the range from 0.1 to 25.0 Mt or it can be set Off. The default setting is Off.

A.3.1.4 Modem Port

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER' + "MODEM PORT" + 'ENTER'

The possible choices are GPS and Power I/O. The default setting is GPS.

A.3.1.5 Wind Speed Unit

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER' + "WIND SPEED UNIT" + 'ENTER'

Wind Speed Unit is the unit of measure used for the wind speed display: Kts; m/s; Kph; Bft; Mph. The default setting is Kph.

A.3.1.6 Wave Height Unit

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER' + "WAVE HEIGHT UNIT" + 'ENTER'

Wave Height Unit is the unit of measure used for the waves height display: Mt, Ft. The default setting is Mt.

A.3.1.7 User Identifier

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER'+ "USER ID" + 'ENTER'

User Id is needed for the data transferring authorization and must match the data provided in the subscription.

A.3.1.8 Telephone Number

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER'+ "TELEPHONE NUMBER" + 'ENTER'

Telephone Number is the telephone number of the service provider. The maximum length of telephone number is 20 characters.

A.3.1.9 Sim Pin

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER'+ "SIM PIN" + 'ENTER'

Sim Pin is the PIN of the GSM SIM Card used in the GSM module. The Sim Pin is always shown. The maximum length is 8 digits. The default PIN is an empty string.

A.3.1.10 Max Speed

- "C-FORECAST" + 'ENTER' + "C-FORECAST SETUP" + 'ENTER'+ "MAX SPEED" + 'ENTER'

Max Speed is the maximum vessel's speed declared in the subscription. The value can be in the range from 5.0 to 40.0 Kts. If a value lower than 5.0 Kts is entered, the chartplotter emits three beeps and sets the value to 5.0 Kts; if the entered value is greater than 40.0 Kts the chartplotter emits three beeps and sets the value to 40.0 Kts. The default setting is 15 Kts.

Note

The Max Speed is used to define the area covered by the weather information in the Preview display mode (see Par. A.3.2).

A.3.2 DOWNLOAD PREVIEW

The Preview allows seeing the map area that will be covered by the weather information. Once the main Menu is shown on the screen:

- "C-FORECAST" + 'ENTER' + "DOWNLOAD PREVIEW" + 'ENTER'

Once the Preview is activated the Main Menu is closed and the map is centered on the vessel's position if received from GPS or simulated. The map scale changes

automatically to the zoom level that contains the whole area covered by weather information.

On the screen a sector is shown: the width of the area covered is proportional to the vessel's speed and depends on the maximum vessel's speed declared in the subscription (see Fig. Ba).

Once the Preview function is active a prompt is shown on the map display inside a dedicated window. The user can change the values in the prompt manually. Moving about the selections it's possible to set the starting position coordinates between Fix and Cursor. Max Speed and Local Time Offset are shown and cannot be changed.

A.3.2.1 Type

- "C-FORECAST" + 'ENTER' + "DOWNLOAD PREVIEW" + 'ENTER'+ "TYPE" + 'ENTER'

Type determines the type of data downloaded from the server. Type can be set to Wind (downloads only Wind information); Waves (download only waves information); Wind + Waves (download both types simultaneously). The default setting is Wind + Waves.

A.3.2.2 Mode and Position

- "C-FORECAST" + 'ENTER' + "DOWNLOAD PREVIEW" + 'ENTER'+ "MODE" + 'ENTER'

Available options are Fix and Cursor. If the active mode is Fix the coordinates field (Position) cannot be modified manually. If the GPS is not providing a valid fix position or the Simulation mode is not active, the active mode is Cursor, the starting position is at the cursor coordinates and it is not possible to switch to Fix mode. The default Lat/Lon is the current vessel's position (received from the GPS or simulated).

A.3.2.3 Show on Chart

- "'C-FORECAST" + 'ENTER' + "DOWNLOAD PREVIEW" + 'ENTER'+ "SHOW ON CHART" + 'ENTER'

Show On Chart enables to display chart at full screen. By pressing 'CLEAR' from chart return to this menu.

A.3.2.4 Course

- "C-FORECAST" + 'ENTER' + "DOWNLOAD PREVIEW" + 'ENTER'+ "COURSE" + 'ENTER'

The default Course value is the one received from the GPS. If the GPS is not providing a valid data, the default Course is to be set to 000.

A.3.2.5 ETD and Date

- "C-FORECAST" + 'ENTER' + "DOWNLOAD PREVIEW" + 'ENTER'+ "ETD" + 'ENTER'
- "C-FORECAST" + 'ENTER' + "DOWNLOAD PREVIEW" + 'ENTER'+ "DATE" + 'ENTER'

ETD (Estimated Time of Departure) and Date: the default Date and ETD are received from the GPS. If they are not received the default Date and ETD are to be the last most recently received values; a Warning message is shown. In case Date and ETD have never been received the default Date is the software release date and the default ETD is 12:00. The value inserted is Local Time: The user is to make sure that the correct Local Time Offset was set. The software will check that the entered ETD is not after 18 hours from current time (because the system provides a valid forecast for 24 hours from current time). The test is valid only when the GPS is providing valid Date and ETD.

A.3.2.6 Download Now

- "C-FORECAST" + 'ENTER' + "DOWNLOAD PREVIEW" + 'ENTER'+ "DOWNLOAD NOW" + 'ENTER'

When the Download function is activated the Preview window is closed and replaced by another window. Information contained in this window is related to the current contract status, that can be Download or Period.

A.3.3 BROWSE

Browse allows seeing the wind or waves figures referring to a specific hour only, amongst the 6 hours preview provided by the server.

Browse mode can only be selected if at least one of the two data types has been downloaded from the server. If neither wind nor waves information is present, the chartplotter emits three beeps and shows a warning message saying that the Browse cannot be activated. Browse mode allows showing only one data type at time; this means that wind icons and wave icons cannot be shown simultaneously. If both types are loaded the default type will be Wind. If only one data type is loaded, it will be the active selection of the browse and it will not be possible to switch to the other type. Once the main Menu is shown on the screen:

- "C-FORECAST" + 'ENTER' + "BROWSE" + 'ENTER'

When Browse is selected from the C-Forecast menu the chartplotter goes on chart display (full mode – all data windows must be removed) and selects the map scale that allows seeing the whole area covered by the weather icons.

On the side of the starting position (depending on its rotation) there will be shown a prompt where the user can select the preferred time and the type of informa-

tion to be displayed. The default time is the time of the first data received. Supposing to have data from 10:00 AM to 3:00 PM the first time will be 10:00 AM and the icons shown on the map will be only the ones referring to 10:00 AM.

The user is allowed to change the time of the preview (among the 6 hours) and the type of data between Wind and Waves by acting on the cursor key. Cursor key up and down change the time. Cursor key left and right change the data type.

The time step is one hour. When the last or first hour is set and the user tries to increase or decrease the time the chartplotter sounds three beeps and does not change the selected time. Changing the time, all the icons referring to the selected time are displayed on the map. If the time is increased the number of icons shown will cover a wider area. If the time is decreased, the icons shown on the map display will decrease. In this case, in order to avoid the map redraw, the icons without information will be represented by empty spots (no value and arrow shown).

Changing the data type between Wind and Waves the map display will be redrawn. If the current type is Wind and there is no Waves information, the chartplotter does not allow to set Waves. Sounds 3 beeps and shows the message: “Warning Waves information not present”. On the other hand, changing from Waves to Wind when wind icons are not loaded, the warning will be “Warning Wind information not present”.

Pressing 'CLEAR' the Browse mode is quitted and the map is restored to the normal display.

B

C-Staff

The C-Staff functions are based on STAFF Concept ® (Satellite Tracking Aided Fleet Fishing). The STAFF Concept ® is designed for professional fishing purpose to allow monitoring the position of the vessels of a fleet from each vessel (the fleet may have until 20 vessels max). Any fleet's member sends information on his position, speed and heading, so the C-Staff Server contains information on all fleet's members and it is enable to communicate information to each others.

STAFF Concept ® is a network that allows information exchange between a fleet amongst a wide range of services:

- Exchange geographical position between fleet members
- Fax, SMS and e-mail
- Communicate with other network users
- Internet access

The fleet's members position is shown on the display of the connected chartplotters. The position of the vessel is represented on the chartplotter screen by icon, vessel index (univocal value for each vessel in the range from 1 to 20) and vessel name represented by an 8 characters string (optional).

Each position is shown on the chartplotter display for max 24 hours since the last valid position received. The chartplotter calculates the supposed (or estimated) position of the vessel on the basis of the received position, speed and heading.

The C-Staff functions are available only is the OBC - On Board Computer device is opportunely connected to the chartplotter . For more information contact the C-MAP Italia.

B.1 C-STAFF MENU

All menu settings are reached from the C-Staff menu when the Main Menu is opened on the screen:

- **"C-STAFF" + 'ENTER'**

The C-Staff menu contains the following items: Send Position and Position Request.

B.1.1 SEND POSITION

Sends to OBC the transmission command of the vessel current position to the others fleet's members. When the main Menu is opened on the screen:

- **"C-STAFF" + 'ENTER' + "SEND POSITION" + 'ENTER'**

When the command is executed, the message "...OK" is shown next to the relative menu item.

B.1.2 POSITION REQUEST

Sends to OBC the request command to update the positions of all fleet's members. When the main Menu is opened on the screen:

- **"C-STAFF" + 'ENTER' + "POSITION REQUEST" + 'ENTER'**

When the command is executed, the message "...OK" is shown next to the relative menu item.

C

Trouble shooting

THE CHARTPLOTTER DOES NOT TURN ON

Make sure that the correct voltage (10-35 volt dc) is present. Check also that the polarity is correct. Refer to the Par. 2.2.

THE CHARTPLOTTER DOES NOT GET A VALID FIX

Make sure that no metal obstacle is placed around the chartplotter acting as a shield for the antenna. If, after 15 minutes, the chartplotter does not get the fix, turn it Off and On again.

THE CHARTPLOTTER DOES NOT TURN OFF

If, after a 'POWER' pressure (for at least 3 seconds) the chartplotter does not turn Off, then turn Off the voltage.

THE CHARTPLOTTER SCREEN BECOMES VERY DARK AFTER A LONG EXPOSURE TO DIRECT SUNLIGHT

Control the contrast (see Par. 2.3).

THE CHARTPLOTTER DOES NOT RESPOND TO ANY COMMAND

Try to turn Off, and then turn On. If the problem persists, erase the memory (see Par. 6.6.1

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