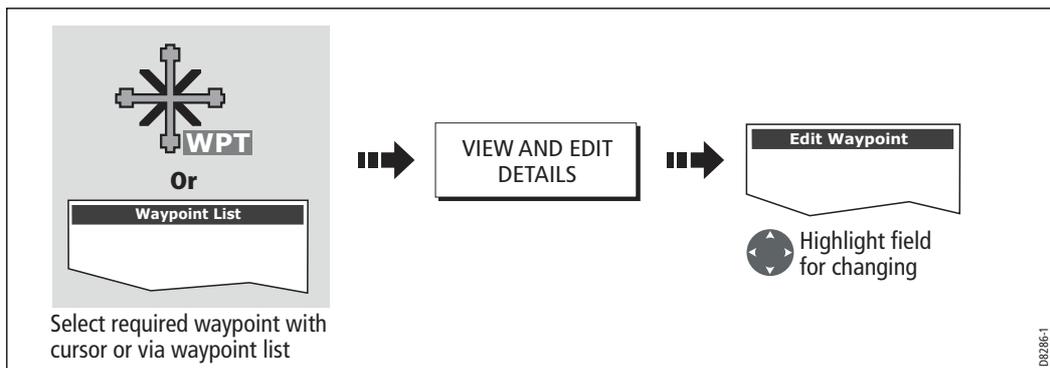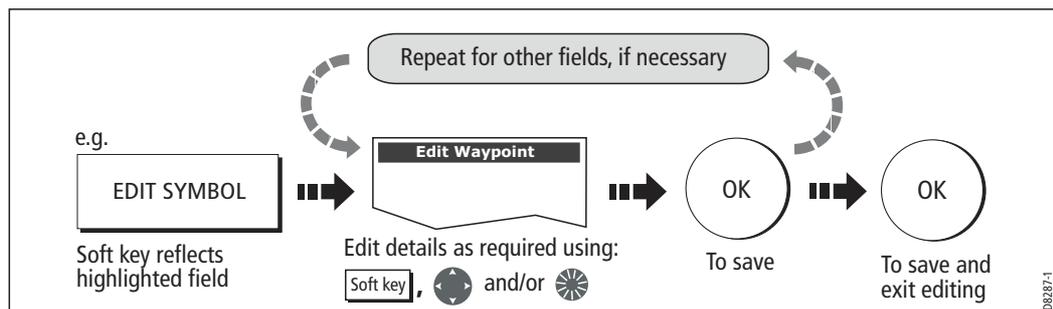# Changing waypoint details

When a waypoint is created it is assigned a default name, symbol and group. You can change these details to suit your needs and add a comment if required. This is particularly useful when you are managing large numbers of waypoints.

To change the details of a waypoint:

1. Select the detail you wish to edit:

2. Edit the selected detail:

**Note:** *If you make a mistake whilst editing, press CANCEL.*

Moving a waypoint

You can move any waypoint (except the active one) to a new position. There are two methods of moving a waypoint:

... by entering new coordinates

If you know the new co-ordinates, bearing or range for the particular waypoint, you can enter this information by editing the waypoint as described in the previous section.

... by dragging the waypoint to a new position
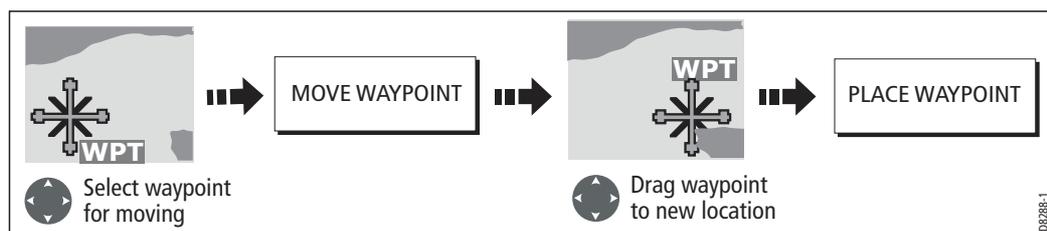
Note: *To abandon the move, press CANCEL.*

CAUTION:
It is possible to move waypoints that are used in routes. In such instances, the stored route will include the Waypoint in its new position. Ensure that this does not present a navigation hazard.

Erasing a waypoint(s)

You can erase any waypoint on the system (including groups of waypoints) **except**:

- The active waypoint or

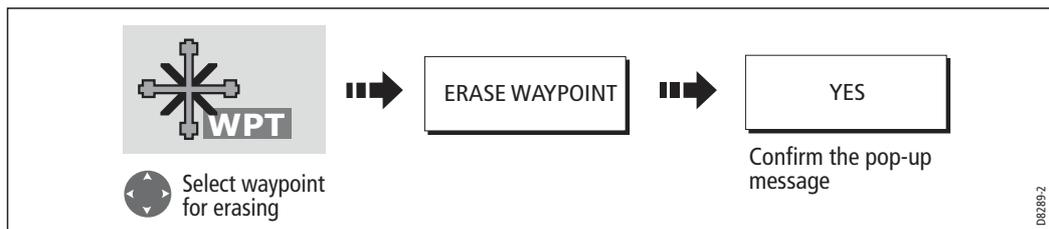- Any waypoint used in a route.

Notes: (1) *If a route is hidden its waypoints can still be displayed. If you attempt to erase a waypoint from a hidden route, a warning message will be displayed.*

(2) *For details of erasing groups of waypoints, see page 45.*

Erasing an individual waypoint

You can erase individual waypoints on screen or via the waypoint list.

...using the cursor

... using the waypoint list

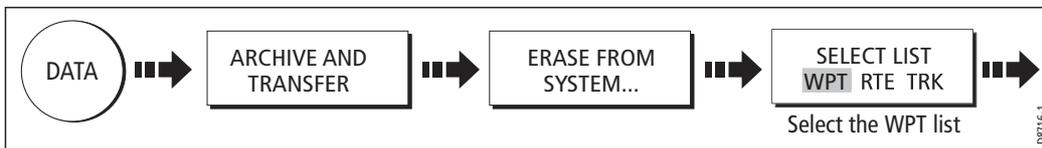1. Select the waypoint for erasing from the waypoint list:
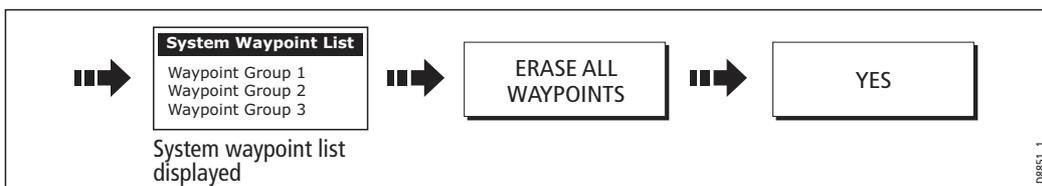

2. Erase the selected waypoint:

Erasing all waypoints

If you need to erase all your waypoints, you can use the ARCHIVE & TRANSFER soft keys:

1. Select the ERASE FROM SYSTEM option and the appropriate list:

2. Erase all waypoints:

Changing the default symbol or group
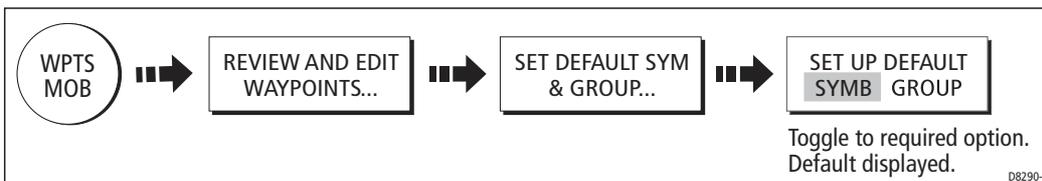
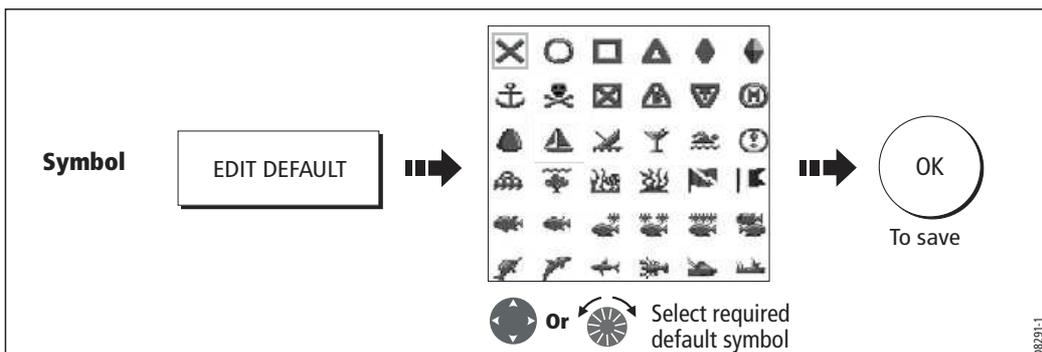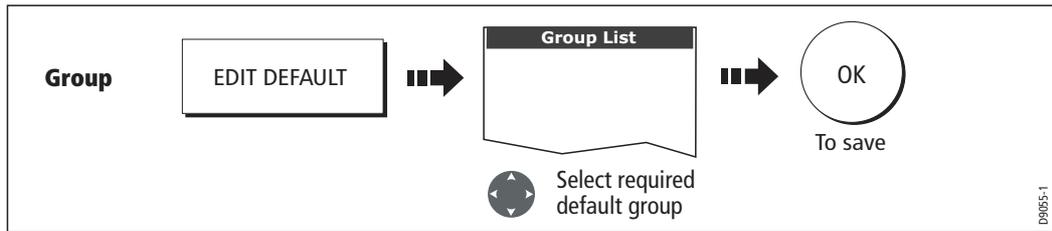When you add a waypoint to your system it is assigned to the default group and given the default symbol:
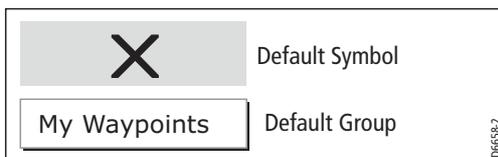
If these are not suitable, you can select an alternative symbol and group to be the default. For an alternative group to be selected for the default, it must first be created - see *page 43*.

1. Select either the default symbol or group:

2. Change the symbol or group default:

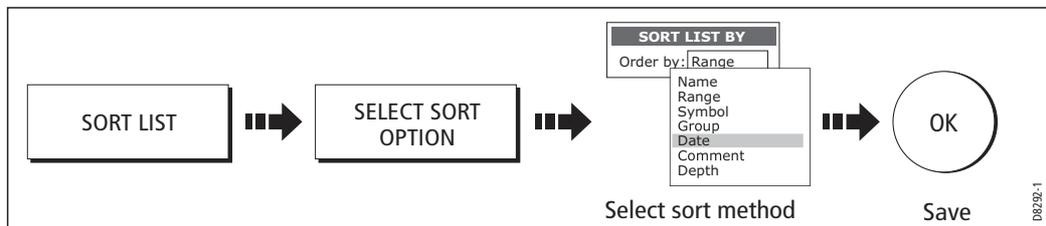**Note:** *To abandon the symbol or group default change, press CANCEL.*

3.7 Sorting the waypoint list

If your system contains a large number of waypoints, you can sort your waypoint list to make it easier to locate a particular waypoint.

The waypoint list can be sorted by:

- Name (default)
- Range (closest first)
- Symbol
- Group name
- Date
- Comment
- Depth

To sort the waypoint list:

3.8 Organising waypoints into groups

Provided that you have not changed the default group, all waypoints are automatically placed in the default "My Waypoints" group when they are created. In order to make your waypoints easier to manage, you can organize them into groups of your choice. When fishing, for example, you may only wish to see the waypoints that indicate good fishing sites. Other waypoints, say, for racing, would be superfluous at this time.

Note: *A waypoint cannot be placed in multiple groups*

Displaying the waypoint group list

To display the group list with its options:
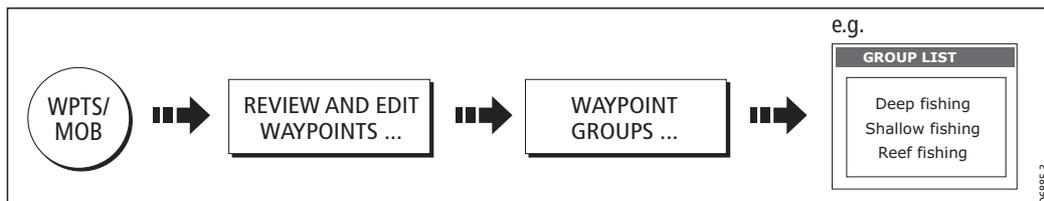
You can now make a new waypoint group, or erase, move or rename existing groups.

Making a new waypoint group

To create a new waypoint group:

1. Display the group list (see above).

2. You can now either:
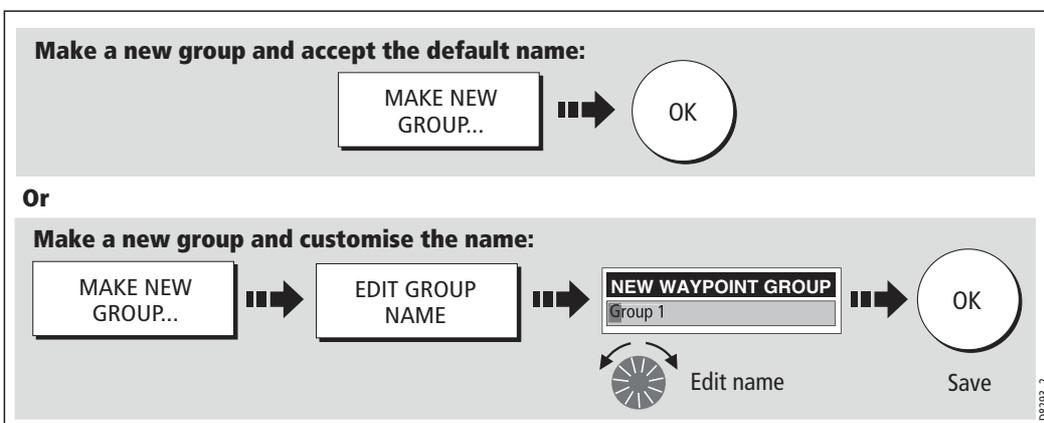
Moving waypoints between groups

Waypoints can be easily moved between groups:

1. Display the group list (see).

2. Display the MOVE BETWEEN GROUPS option:
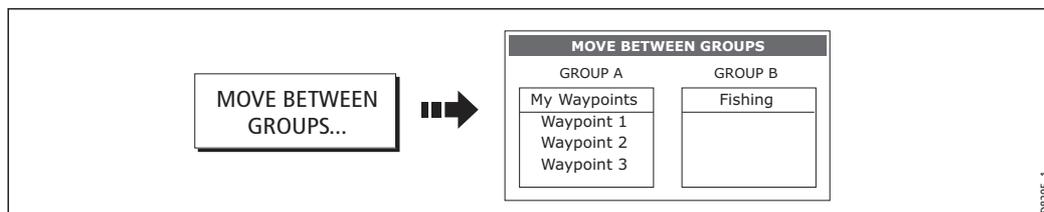
3. Determine the group that contains the waypoint to be moved:
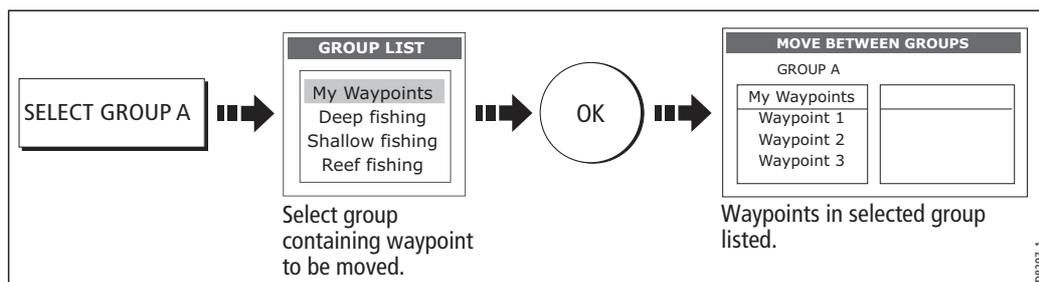
4. Determine the group that the waypoint is to be moved to as follows:
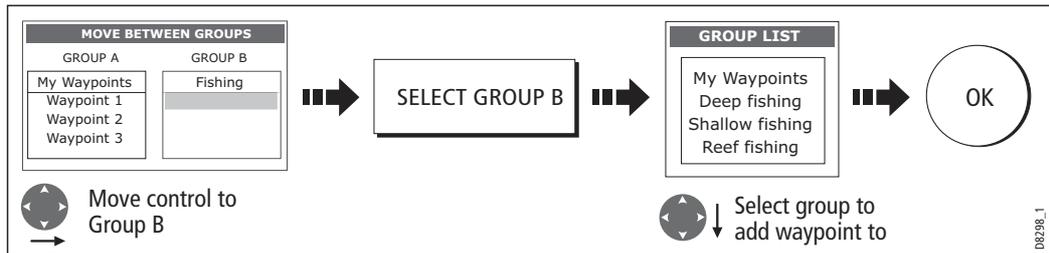
5. Select waypoint to be moved:
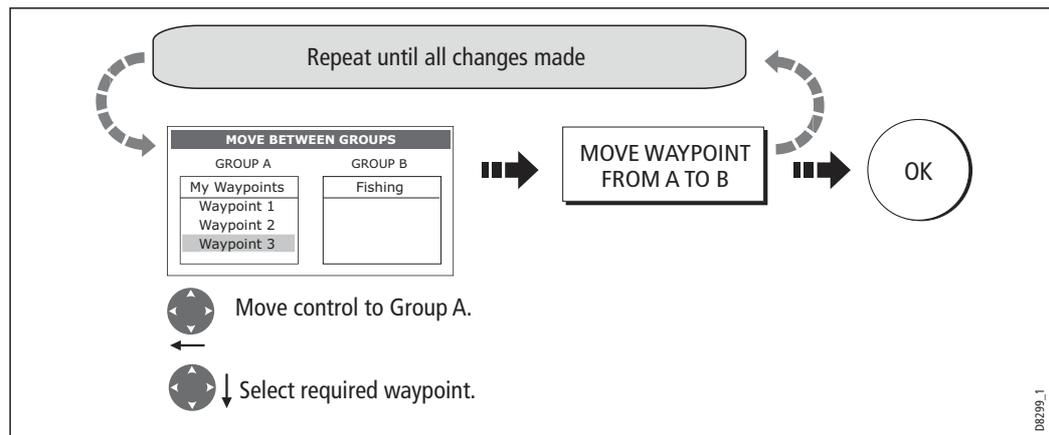
Note: *Alternatively, waypoints can be moved from Group B to Group A if required. The soft keys reflect this accordingly.*

Renaming an existing group

You can change the name of an existing waypoint group:

1. Display the group list (see *page 42*).

2. Select the group for renaming:
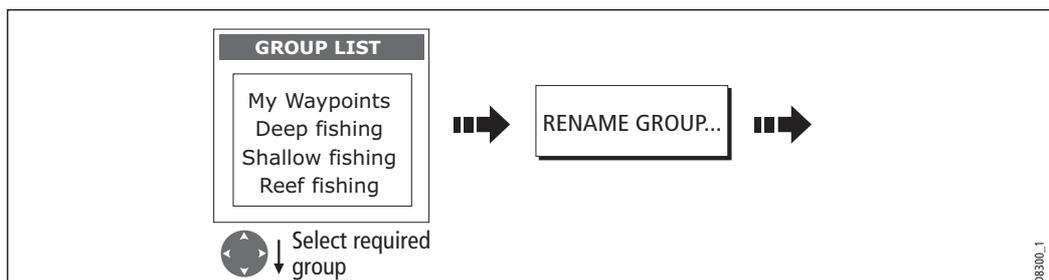
3. Edit the selected group name:
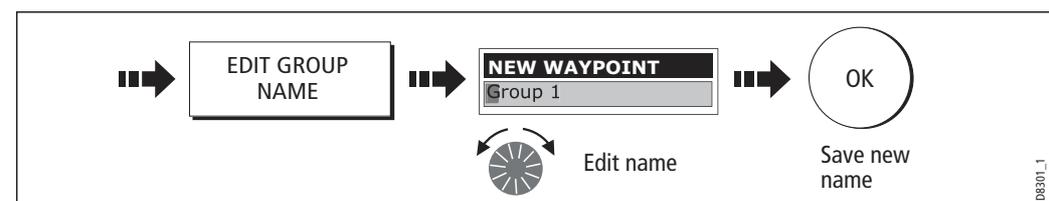
Note: *To revert to the original name whilst editing, press CANCEL.*

Erasing a group

You can erase any waypoint group from the system **except** the group containing the active waypoint.

When a waypoint group is erased, the group name together with all of the waypoints in that group are erased from the system with the exception of:

*   'My Waypoints' - the waypoints contained within this group are deleted but the group name remains.

*   Waypoints used in routes within your system.

You should therefore ensure that any individual waypoints that you want to keep (which are not part of a route), are moved before their group is erased.

1. Display the group list (see *page 42*).
2. Select and erase the group:

Note: *Waypoint groups can also be erased via the ARCHIVE AND TRANSFER function (page 41). For details of how to erase waypoint groups from a card, see page 24.*

3.9 Controlling waypoint display

When you have placed many waypoints on your system, it may become difficult to easily interpret chart or radar information. This is particularly the case if you have many waypoints in a small area. There are a number of ways that you can control the display of waypoints and waypoint information in chart and radar windows. These are:

*   Show or hide all of the waypoint names.

*   Show or hide waypoints with a particular symbol.

*   Show or hide waypoints belonging to a specific group.

*   Show or hide the index of a waypoint within a route (chart only -see *page 95*).

Note: *The show/hide status of a waypoint is a local setting and will therefore only affect the individual display on which you are working.*

Show/hide waypoint names

You can show or hide all waypoint names if required:
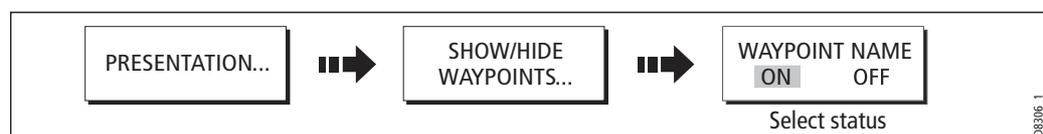
Showing/hiding waypoint symbols

You can define which waypoint symbol types are shown/hidden in the radar or chart application:

1. Display the SHOW BY SYMBOL option:
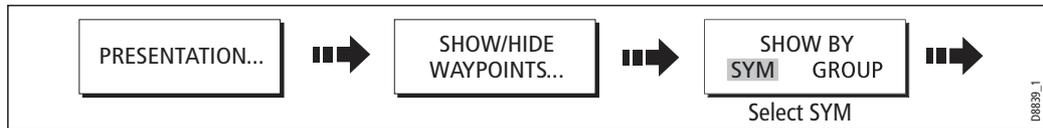
2. To change the status (show or hide) of a symbol type:
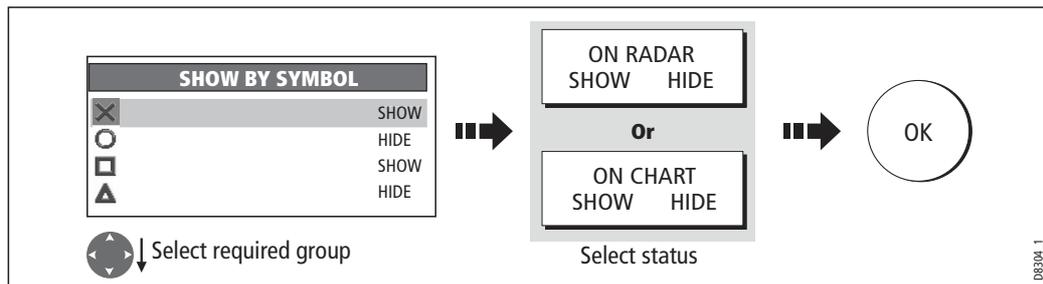
Note: *Waypoints in an active route are always displayed, regardless of whether the display is set to show or hide.*

Showing/hiding waypoint groups

You can define which waypoint symbol types are shown/hidden in the radar and chart applications:

1. Display the SHOW BY GROUP function.

2. To change the status (show or hide) of a waypoint group:

Note: *Waypoints in an active route are always displayed, regardless of whether the display is set to show or hide.*

Chapter 4: Using the Chart

4.1 Important

Navionics support

In addition to Gold and Platinum, the E-Series now supports the following Navionics cartography:
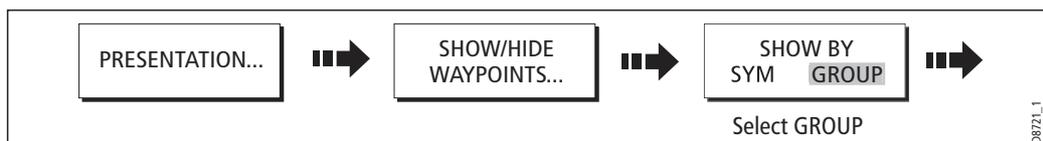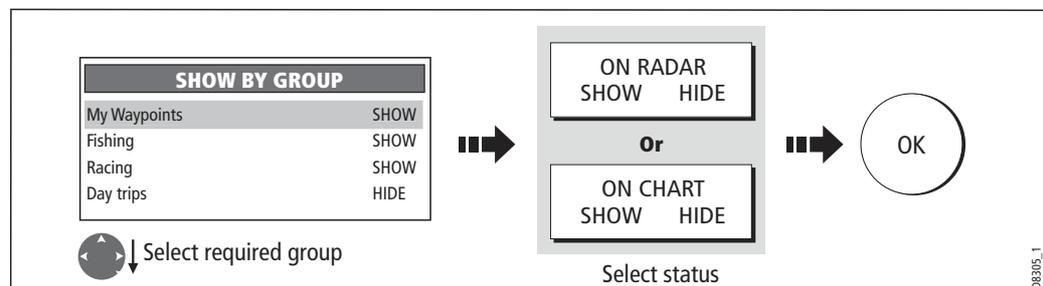
- Silver
- Gold Plus
- HotMaps USA
- HotMaps Premium
- Fish 'N Chip

For more information on Navionics charts, see www.navionics.com.

Safety

When using your chartplotter you should always check that a route is safe. Zoom in to check for hazards, such as small shoals, that may not be shown on a smaller scale chart.

Until you are familiar with interpreting the chart display, you should take every opportunity to compare the displayed objects with visual targets, such as buoys and coastal structures. You should practice harbour and coastal navigation during daylight and in clear weather conditions. The simulator mode can also be used to help you gain experience.

It is strongly recommended that before you use your chart application, that you read and understand *Chapter 3:Working with Waypoints.*

CAUTION:
The equipment should not be used as a substitute for good navigational practice nor for official government paper charts. Do not use the chart before you have read this chapter.

Chart functionality

1. To access full functionality, your chart application requires position and heading data from your boat's Global Positioning System (GPS).

2. Your E-Series Display has a built in world map, but to use your Display as a navigation aid, you will need detailed information for the area you wish to navigate. This information comes in the form of a chart card and is available from Navionics (see the *Important Information* section at the front of this manual for details). For full information on installing and removing chart cards refer to *page 20.* If you have a

network of E-Series Displays, the chart card data is accessible from any Display on the network, provided that the unit with the card is powered on. Data from more than one chart card can be shown simultaneously.

3. For your GPS and chart to correlate accurately with your paper charts, they will need to be using the same datum. The default datum for your display is WGS84. If this is not suitable, you can change the setting via the Chart Setup menu (see *page 104*). When you adjust the datum of the E-Series Display, a Raymarine GPS will automatically correlate. If you have a third party GPS, you will need to correlate this separately.

4. For the Automatic Identification System (AIS) to function you should have a suitable AIS receiver connected.

Chart cards

To use your E-Series Display as a navigation aid, charts with the appropriate level of detail for the geographic area you wish to navigate are required. The charts are available in electronic format on Navionics Chart cards.

To check the current availability of Navionics® chart card types and the latest feature sets, visit **www.navionics.com** or **www.navionics.it.**

To obtain Navionics cards, contact your local dealer or visit the Navionics web site.

Alternatively, anywhere in North America call Navionics toll-free on **1-800-848-5896** Outside of North America, contact your local dealer or Navionics SpA on:

Phone: (+39) 0584 961696 or **Fax: (+39) 0584 961309).**

When archiving data, Raymarine recommends that you only use SanDisk brand CF memory cards. Other brands of CF memory cards may not work in your E-Series Display.

4.2 Uses of the chart application

Once the heading and position data is available you can use your chart to:

*   Find out where you are (see *page 51*).
*   Interpret your surroundings (see *page 52*).
*   Measure the distance and bearing between two points (see *page 67*).
*   Place waypoints at specific locations (see *page 68*).
*   Navigate to a specific point (see *page 68*).
*   Build and follow a route (see *page 71*).
*   Monitor where you are going (see *page 86*).
*   Distinguish between fixed and moving objects using radar overlay (see *page 88*).
*   Record where you have been (see *page 90*).

- Manage and edit routes and tracks (see *page 80* and *page 93*).
- View AIS data (see *page 66*).

Facilities are also provided to customize your chart application to your own particular requirements and circumstances. You can:

- Alter the way the chart is drawn in relation to your boat and the direction you are travelling in (chart orientation and motion mode).
- Manage and edit chart data you have entered.
- Control the level of detail displayed on-screen.

Note: *To change the data displayed in the data bar at the top /side of the screen, please refer to page 277.*

4.3   Viewing the chart

You will normally view your chart with the vessel on screen and motion mode 'active'. When motion mode is active, as your vessel moves, the chart is redrawn to keep the vessel on screen. When you zoom the chart in active mode, the chart zooms about your vessel position.

Alternatively, you may be planning a journey and do not want the chart to redraw as your vessel moves. You can suspend the active motion mode by using the cursor to pan the chart (see *page 51*) or by selecting FIND CURSOR.

When motion mode is suspended, the mode is shown in the status bar in parenthesis e.g. (RELATIVE MOTION); zoom operates about your cursor position.

Provided the necessary data to ascertain your vessel's position is available, you can activate the motion mode, by selecting FIND SHIP.

4.4   The chart display

The main features of the chart display are as follows:
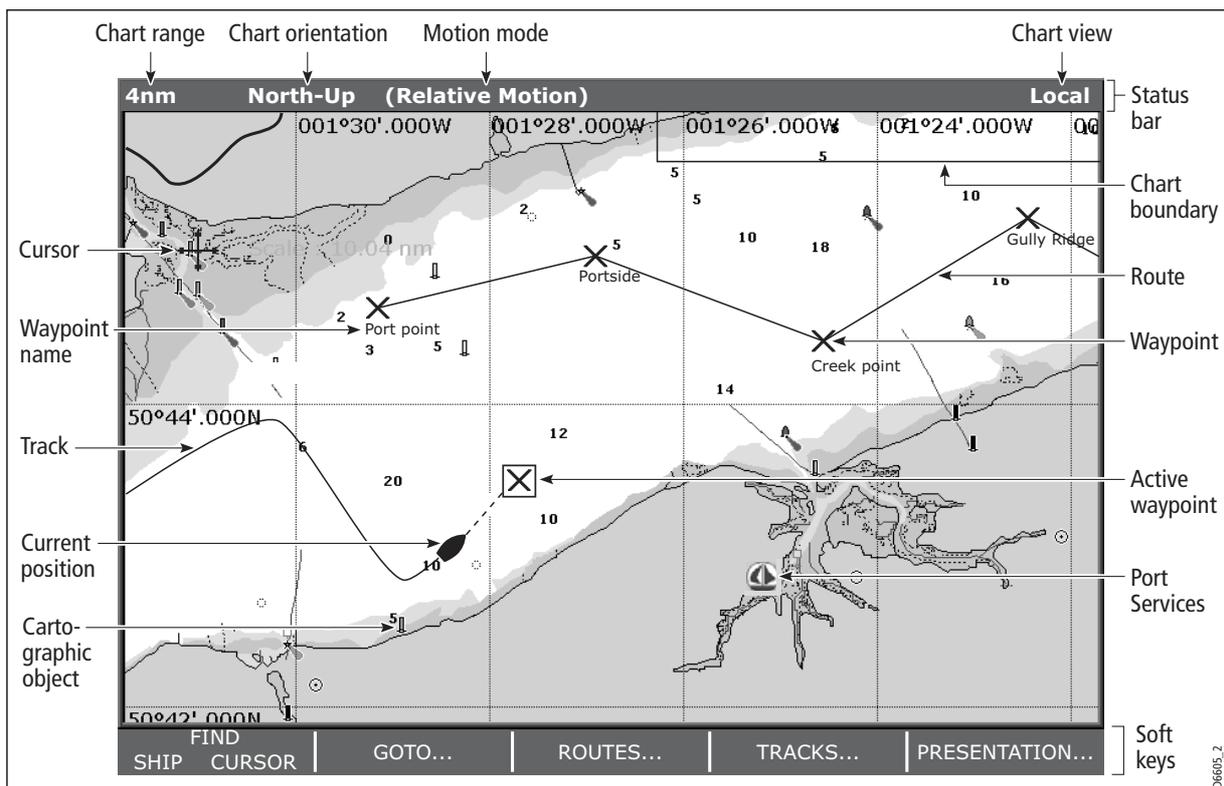
4.5 Where am I on the chart?

Your current position is represented on screen by a boat symbol. If neither heading nor COG data is available, the vessel is shown as a solid circle.

Boat symbol

If positional data has been selected for display your position will be displayed in the data bar under VES POS.

If you cannot see your boat:

FIND
SHIP   CURSOR

Toggle to FIND SHIP

Chart redraws with boat at centre

To mark your current position:

WPTS
MOB   x2   OK   (or wait 3 seconds)

Accepts default

Note: For more information on waypoints, please refer to the Waypoint Chapter.
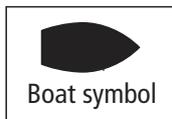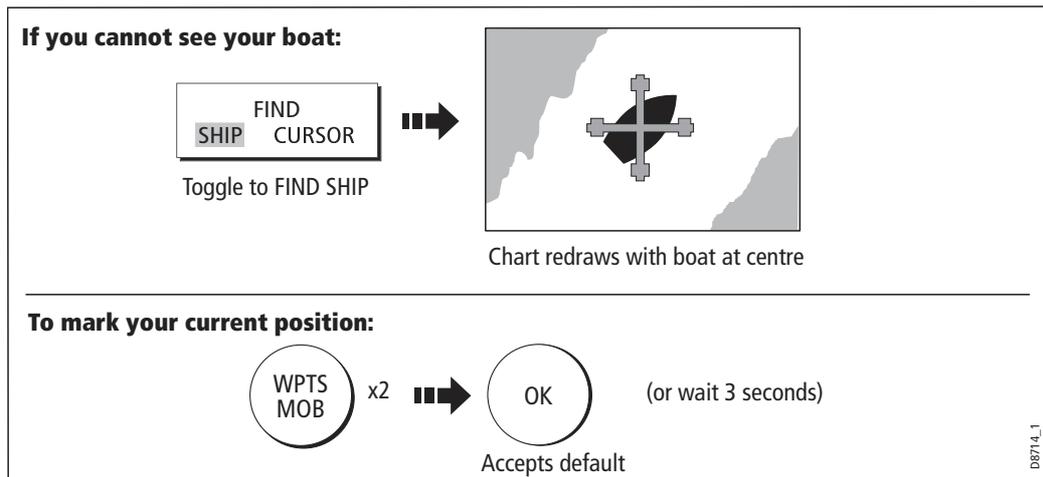
4.6 Moving around the chart

To move around the chart and display the area required at the appropriate scale, use a combination of zooming and panning.

Note: *When you pan the chart, or when you change the scale in autorange mode, the motion mode is suspended - see page 50 and page 97.*

Panning
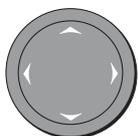
Panning moves the chart that is displayed to a different area. To pan a chart, simply press the appropriate arrow (left/right, up/down) on the trackpad. When the cursor reaches the edge of the screen, the chart pans.

Note: *When you pan the chart, active motion mode is suspended.*

Zooming in/out

OUT
RANGE
IN

When you zoom in, the chart scale changes to show a smaller area in more detail. Conversely, if you zoom out the chart area displayed is increased but the detail is reduced.

Note: *The cartographic detail available on charts varies according to the chart and the chart scale. Some areas provide detail at smaller scales than others.*

A feature of the chart is 'autoscale'. If you select a chart scale that does not have cartographic detail in some areas, the chart will use the 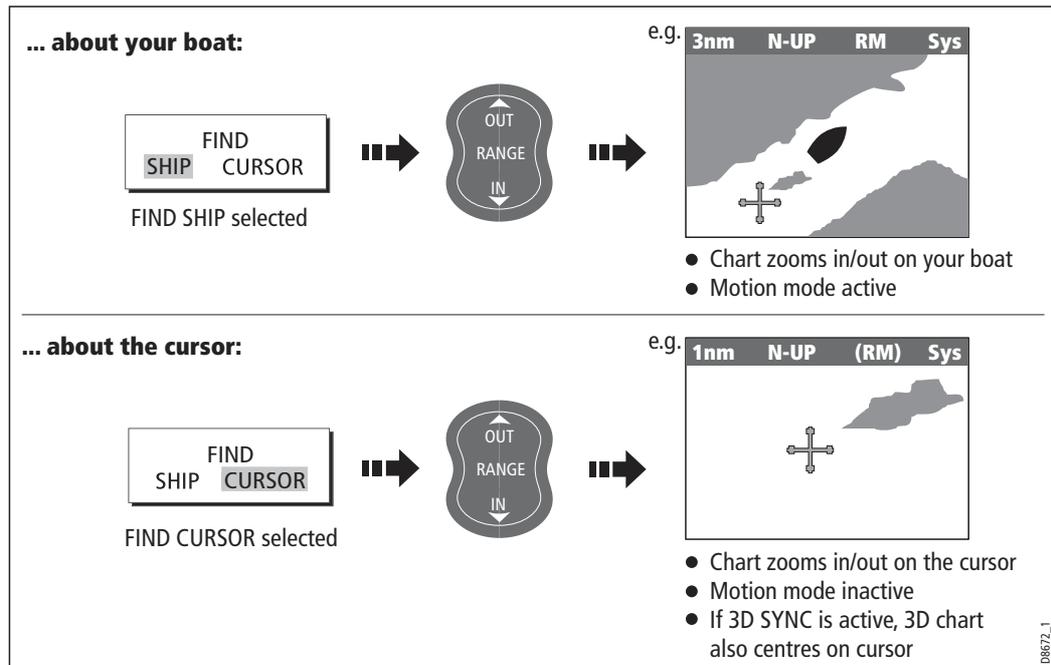most detailed level available for the surrounding area and stretch it to fit the selected scale. This means that you will never have blank or hatched areas on your screen. However there may be some mis-alignment of objects which cross the chart boundary in this area.

To zoom in/out:

4.7   Additional information on the chart

Depending on the chart card you are using, you will also be able to view some or all of the following addition information:

- Details of each cartographic object that is marked on the chart, including source data for structures, lines, open sea areas etc.
- Details of ports, port and business services, tidal and current information, wrecks and obstructions.
- Panoramic photos.
- Aerial photo overlay.
- Pilot books.
- Coastal roads.

Note: *For full details of the features available with each chart card type, please refer to the Navionics website at* **www.navionics.com or navionics.it.**

To change the set up options to control how selection of object information operates - see *page 103*.

Displaying details of objects and features

To view details:

Move cursor over object, to display basic information.

More detailed information for selected object displayed.
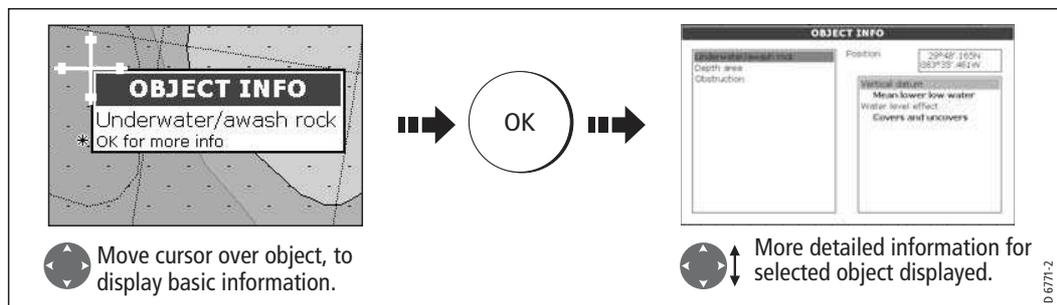
If the object you have selected has more than one subject area:

Highlight the required subject area. Details displayed in right-hand column.

Move control to right hand column

Scroll through detailed list

The soft keys provide controls to:

- Locate the nearest waypoint, port, port service, tidal and current stations, wreck or obstruction, to the selected position.

- Search for a named port.
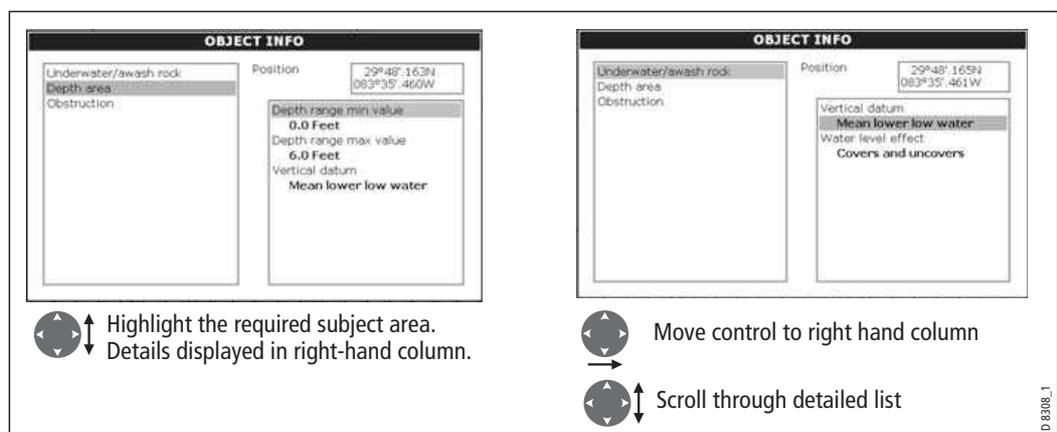
- View detailed data for the selected port, tidal station or current station.

- View panoramic photographs (dependent on the type of chart card in use).

Finding nearby features and services
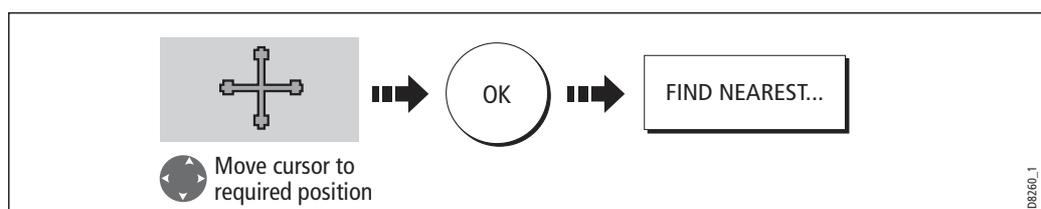
You can locate the nearest waypoint, port, port service, tidal and current stations, wreck or obstruction, to the cursor position.

1. Select position for the FIND NEAREST option:

Move cursor to required position

FIND NEAREST...

2. Select the feature or service. For ports, you can select a specific service and for a selected port or business service you can find the nearest ports:

16 nearest to cursor in selected category displayed.
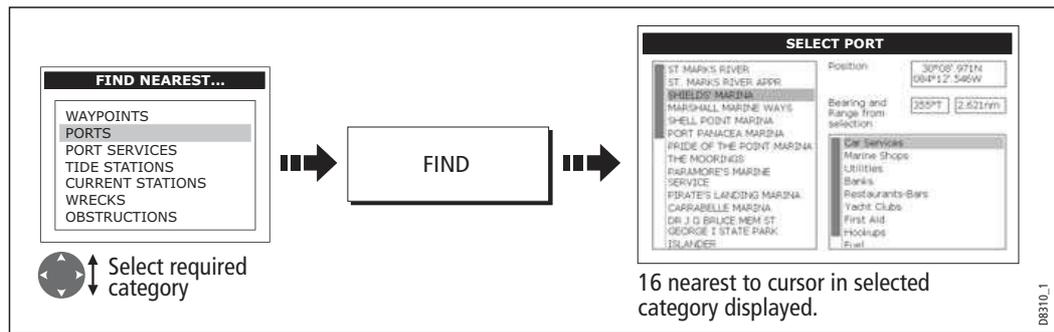
Once located, you can use the soft keys and trackpad to:

- Display detailed data for services at the listed ports.
- Show the selected item on the chart.
- GOTO the selected waypoint
- View tidal/current data for the selected tidal/current station.

Animated tides and currents

You can set the date for the animation and choose to see the whole animation from the beginning or start it at any point within the 24-hour period. You can also choose to view the animation continuously or to step through it in increments of time you set.

To view tide and current animations

In the Chart application:

1. Highlight a tide or current icon.
2. Press **OK** to open the Object Info dialog box and toolbar.
3. Press the **ANIMATE…** softkey.

The Tide/Current Animation screen opens with animation paused.

Direction and speed of current (green arrows)

Tide height

Press the **ANIMATION PLAY/PAUSE** softkey to start animation.

Animation time and date are displayed on the status bar; the animation starts from the current time.

Controlling the animation

When you open the Tide/Current Animation screen, the toolbar provides softkeys to stop and start the animation; step the animation forwards or backwards in time; set the size of the step, or select a date for the animation.

The animation plays in a loop: when it reaches the end of a 24-hour animation period, it starts again at the beginning.

To start or stop the animation

On the Tide/Current Animation screen:

• Press the **ANIMATION PLAY/PAUSE** softkey.

To view the animation in steps

On the Tide/Current animation screen:

• Press either the **STEP BACK** or **STEP FWD** softkeys.

To set the step interval

The Set Time Interval softkey gives you control over the Step Forward and Step Back functions.

1. If the animation is playing, press **PAUSE**.

2. Press the **SET TIME INTERVAL** softkey.

This displays a slider with the current time interval shown. Use the rotary controller to adjust it (within the range of 15 to 120 minutes).

3. Press **OK** or **CANCEL** to save the new interval.

Note: *The animation must be paused for the Set Time Interval function to be available.*

To set the animation date

1. Press the **SET DATE** softkey.

This displays the Edit Date screen and toolbar.

Table 4-1:   Animation Date Toolbar

TODAY'S DATE	Set the animation date to the current date.
PREV DATE	Set the animation date to 24-hours previous to current date.
NEXT DATE	Set the animation date to 24-hours ahead of current date.
EDIT DATE	Opens the Edit Date pop-up screen: use the trackpad or rotary controller to enter the date you want to see an animation for.

2. Press **OK** to save the new date and return to the Tide/Current Animation screen, which will update to display the tide or current for the date you chose.

Note: *Press CANCEL to ignore the date change and go back to the Tide/Current Animation screen, leaving the date setting unchanged.*
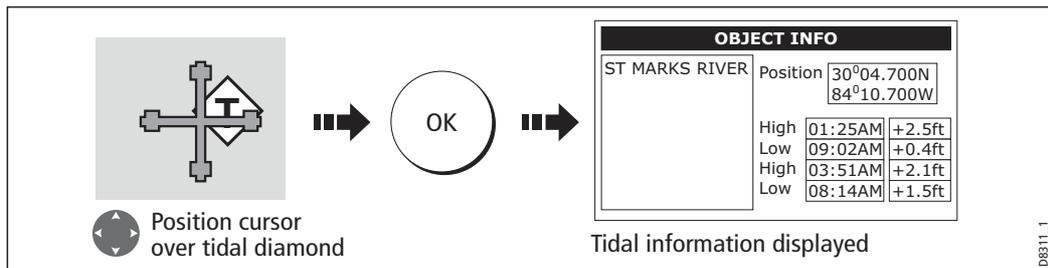
Displaying details of tides

You can display details of tides by:

- Selecting the appropriate tidal diamond (see below) or
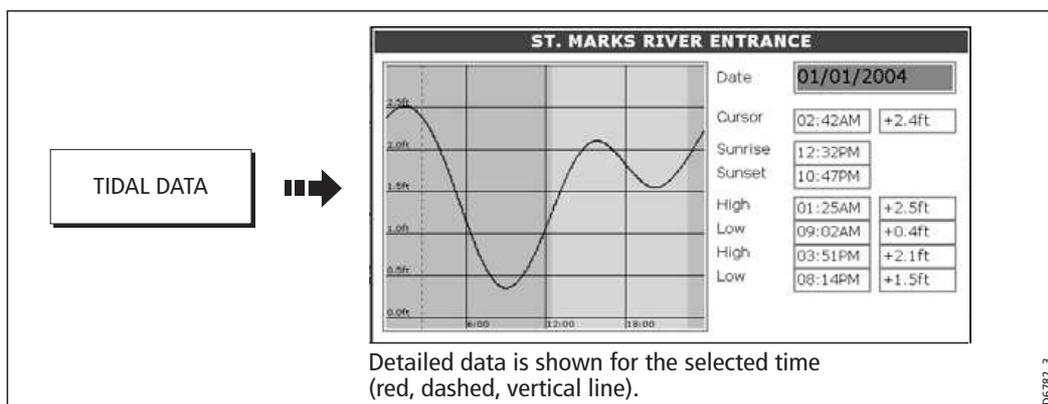- Via the FIND NEAREST function (see *page 53*).

...Using the tidal diamond

1. To display numerical tidal information:

You can now view additional tidal data.

2. To display additional tidal data including a tidal curve:

Detailed data is shown for the selected time
(red, dashed, vertical line).

You can now:

- Move the time-selector, using the trackpad/rotary control.
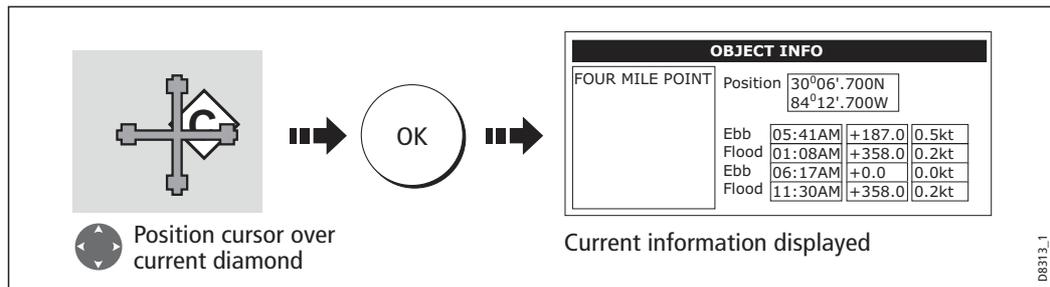- Change the displayed date, using the soft keys.

Displaying details of currents
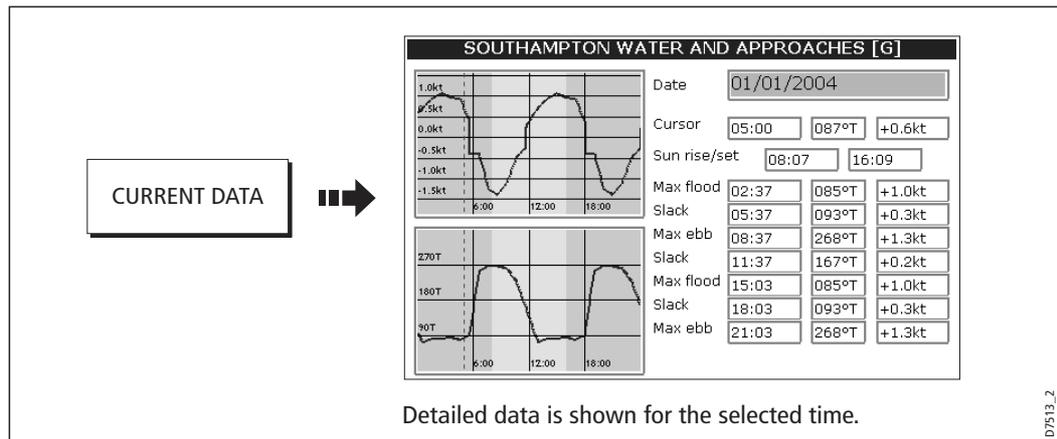
You can display details of currents by:

- Selecting the appropriate current diamond (see below) or
- Via the FIND NEAREST function (see *page 53*).

... using the current diamond

1. To display numerical current information:

Position cursor over current diamond

OBJECT INFO

| FOUR MILE POINT | Position | 30⁰06'.700N |
| | | 84⁰12'.700W |

Ebb	05:41AM	+187.0	0.5kt
Flood	01:08AM	+358.0	0.2kt
Ebb	06:17AM	+0.0	0.0kt
Flood	11:30AM	+358.0	0.2kt

Current information displayed

2. To display additional current data including a current curve:

CURRENT DATA

SOUTHAMPTON WATER AND APPROACHES [G]

Date	01/01/2004
Cursor	05:00	087°T	+0.6kt
Sun rise/set	08:07	16:09
Max flood	02:37	085°T	+1.0kt
Slack	05:37	093°T	+0.3kt
Max ebb	08:37	268°T	+1.3kt
Slack	11:37	167°T	+0.2kt
Max flood	15:03	085°T	+1.0kt
Slack	18:03	093°T	+0.3kt
Max ebb	21:03	268°T	+1.3kt

Detailed data is shown for the selected time.

You can now:

*   Move the time-selector, using the trackpad/rotary control.
*   Change the displayed date, using the soft keys.

Displaying details of port services

You can display details of port services by:

*   Using the port search option (see below).
*   Selecting the appropriate port symbol (see *page 60*).
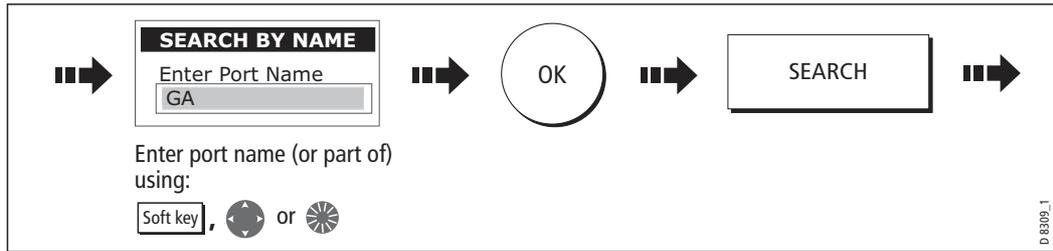*   Using the FIND NEAREST function (see *page 53*).

... using the port search option

The port search option allows you to specify the name a port and display its services:
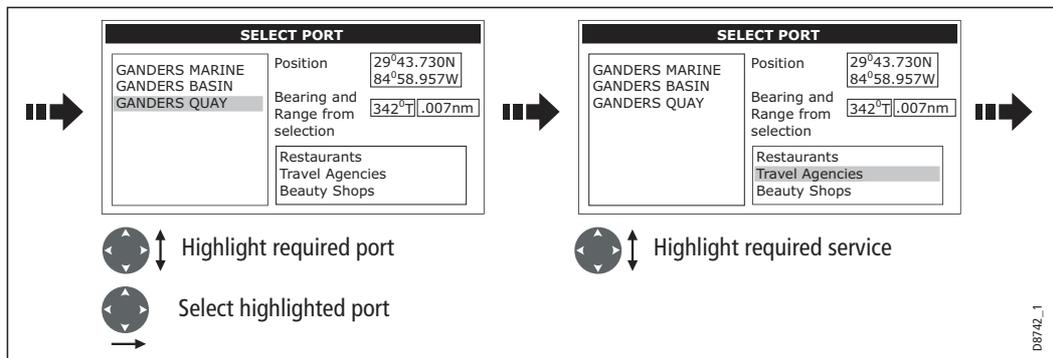
1. Select the edit name option:

OK ⟶ SEARCH BY NAME ⟶ EDIT NAME

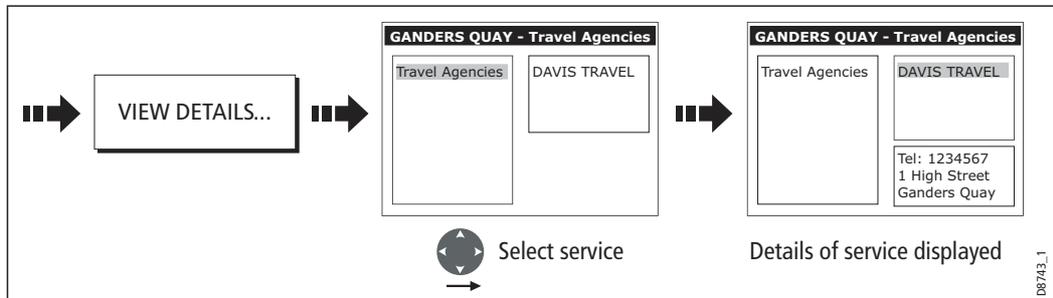2. Enter the port name (or the first few characters of the port name) and search:

Note: *For help with entering text into a dialog box, please refer to page 13.*

3. If the search returns more than one port, you can select which port's facilities and services you want to display.:
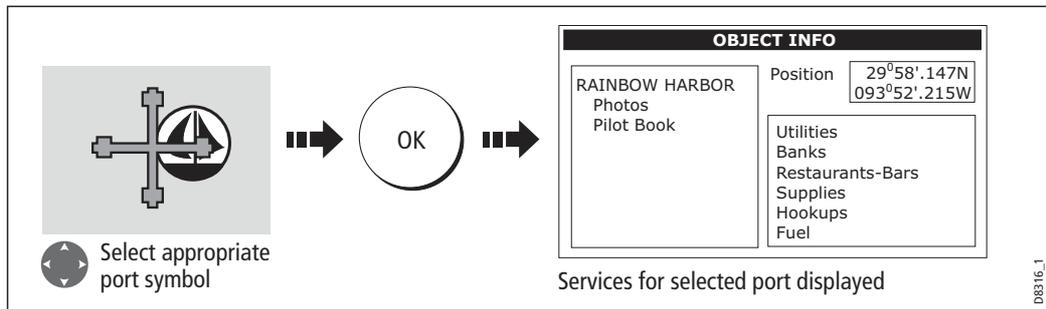
    i.   Select a particular port and its service:

    ii.   Display details of the selected service:

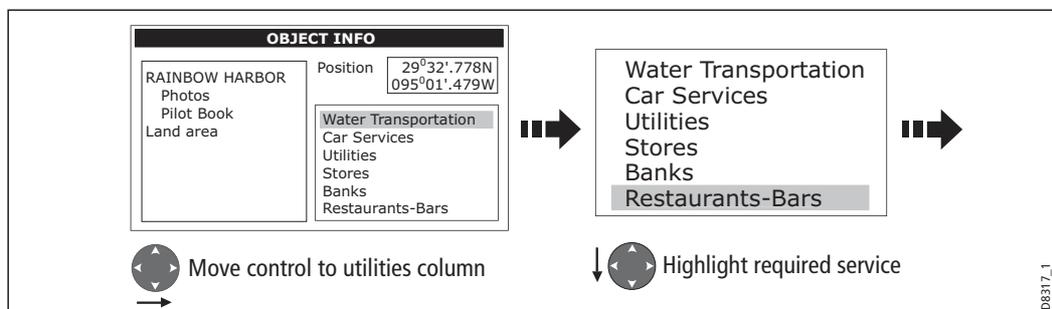4. You can now centre the screen on the selected port by pressing SHOW ON CHART.

... using the port symbol

The services available at a particular port can be displayed by selecting its symbol:
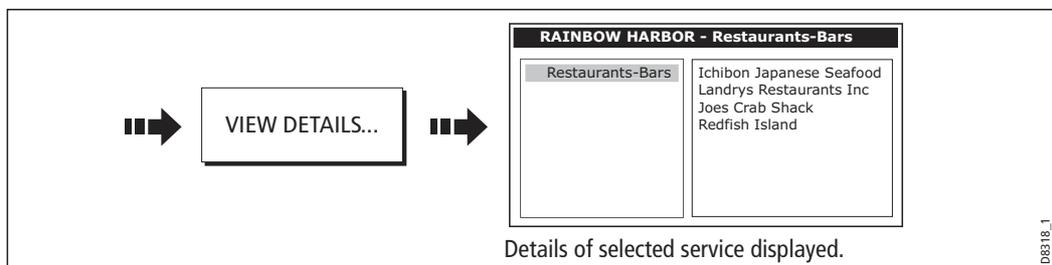

Select appropriate port symbol

OK

OBJECT INFO

RAINBOW HARBOR
  Photos
  Pilot Book

Position $29^{0}58'.147N$
$093^{0}52'.215W$

Utilities
Banks
Restaurants-Bars
Supplies
Hookups
Fuel

Services for selected port displayed

You can now view details of individual services:

1. Select required service:

OBJECT INFO

RAINBOW HARBOR
  Photos
  Pilot Book
Land area

Position $29^{0}32'.778N$
$095^{0}01'.479W$

Water Transportation
Car Services
Utilities
Stores
Banks
Restaurants-Bars

Water Transportation
Car Services
Utilities
Stores
Banks
Restaurants-Bars

Move control to utilities column

Highlight required service

2. Display service details:

VIEW DETAILS...

RAINBOW HARBOR - Restaurants-Bars

Restaurants-Bars

Ichibon Japanese Seafood
Landrys Restaurants Inc
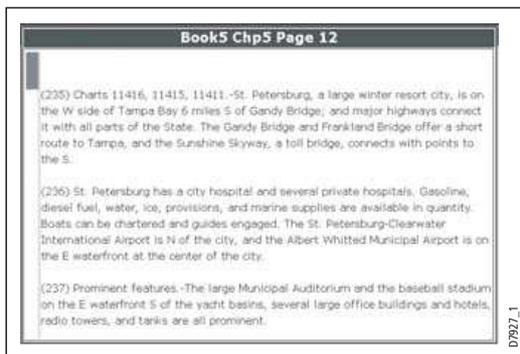Joes Crab Shack
Redfish Island

Details of selected service displayed.

Note: *This method is also used when using the SEARCH BY NAME and FIND NEAREST functions.*
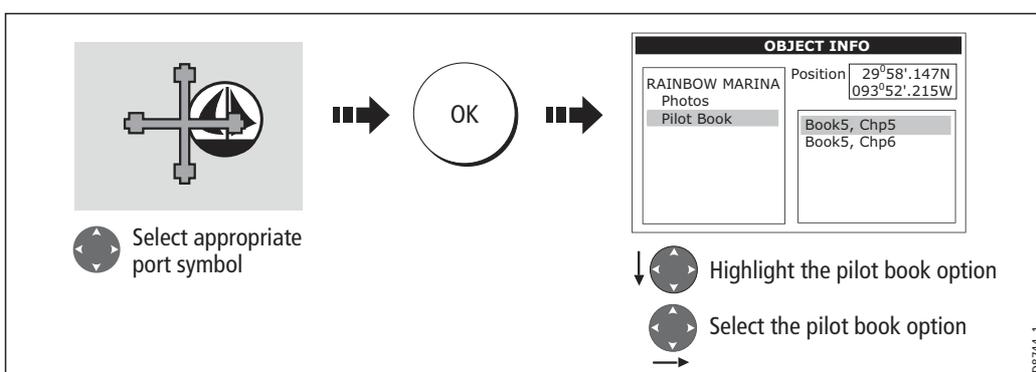
Pilot book information

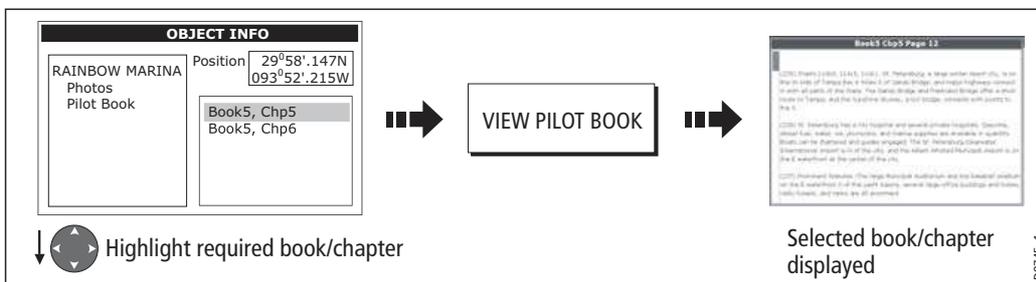The pilot book information option enables you to view detailed information normally contained in an almanac e.g.

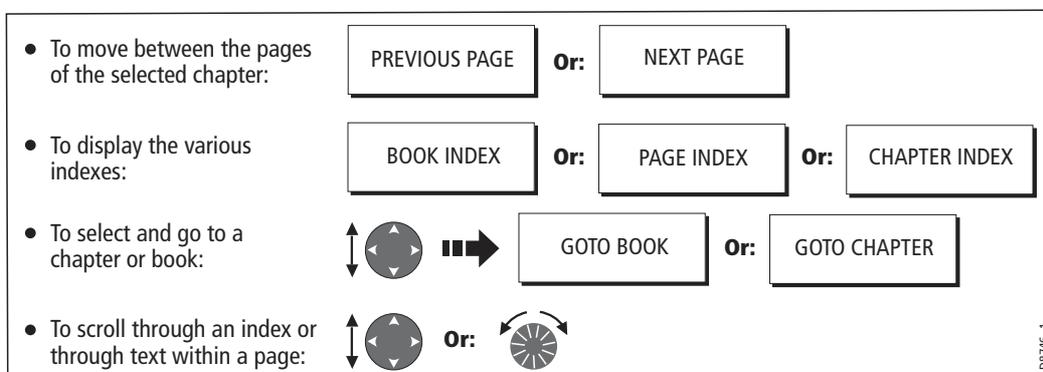## To view pilot book information:

1.   Select the pilot book option:

Select appropriate port symbol

Highlight the pilot book option

Select the pilot book option

2.   Select the required book/chapter

Highlight required book/chapter

Selected book/chapter displayed

3.   You can now navigate around the book as follows:

- To move between the pages of the selected chapter: | PREVIOUS PAGE | Or: | NEXT PAGE |

- To display the various indexes: | BOOK INDEX | Or: | PAGE INDEX | Or: | CHAPTER INDEX |

- To select and go to a chapter or book: | GOTO BOOK | Or: | GOTO CHAPTER |

- To scroll through an index or through text within a page: Or:

Displaying panoramic photos

If you are using a suitable chart card, you can display a panoramic photo(s) of many ports and marinas. The availability of photos is indicated by a camera symbol on the chart. This symbol is placed where the photo was taken and the angle of the shot is indicated by the camera symbol. You can also access the photo from the port services information.

To display a panoramic photo:
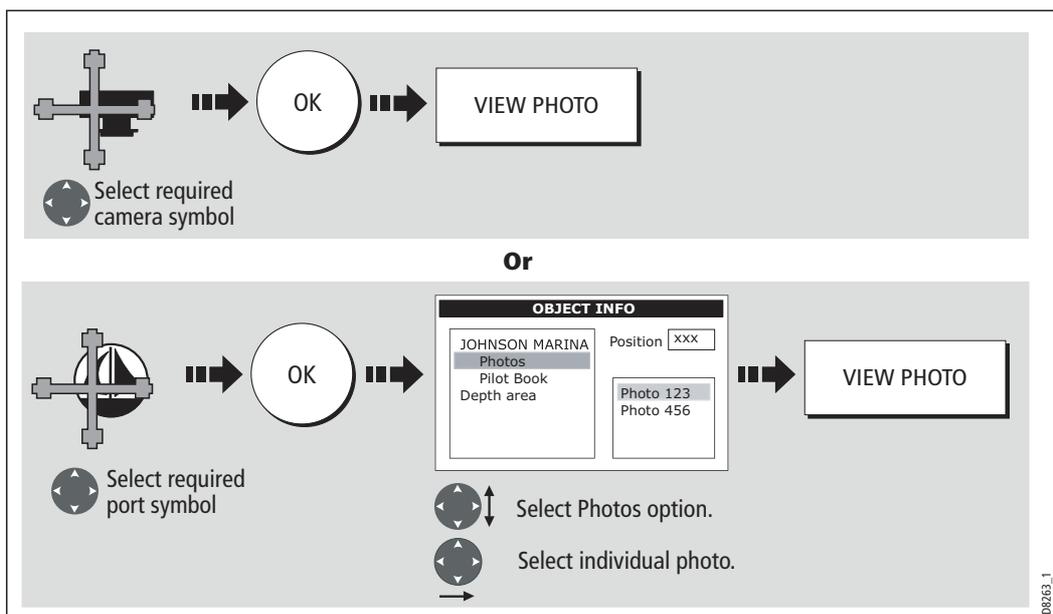
Displaying details of business services & points of interest

When a suitable chart card is installed the location of various business services and points of interest are indicated by the following symbols:

Business services/points of interest symbols

Anchorage	Airport	Babysitting	Barber	Bank	Camping	Car hire	Firemen
Fishing equipment	Gas/Petrol	Parking	Golf	Gym	Hospital	Hotel	Laundry
Nautical repairs	Marina	Museum	Police	Post Office	Restaurant	Ship repairs	Shop
Taxi station	Tourist information	Train	Water transport	Weather station			

You can view the name, address, telephone number, and type of business of an individual service by selecting its symbol on screen:
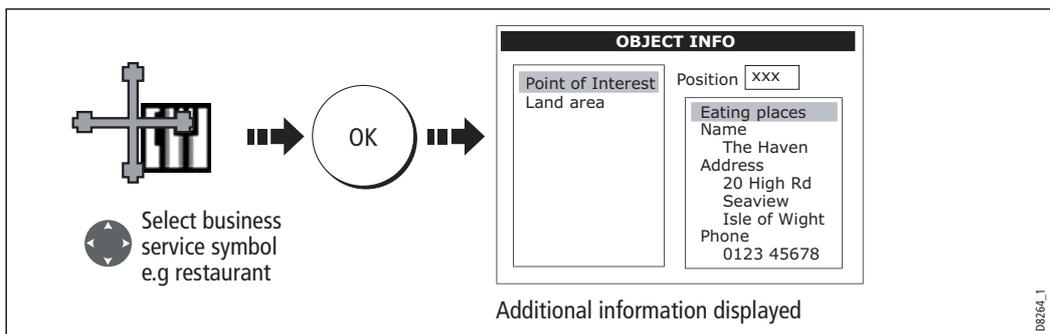
Select business service symbol e.g restaurant

OK

OBJECT INFO

Point of Interest
Land area

Position XXX

Eating places
Name
    The Haven
Address
    20 High Rd
    Seaview
    Isle of Wight
Phone
    0123 45678

Additional information displayed

Note: *If required, you can declutter your chart by either switching off the business services symbols (via the Cartography Setup Menu) or by switching on the DECLUTTER option (via the PRESENTATION soft key).*
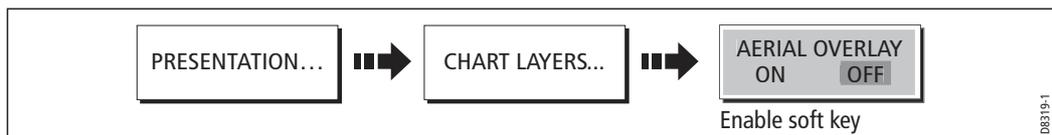
Displaying an aerial photo overlay
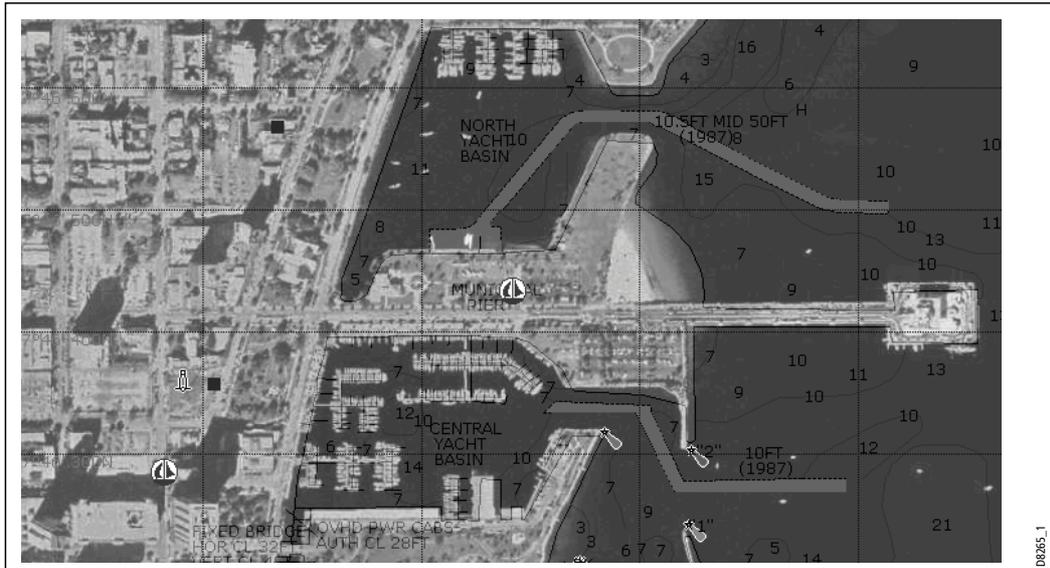
If you are using a suitable chart card, the aerial photo overlay feature can be applied to individual chart windows and will help you to interpret your environment and its features. They cover the navigable waters up to 3 miles inside the coastline. Beyond these limits the land will appear green (color charts) and grey (black and white charts). The level of resolution and the availability of a colored overlay is dependent on the region covered by the chart card.

Note: *If an aerial photo overlay is applied to a chart window that is set to system view, the overlay will be displayed in all other system view chart windows.*

To display an aerial photo overlay:

PRESENTATION...   ➡   CHART LAYERS...   ➡   AERIAL OVERLAY
                                            ON   OFF
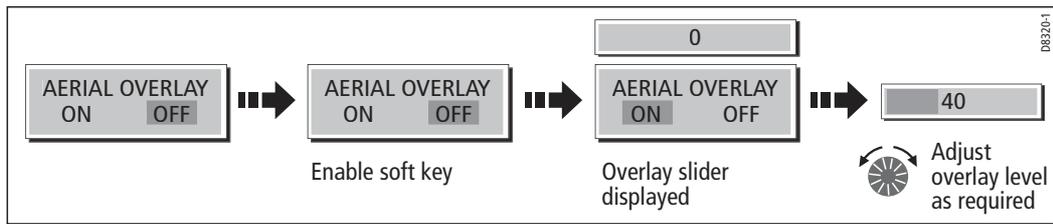   Enable soft key

Adjusting the level of opaqueness

You can adjust the balance between the chart and the aerial photograph by changing the overlay's level of opaqueness. Any changes that you make will affect all displays in your system.


ie:

70% level   40% level   20% level
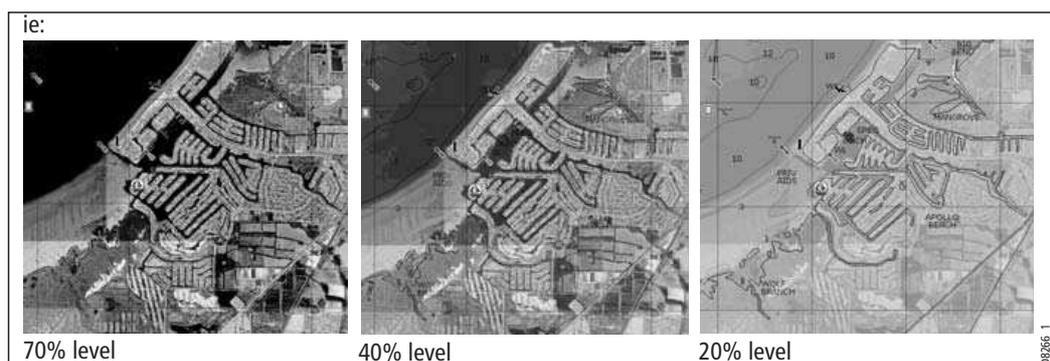
To change the level of opaqueness:

Specifying the overlay area

You can specify whether the aerial photo overlay is displayed for land areas only or for land and sea areas.

- **On Land** - displays a normal chart view for sea areas and overlays an aerial photo on the land. This will enable you to clearly see cartographic detail in the area that you are cruising whilst helping you to interpret your surroundings by displaying land features.

- **On Land and Sea** - displays an aerial photo on both the land and sea areas. This enables you to interpret deeper water (dark blue) from shallower (light blue) and to view land features simultaneously. In shallow water, in some parts of the world where the photos are good and clear you will actually see bottom features like sandbanks, reefs etc.
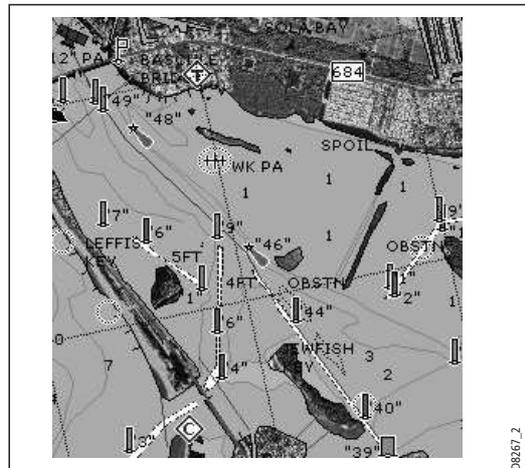

To specify the overlay area:
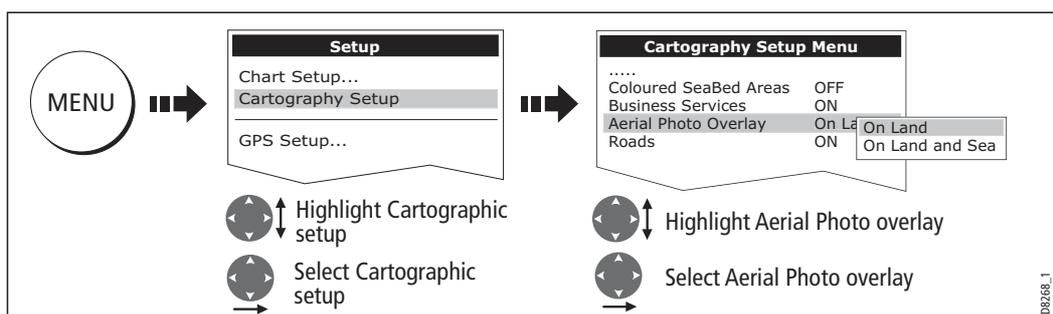
Displaying vessel identity (AIS)

If you have an AIS receiver fitted to your system, you can use the AIS feature to:

* Display targets for any other AIS equipped vessels.
* Display voyage information being broadcasted by these targets i.e. their position, course, speed and rate of turn.
* Display basic or detailed information for each target vessel including safety critical target data.
* Set up a safe zone around your boat.
* View AIS alarm and safety related messages.

This information is displayed in the form of an overlay and additional data is displayed in a dialog box on your 2D chart screen e.g.
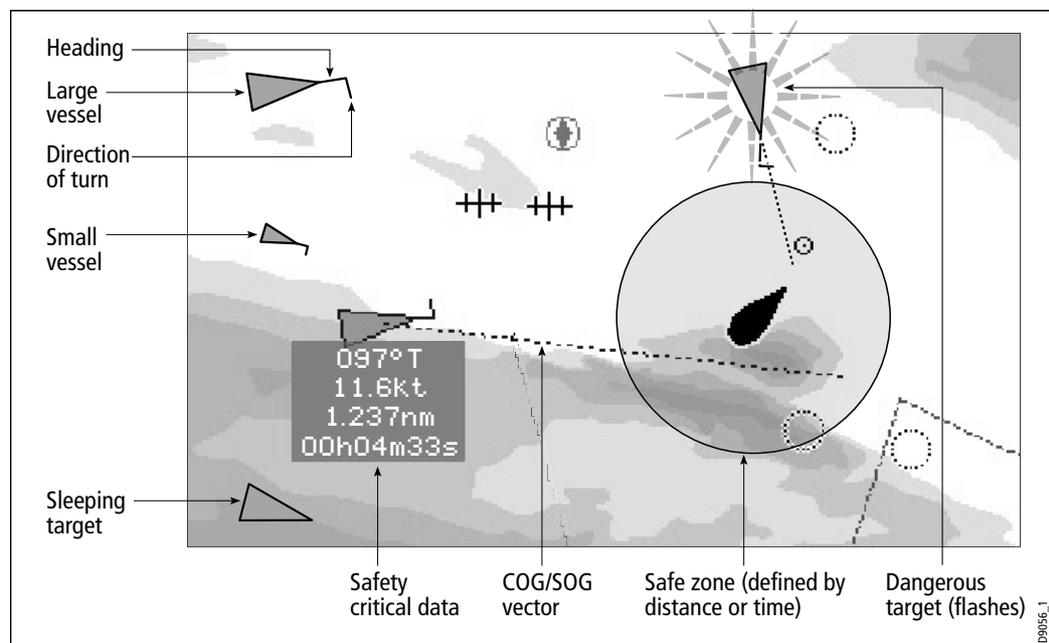
To switch on AIS:
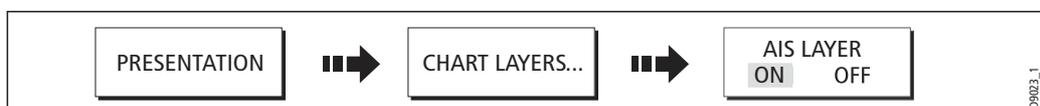
This feature can also be used in conjunction with the radar application. For full information on how to use the AIS feature, please refer to *Chapter 16: Automatic Identification System (AIS)*.

4.8 Measuring distances and bearings

... from your boat

You can determine the position, distance and bearing from your boat to the position of the cursor by referring to the cursor position (Csr Pos) data in the databar.
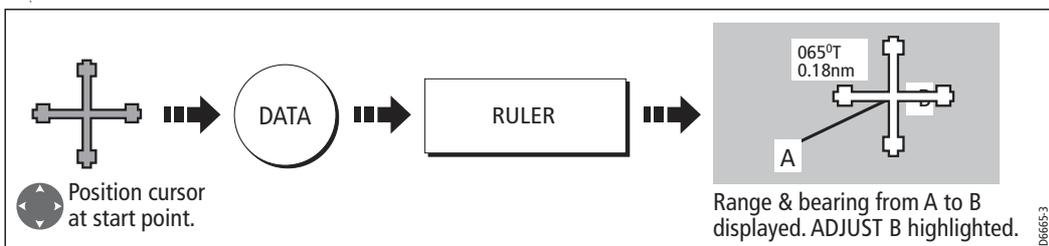
... between two points on your chart

The ruler option of your chart application can be used to obtain an accurate measurement of the distance and bearing between two points on your chart.
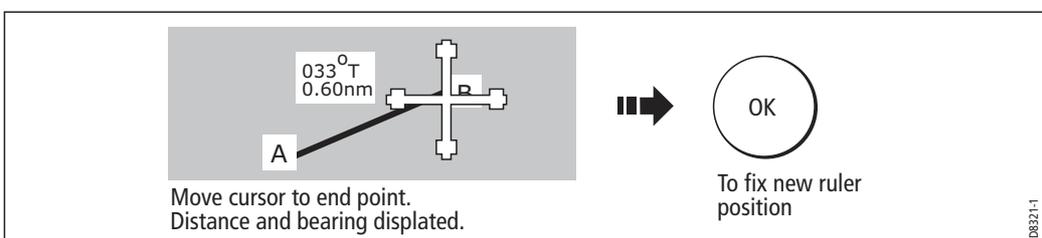
Note: *The ruler option is a local setting and will therefore only affect the individual window on which you are working.*

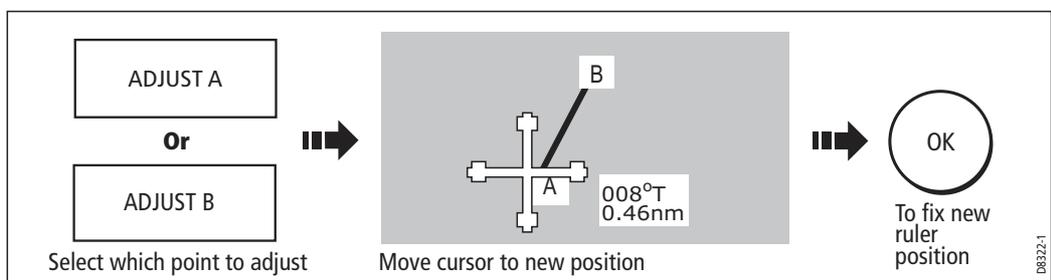### To position the ruler

1. Position the ruler starting point:

2. Position the ruler end point:

To reposition the ruler

To reposition either the start or end point of the ruler:
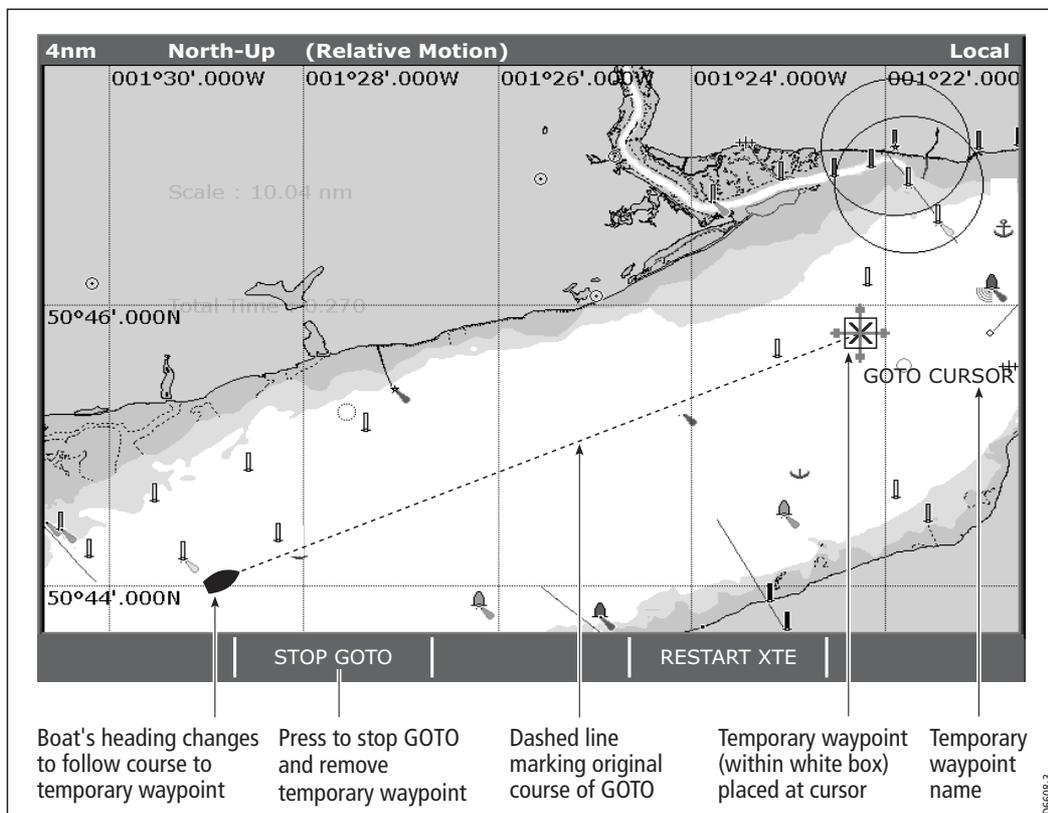

To clear the ruler
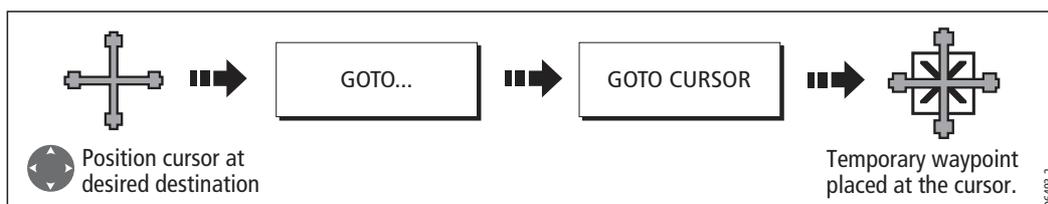
4.9 Navigating to a specific point

You can use your chart to navigate to a specific point marked by the cursor (temporary waypoint) or to a waypoint. If required you can display the largest chart scale possible that will display both your boat and the target waypoint. When you navigate to a waypoint or to the cursor position, the data is sent on NMEA 0183 and SeaTalk and can be used by an autopilot, if connected. On arrival at the specified point a message is displayed and an alarm sounds.

When you are steering manually, you can also use the chart to determine the bearing or direction to steer.

Note: *If you are currently navigating a route or going to the cursor /waypoint, you must press STOP GOTO, before the system can commence a new GOTO request.*

Boat's heading changes to follow course to temporary waypoint	Press to stop GOTO and remove temporary waypoint	Dashed line marking original course of GOTO	Temporary waypoint (within white box) placed at cursor	Temporary waypoint name

To go to the cursor position:

**Note:** *This target waypoint is also identified on the radar*

Go to an existing waypoint

You can navigate to an existing waypoint by either selecting the appropriate waypoint on-screen with the cursor or by selecting it from the waypoint list:

Note: *For more information on navigating with Waypoints, please refer to Chapter 3:Working with Waypoints.*
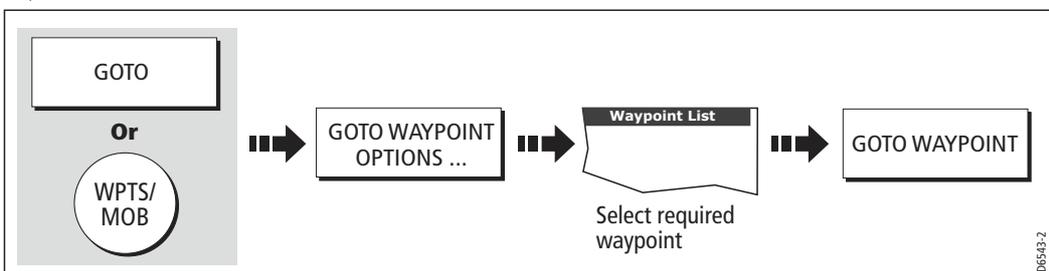
... selected with the cursor

This option navigates you to the waypoint that you select on screen.
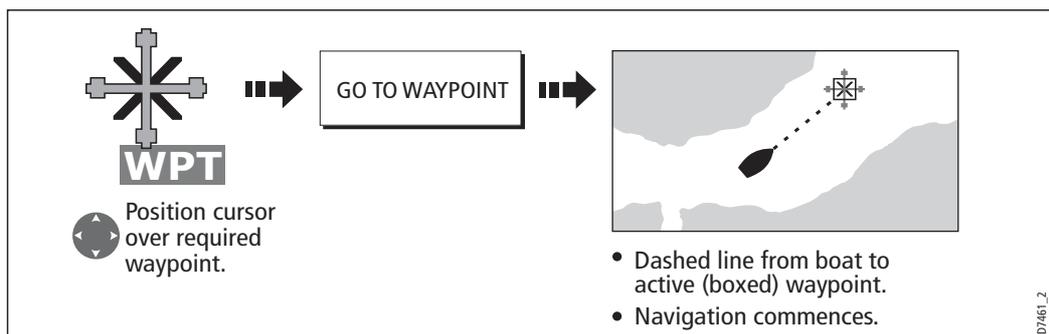
... selected via the waypoint list

This option selects the waypoint that you wish to navigate to from the waypoint list.



Resetting cross track error (XTE)

When you are following a waypoint, you can restart the XTE. This results in a new course from the current vessel position to the current target waypoint.

Restarting XTE is useful if you find yourself off track and want to go straight to your target, rather than get back onto the original track.
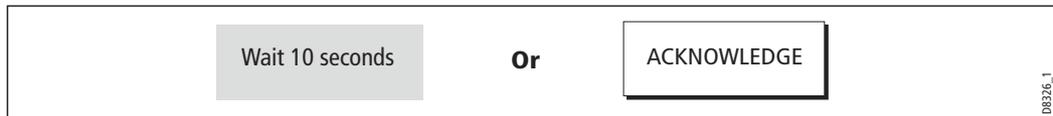
Arriving at your target waypoint

When you arrive at the target (active) waypoint:

- An alarm sounds and
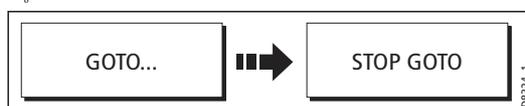- A warning message is displayed.
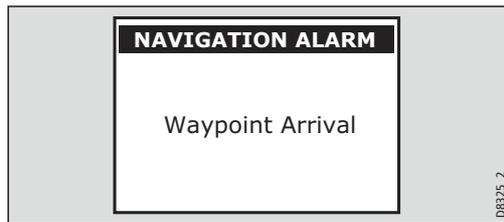
To de-activate the arrival alarm

Wait 10 seconds   **Or**   ACKNOWLEDGE

Stop navigating to your target waypoint

To stop navigating towards the selected waypoint:

GOTO...   ▮▮➡   STOP GOTO

Maintaining a view of your navigation

By selecting Auto Range mode, your chart will automatically adjust the range to maintain both your boat and the target waypoint on screen, using the largest scale possible.

To select Auto Range mode:

PRESENTATION   ▮▮➡   CHART MODE AND ORIENTATION   ▮▮➡   MOTION MODE TM   RM   AR
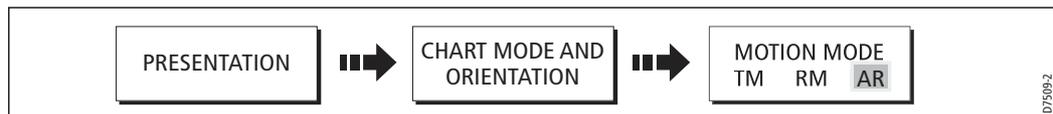
Note: *For more detail, see Setting the motion mode on page 97.*

4.10 Building and following a route

SHOW/HIDE ROUTES ...	FOLLOW ROUTE OPTIONS ...	BUILD NEW ROUTE ...		REVIEW AND EDIT ROUTES ...

This section describes how to use routes and includes the following:

- What is a route?
- What can I do with a route?
- Building and saving a route.
- Following a route.
- Viewing details of routes.

Once created you have the option to view a route's details, amend its course, edit its name and color or erase it.

All route options can be accessed via the ROUTES soft key.

What is a route?

A route is a series of waypoints used to navigate a course. A route is displayed on screen as a series of waypoints linked by a line.
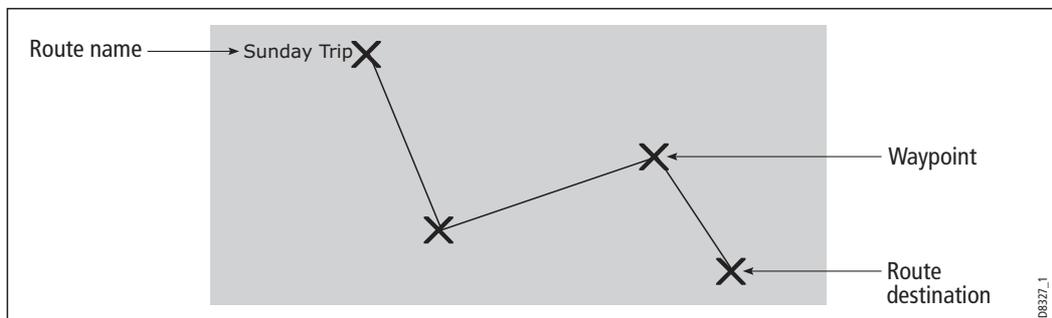
If you have a network of E-Series Displays, routes are shared across all the Displays.

What can I do with a route?

You can:

- Build a temporary route that you follow immediately (Quick Route). If you do not rename a quick route, it will be overwritten and its waypoints deleted when a new quick route is built.
- Build and save a route for later use, in which case the route is stored in the route list.
- Convert a track of your course into a route (see *page 92*).

Building a route

Routes can either be built on screen or via the waypoint list. A route consists of:

• New waypoints that you have specifically placed for that route *Or:*

• Existing waypoints that are already stored in the system *Or:*

• A combination of new and existing waypoints.

Note: *A route can also be created from a track. See page 92 for details.*

Up to 150 routes can be added to your system, each consisting of up to 50 waypoints. As each waypoint is added, it is assigned an index number corresponding to its position in the route and drawn on the chart using the currently specified symbol.

The following should be noted:

• When a route is being built it is not active and does not affect any current navigation.

• You can include a waypoint more than once in a route, but the same waypoint cannot be placed consecutively.

• You can create a new route when the route list is full but on saving this, you will be prompted to choose an existing route to overwrite.

• You cannot save a new route if any of the waypoints within it are currently active.

• The way in which the **OK** and **CANCEL** buttons operate is different when you are building and editing routes (see below).
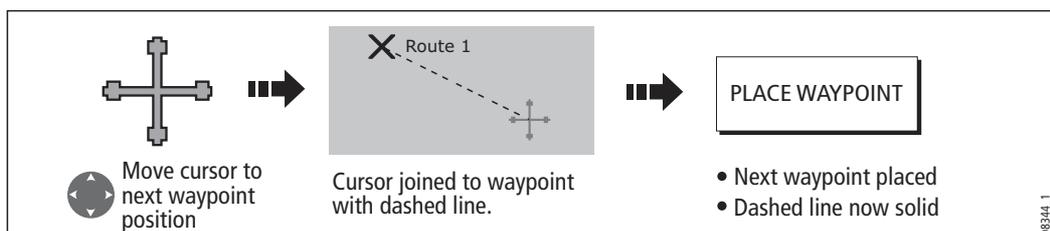
Building a route on screen

You can build a route on screen that consists of either new or existing waypoints or a combination of both.
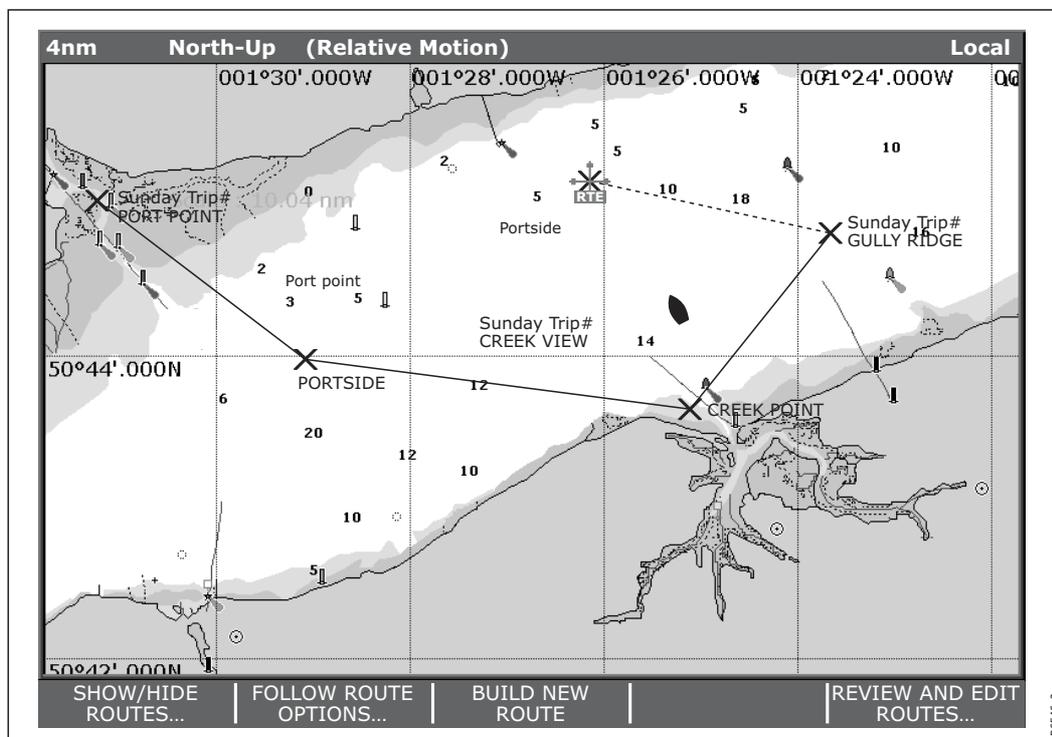
... using new waypoints

1. To place the first waypoint in a route:
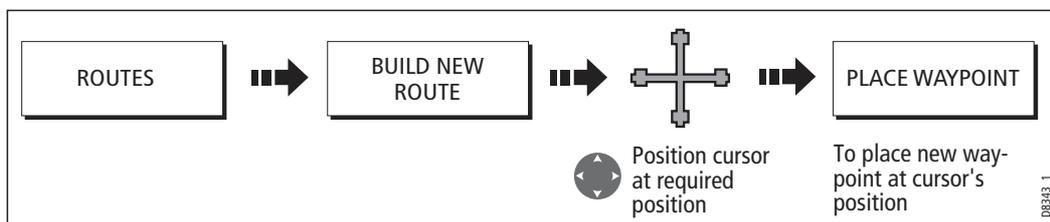
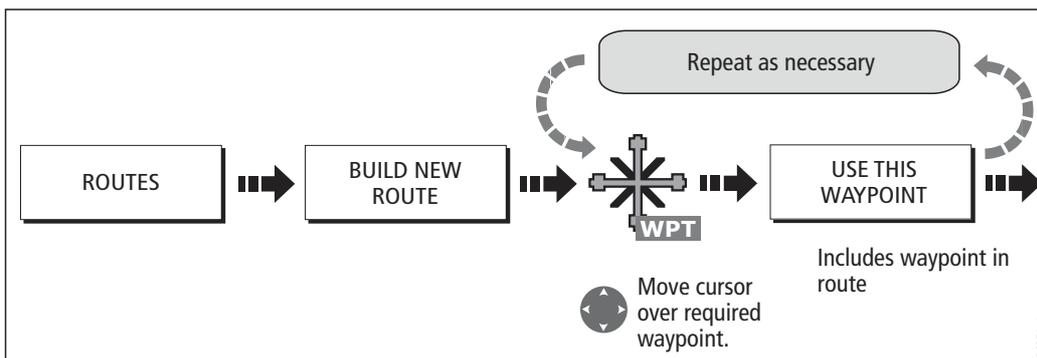2. To place subsequent waypoints in the route:

3. Continue entering waypoints. If you make an error, you can remove the last way-point (see *page 74* for details).

4. Save your route when it is complete (see *page 75* for details).

... using existing waypoints

You can use waypoints that already exist, to build a new route.
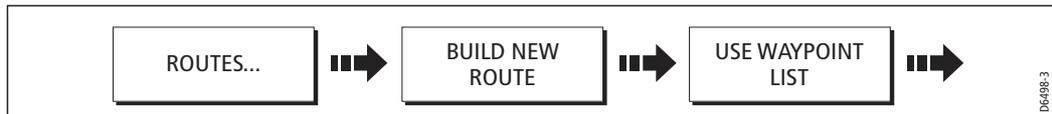
1. Create your route:

Note: *If you make an error, you can remove the last waypoint (see page 74 for details).*

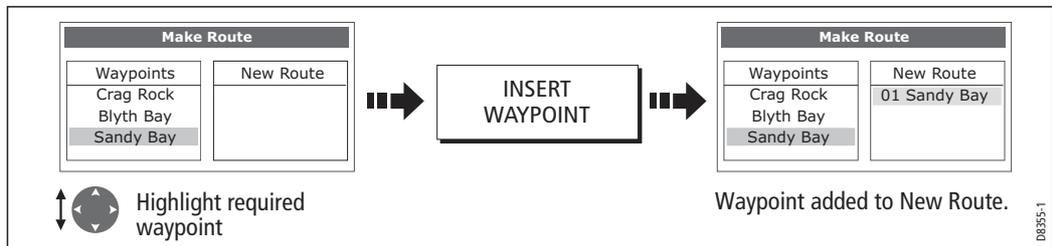2. Save your route when it is complete (see *page 75* for details).

Building a route using the waypoint list

You may prefer to build routes using existing waypoints in the waypoint list:

1. Select the Waypoint List route build option:

ROUTES...	▐▐▶	BUILD NEW ROUTE	▐▐▶	USE WAYPOINT LIST	▐▐▶

2. Select and insert the first waypoint in the new route:

Make Route				**Make Route**	
Waypoints	New Route		INSERT WAYPOINT	Waypoints	New Route
Crag Rock		▐▐▶	▐▐▶	Crag Rock	01 Sandy Bay
Blyth Bay				Blyth Bay	
Sandy Bay				Sandy Bay	

↕ Highlight required waypoint
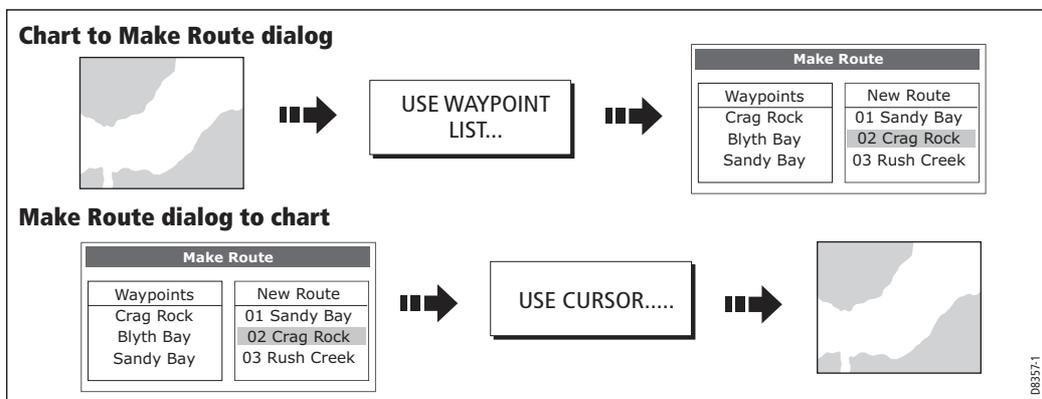
Waypoint added to New Route.

3. Continue entering waypoints until your route is complete.

Note: *If you make an error, you can delete the waypoint from the new route list (for details see page 75).*

Building a route on-screen and via the waypoint list

You can build your route using both the on-screen and the waypoint list methods described on the previous pages. This will necessitate alternating control between the Make Route dialog and the chart.

Changing control

Chart to Make Route dialog

	▐▐▶	USE WAYPOINT LIST...	▐▐▶	**Make Route**	
				Waypoints	New Route
				Crag Rock	01 Sandy Bay
				Blyth Bay	02 Crag Rock
				Sandy Bay	03 Rush Creek

Make Route dialog to chart

Make Route					
Waypoints	New Route	▐▐▶	USE CURSOR.....	▐▐▶	
Crag Rock	01 Sandy Bay				
Blyth Bay	02 Crag Rock				
Sandy Bay	03 Rush Creek				

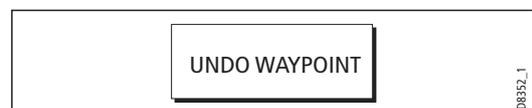# Making changes to the route being built

If you make an error whilst building a route you can:

*   Undo the last waypoint (on-screen route build only).

*   Delete a waypoint from the new route list (waypoint list route build only).

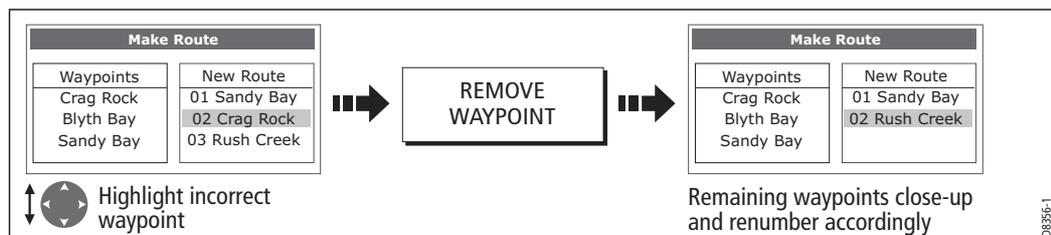*   Abandon the route build.

Undoing the last waypoint

To remove the last waypoint when you are building a route on-screen:

UNDO WAYPOINT

The waypoint and its dotted line are removed from the screen and the cursor moves back to the previous waypoint. If you repeatedly press these keys, successive waypoints are removed.
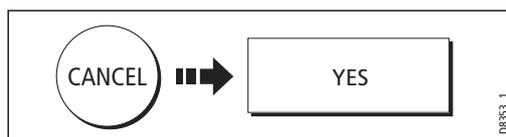
Delete a waypoint from the new route list
If you insert a waypoint incorrectly into a route that you are building via the waypoint list, you can remove it:

To abandon the route build
To cancel the route that you are currently building (on-screen or via the waypoint list):


Saving routes

Once you have built your route either on screen and/or via the waypoint list you have the option to either:
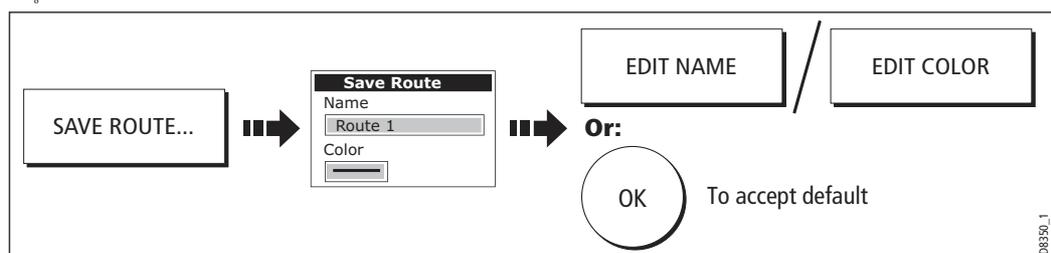
- Save and immediately follow the built route (Quick Route) *Or:*
- Save the built route for later use (and rename it if required).

Quick routes
A route that is saved and immediately followed is referred to as a Quick Route. If a Quick Route already exists, it is overwritten unless you rename it (see *page 94*).
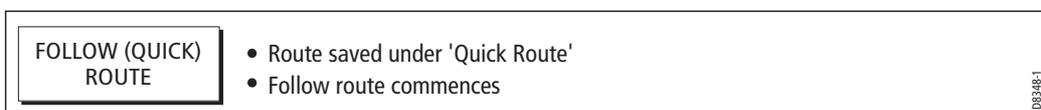
### To save the built route for later use

Note: *For further details on editing a dialog box, please refer to page 13*

Following a route

When you are following a route the active route is shown on all chart windows. On a networked system, an active route is shown and can be controlled from all the displays. When the distance to the next waypoint in the route is less than that specified for the arrival alarm radius (see *page 288*), or your boat reaches the closest point of approach to the target (defined by a line passing through the waypoint and perpendicular to the route leg), a warning dialog is displayed and an alarm sounds (see *page 69*). Once the alarm is acknowledged the next waypoint is selected, the display updates to indicate the next leg of the route and the system sends the new navigation data to the autopilot.

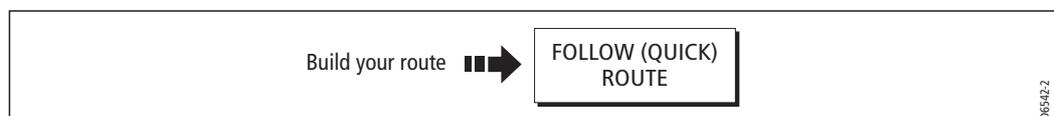There are several ways to select the follow route option:

• Using Quick Route.
• Using the cursor.
• Via the route list.
• In reverse order.
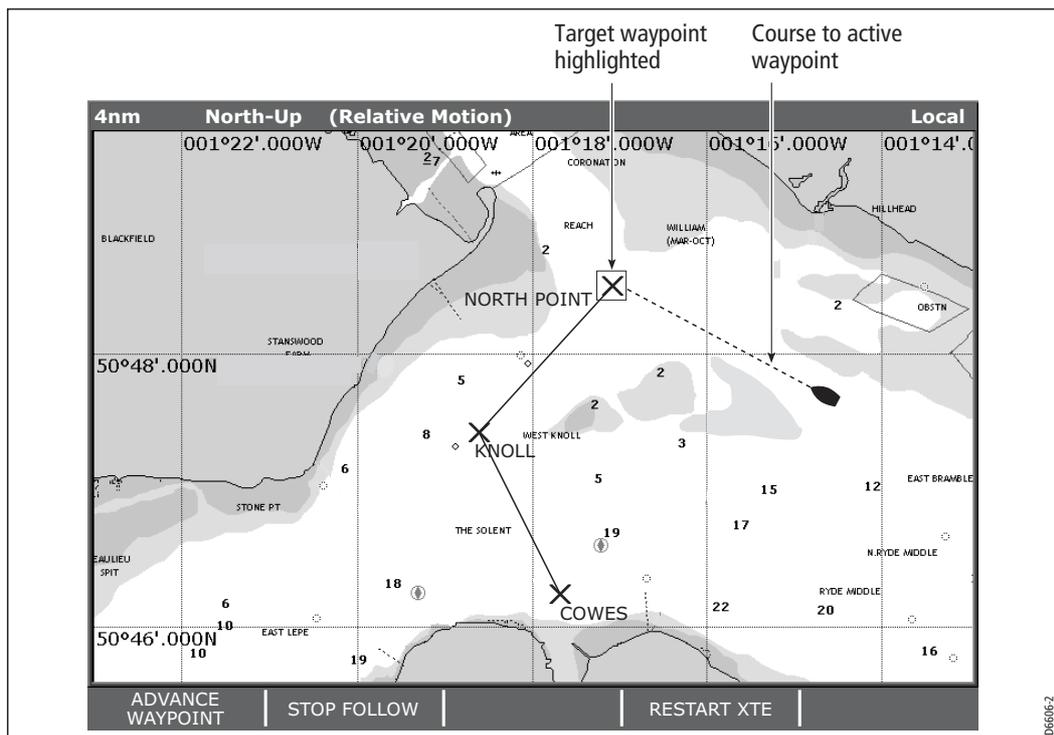
Note: *You can stop following an active route at any time by pressing* STOP FOLLOW.

Follow using Quick Route

This option follows a route as soon as it is built. For more details see *page 72*.
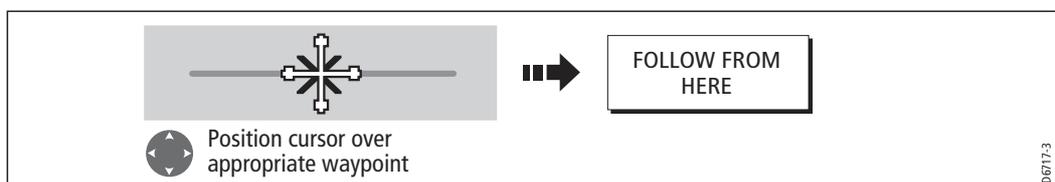
Follow using the cursor

You can either use the cursor to select and follow a route from the start of the route or from a selected waypoint within the route.
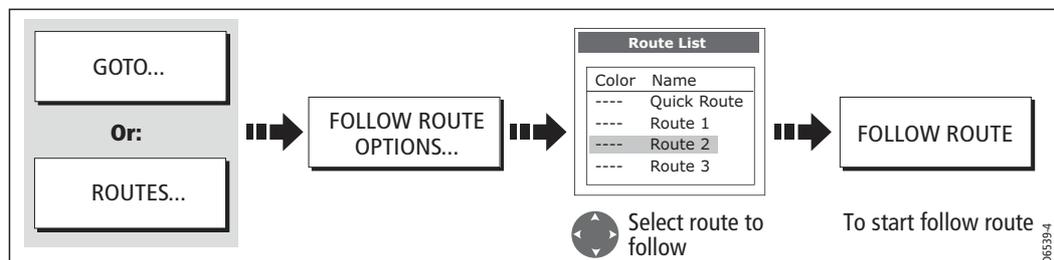
... from the start of the route

Position cursor over any leg of required route → FOLLOW THIS ROUTE

... from a selected waypoint within the route
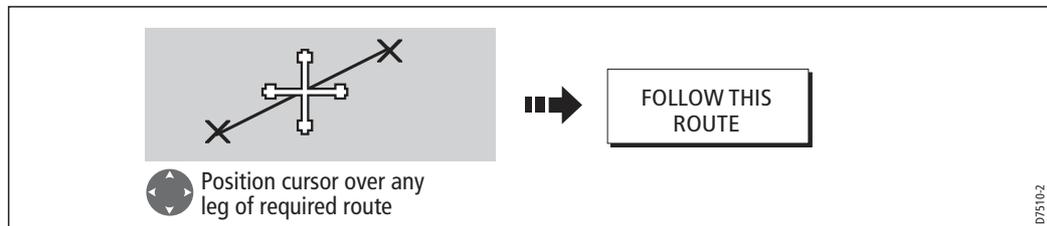
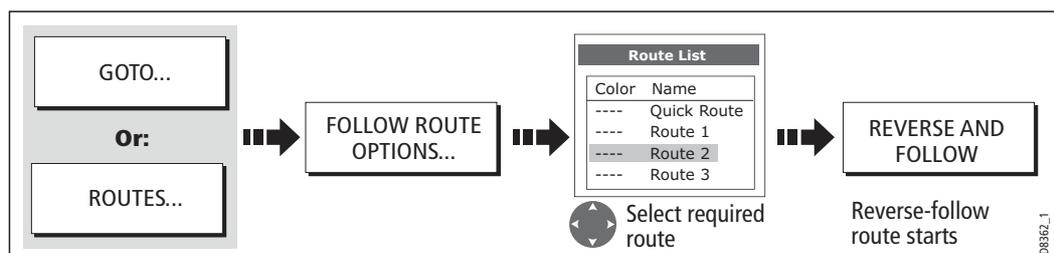Position cursor over appropriate waypoint → FOLLOW FROM HERE

Follow using the route list

This option directs you to the start of the route that you have selected on the route list and then follows it:

GOTO...
Or:
ROUTES... → FOLLOW ROUTE OPTIONS... →

Route List

Color	Name
----	Quick Route
----	Route 1
----	Route 2
----	Route 3

Select route to follow → FOLLOW ROUTE

To start follow route

Follow in reverse order

This option reverses the waypoint order (i.e. the last waypoint of the original route is now the first) and renumbers the waypoints accordingly. The route name moves to the reassigned first waypoint and then the system automatically activates the reverse-follow route function.


GOTO...
Or:
ROUTES... → FOLLOW ROUTE OPTIONS... →

Route List

Color	Name
----	Quick Route
----	Route 1
----	Route 2
----	Route 3

Select required route → REVERSE AND FOLLOW

Reverse-follow route starts

Note: *To stop following an active route at any time, press* STOP FOLLOW.

Advance to the next waypoint in a route

If you are following a route, you have the option to advance to the next waypoint in that route.
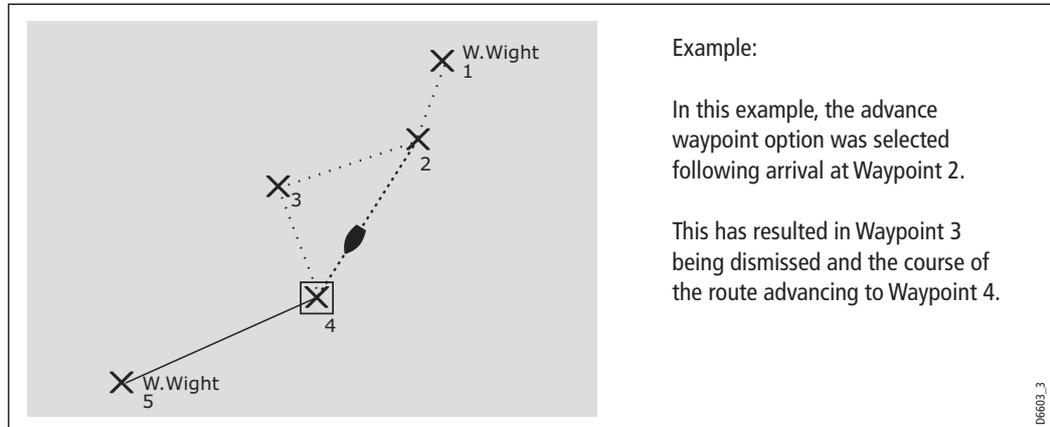
To advance to the next waypoint in a route:
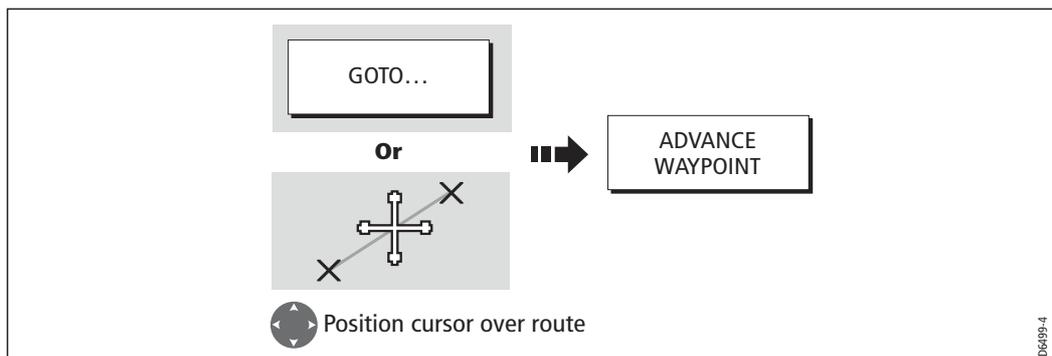
Note: *If the current destination is the last waypoint, then it advances on to the first waypoint in the route.*

Resetting cross track error (XTE)

When you are following a route or going to a waypoint, you can restart the XTE. This results in a new course from the current vessel position to the current target waypoint.

Restarting XTE is useful if you find yourself off track and want to go straight to your target, rather than get back onto the original track.

Although RESTART XTE causes your vessel to change course, it does not affect the saved route.