Offshore Navigator 5.06
Printable Guide

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CHAPTER 1: INTRODUCTION

Welcome

Welcome, and thank you for using Maptech's Offshore Navigator!

This document, condensed from Offshore Navigator's electronic Help system and formatted for efficient printing, is designed to serve as an extensive printed reference for using Offshore Navigator.

However, *please note:* This document is *not* a comprehensive reference. The Help system that accompanies Offshore Navigator software remains your best source of information about Offshore Navigator's features and capabilities. Documentation updates are made available for free download at www.maptech.com, so please check in from time to time to ensure that you have the most up-to-date information on using Offshore Navigator.

Chances are good that if you cannot find the information that you need in this document, it will be found in the electronic Help. Click **Help, Contents** if you have any further questions.

Note for Offshore Navigator Lite Users:
This guide was written for the full version of Offshore Navigator. The Lite version of Offshore Navigator contains a reduced set of features. Several of the program features described in this guide are NOT available in Offshore Navigator Lite. Sections that describe features found exclusively in the full version appear in lighter typeface.

Optional Full-Version Upgrade
The full version of Offshore Navigator provides more options and greater flexibility. An upgrade to the full version would let you:
- Create **"Go To" routes**. A "Go To" is a quick way to set a direct course straight to one waypoint, in a single step. Once the waypoint is reached, the Go To is automatically deleted. No need to sort through the Route List or rename/store routes.
- Create a route in Offshore Navigator and follow it with your **Autopilot**. Offshore Navigator will send waypoints to your Autopilot; simply acknowledge each new waypoint in your Autopilot as you cruise.
- **Record a track** showing your vessel's progress. The track may be used as a visual aid, or converted into a route for navigational use if you want to retrace your path of travel.
- Set **Position Marks** at your vessel location whenever you want to mark where you were at a given time.
- Take advantage of **On-Water Mode**: a simplified set of controls, reduced to just those tools that you need most during navigation. All other program features are kept out of your way behind the Plan mode button--to use any other tools, just press Plan.
- Create **Alarm Areas** to trigger a warning beep if you enter or exit an alarm zone.
- Place **Named Waypoints** at major locations in your cruising area. A single Named Waypoint may be used in multiple routes.
- Send a **Position Report** via e-mail to anyone who needs to be kept informed of your location. The report, automatically generated by Offshore Navigator Lite, includes your vessel's latitude and longitude and a chart image of your immediate surroundings.
- The full version of Offshore Navigator includes a built-in **Ship's Log**, which lets you keep an official record of your vessel position, course, speed and progress, and print this information for use as a paper reference.
- The full version of Offshore Navigator also entitles you to **free technical support by telephone**.

The full version of Offshore Navigator is included with Maptech's Digital ChartKit and Marine Navigator products. For more information on upgrading, please visit www.maptech.com/upgrade.

What's New in 5.0x

If you're upgrading from a pre-5.0 version of Offshore Navigator, here are the new features and terms that you'll notice:

GPS Setup Wizard (new in 5.06)

An automated setup utility is now available to make configuring your GPS settings quick and easy. Just click **Vessel/GPS, Setup, GPS Setup Wizard** to run the Wizard. The Wizard will automatically detect your GPS manufacturer, model, and the port where it is connected to your computer, and will make the appropriate configuration settings in Offshore Navigator.

Ship's Log (new in 5.02) (FULL VERSION ONLY)

An electronic logbook lets you keep a record of trips, conditions, and vessel operations. Optional timed entries can be made hourly or half-hourly, and entries are automatically logged to record specific events, like GPS signal loss and triggered alarms. See page 86.

On-Water Mode (FULL VERSION ONLY)

Designed to make navigation even simpler. In On-Water Mode, the toolbar and controls that you need for trip planning are replaced by a simple set of buttons, with the features you're most likely to need during navigation. With this simple interface, you can quickly find the tools you need, while keeping your attention on your surroundings. Press the On-Water button in the lower left corner of your screen to enter On-Water Mode. In On-Water Mode, press the Plan button to return to Plan Mode (Offshore Navigator's standard operating mode.) See Chapter 5, page 96.

Automatic Zoom/Scale Buttons (new in 5.01)

The pair of Plus and Minus buttons at the lower right corner of the Offshore Navigator screen provide automatic zoom level/chart scale adjustment. When you press the plus (+) button, Offshore Navigator will either adjust your zoom level or automatically switch to a different chart, whichever better provides a 50% closer view. Pressing the minus (-) button does the same thing in reverse, for a view that's 50% "farther away."

Spherical Horizon View (FULL VERSION ONLY)

An option in On-Water Mode (Chapter 5). In Spherical Horizon View, charts are presented in a curved format, much like a globe. This lets you see your immediate surroundings in high details, while benefiting from a "look-ahead" viewpoint of the chart area in your path.

Position Marks (FULL VERSION ONLY)

A classification of Marks. Press the Position Mark button (or click **Tools, Create Position Mark**) to place a Position Mark at your vessel location. Position marks stay behind on the chart after your vessel icon moves away. They are handy for recording things you notice while you cruise, and for when you want to make a quick note of where you were at a given time.

Streamlined Navigation Panel

Most of the basics are still here, plus a simple Plus/Minus zoom button control. Data formerly contained in the Status Bar (triggered alarms, datum status, Navigation Mode/Vessel positioning method) has now been consolidated with the Navigation Panel, thereby making a little more room for chart image display. See page 14 for details.

A Direct Route is now a "Go To" (FULL VERSION ONLY)

In an effort to streamline and simplify some of Offshore Navigator's commands, we have made a few terminology changes.

A Direct Route is now a "Go To." Notice the new toolbar button.

To View a Location on a Chart, Choose "Locate"

The **Go To** button previously found in many of Offshore Navigator's windows could sometimes get a little confusing. Its purpose was straightforward—to show you the chart location of the highlighted overlay—but it didn't actually set

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a course for the location. *To avoid any confusion, this feature has been renamed **Locate***. You'll notice this change in both windows and menus. (The Go To menu, for example, is now the Locate menu.)

Navigation Mode/Vessel Position Source

Instead of choosing **Navigation Mode** from the Vessel/GPS menu and then making your selection, you only need to make one menu selection to start your vessel icon moving. At the top of the Vessel/GPS menu, choose either **Position from GPS** or **Position from Simulator**. A check mark will indicate your choice. Checking neither is the same as choosing "None" for Navigation Mode in earlier versions of Offshore Navigator. See page 56 for more details.

Device Settings/Navigation Setup

GPS, Vessel, Autopilot, and Simulator Setup are now found under **Vessel/GPS, Setup**.

Transferring GPS Data to/from Computer

The **GPS to Computer** and **Computer to Vessel/GPS menu** items, for the transfer of stored coordinate date, are now found under the File menu. Choose **File, Import Data from GPS** or **File, Export Data to GPS**.

Configuration/Customization Options Under One Roof

As continuing upgrades added more and more features to Offshore Navigator, our customers found themselves going to two places to adjust optional settings: File/Preferences, and View/Options. All adjustments are now made by clicking **View, Options**. Tabs organize all the settings. Visit the new Options window to find familiar settings and clarified text captions.

More New Terminology

"Geo Names" are now "Place Names." Geo Names—place names classified by geographic feature type into a searchable database—are more aptly called Place Names. Choose **Locate, Place Names** to search for specific places or feature types.

"Poly/Line" Alarms are now "Line/Shape" Alarms. The feature itself hasn't changed: you can still create alarms in the shape of lines or multi-sided polygons.

Contour Charts (Additional chart control added in 5.01)

(For owners of Maptech Contour Charts: 3-D underwater topography.)

Viewing your contour chart coverage in split-screen has just gotten easier. Just click **Charts, Link to Contour Chart**, and the corresponding Contour chart will automatically open in a second window within Offshore Navigator. If you have installed contour charts, a fourth tab appears in the **View, Options** window, so you can configure your contour chart display. A new, optional Contour Chart Control has been added for more precise chart manipulation. (See page 48 for details on contour chart options.)

Overview of Toolbar and Controls

Toolbar

Toolbar buttons may be shown in small or large. The image below shows large buttons, each with a label. For large buttons, choose **View, Options** and under the **General** tab, check **Large Toolbar Buttons**.

Man Overboard

Offshore Navigator is equipped with a Man Overboard tracking feature. In case of such an emergency, press this button and Offshore Navigator will mark the location and note the lat/lon, provide the range and bearing to the man overboard, track the elapsed time, and calculate the time it will take to reach the man overboard from the current vessel location. See page 91.

Locate Vessel

If your vessel is not visible on the screen and you want to go to its location, press the Locate Vessel button and Offshore Navigator will center the chart window on your vessel. (You can also choose **Locate Vessel** from the Vessel/GPS menu.)

Chart List

Press this button to view the list of available charts and select one for display. (You could also click **File, Open Chart**, or **Charts, Chart List**.)

Max Detail

Automatically switches to the largest-scale (most detailed) chart available for the area you're viewing. (See page 18 for more information about different scales of charts.)

Scale In

Opens the next available chart of a larger scale, for the area you're viewing. This lets you get a more detailed view. (Larger-scale charts cover less area, but provide greater detail.)

Scale Out

Opens the next available chart of a smaller scale, for the area you're viewing. This is a bit like zooming out to get a better overall view of the area. (Smaller-scale charts cover more area, at a lesser level of detail.)

Print

A one-step way to print the chart area you're viewing on the screen. The printout will include the chart name and ID, its corner coordinates, and lat/lon rulers around the edge of the page. See page 42.

Cascade

If you have several windows open, this will arrange them in a cascade pattern on your screen, so you can read each one's title bar.

Tile Vertically

Automatically arranges open chart windows side by side on the screen.

Tile Horizontally

Automatically arranges open chart windows one above the other so that they are sharing equal screen space.

Drag/Pan Tool

The usual cursor tool, and the main way of moving around the charts. This tool is automatically selected when you start Offshore Navigator, letting you click on the chart and drag it in any direction. You can also right-click on overlays (routes, waypoints, etc.) to get more information about them.

Create "Go To" (FULL VERSION ONLY)

Lets you create a route that starts at your vessel and contains only one waypoint (the route's end). This feature is designed to efficiently set a course from your current position straight to the desired location. See page 21.

Create Route

A route is a series of locations (waypoints), connected in sequence. On a chart, a route is shown as a series of waypoint symbols connected in order by straight line segments. Select the Route tool, then click on the chart to set waypoints along your intended course of travel.

Mark

Lets you add symbols to the chart, by clicking on the chart. You can choose from several symbols and colors, and assign names to your marks. See page 134.

Position Mark (FULL VERSION ONLY)

Places a mark at your vessel location. The mark symbol remains in place on the chart even after your vessel has moved away. This is handy for keeping track of where you were at a particular time. The date and time of creation

is automatically recorded with each Position Mark. A Position Mark looks just like regular marks, but is indicated in the Mark List by an asterisk (*). See page 134.

A2B Measurement

A measurement tool, designed to let you find the range and bearing between two points that you designate. Click on the chart to set point A, then click again elsewhere to set point B. Right-click on either point and choose **Properties** to find range and bearing.

Annotate

Lets you add notes to the chart. Click this button, then click on the chart where you want to add a note. You can type up to 256 characters (they will appear on one line).

Anchor Alarm (FULL VERSION ONLY)

Sets an alarm to notify you if the vessel drifts beyond expected range after anchor is set. You can specify the maximum acceptable range, controlling the conditions that trigger this alarm.

Line/Shape Alarm (FULL VERSION ONLY)

An alarm is an area you define on a chart, so that Offshore Navigator can warn you when your vessel enters or leaves that area. The Line/Shape alarm button lets you delineate alarm areas. For example, you might set an alarm around an area of shallow rocks, and ask Offshore Navigator to warn you if you enter that alarm zone. Or, you can delineate an area where you'd like to fish, so that Offshore Navigator can warn you if you drift beyond the boundary you set.

Zoom In

Click on this toolbar button, then click on the chart to zoom in closer, by one zoom level. The point where you clicked will be centered on the screen.

Zoom Out

Select this tool, then click on the chart to zoom out by one zoom level. The point where you clicked will be centered on the screen.

Maptech MapServer

Press the Maptech button on Offshore Navigator's toolbar to go to the Maptech MapServer at www.maptech.com (Internet connection required).

Help

Opens Offshore Navigator's electronic Help document to the Table of Contents page. The Help menu (on Offshore Navigator's menu bar) also provides links to the Help system, as well as additional documentation and data.

Autopilot (FULL VERSION ONLY)

If you have an Autopilot aboard your vessel, use this button to start sending course data to the Autopilot when navigating.

Chart Status Bar
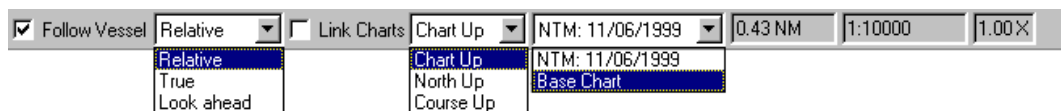
This panel, called the Chart Status Bar, lets you control various settings for how the *active* chart is displayed. (The active chart is the chart that you're viewing or working with. If you have more than one chart open, you can tell which one is active by its highlighted title bar.) You can adjust zoom level, chart rotation, and how the chart is presented in relation to the vessel icon. A quick glance at this Chart Status bar tells you the current settings, as well as the chart scale and the width of the area it covers.

Follow Vessel

When this box is checked, the chart display will follow the vessel as it moves across the charts. This means that your vessel can't drift out of view, since the chart image will update itself to keep the vessel always visible on the screen.
   - **Relative:** The vessel stays in the center of your screen, while the chart "moves" underneath.
   - **True:** The vessel moves across the chart, and the chart only scrolls itself when the vessel nears the edge of the screen.
   - **Look Ahead:** Works like Relative, but keeps the vessel at the screen's edge, to maximize your view of chart area ahead in your vessel's path. The chart scrolls while the vessel stays in the same place on your screen.

Link Charts

When this option is checked, you can link to another chart that shares the same center lat/lon as the current chart. When two (or more) charts are linked, they can be viewed together. They will scroll simultaneously, and any overlays (like markers or routes) that you create on one chart will automatically appear on the other chart as well.

Chart Orientation

These options refer to the way the chart image is positioned on your screen.
   - **Chart Up:** The chart image is oriented so that whichever edge was the top of the paper original is at the top of your screen.
   - **North Up:** True North is straight "up" on your screen. (For most charts, this will be the same as Chart Up, but some paper charts were drawn with North facing in another direction.)
   - **Course Up:** The chart rotates as necessary so that the vessel always points and/or moves towards the top of the screen (when following a route or in Simulator mode).

NTM Status

(For subscribers to Maptech's Chart Update Service)
The date that this chart was last updated with Notice-to-Mariners corrections.

Chart Width

The width of the geographic area being shown on the screen (in the active chart window). If you zoom in or make the window smaller, this figure will decrease. If you zoom out or enlarge the window, the figure will increase.

Chart Scale

The scale of the active chart.

Zoom Level

The zoom level at which you are viewing the active chart.

Navigation Panel
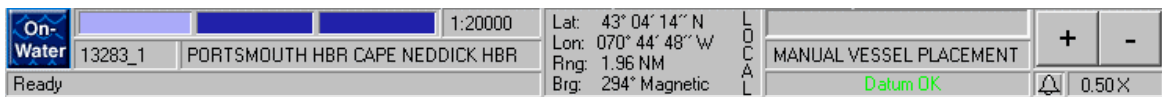
The Navigation Panel provides information about the chart you're viewing: the name, chart ID, and scale of the chart, and the lat/lon of your cursor position.

Enter On-Water Mode (FULL VERSION ONLY)

 Puts Offshore Navigator into On-Water Mode, replacing menus and controls with a simpler set of buttons. (See *Chapter 5: On-Water Mode*, on page 96.)

Scale Selector; info on active chart
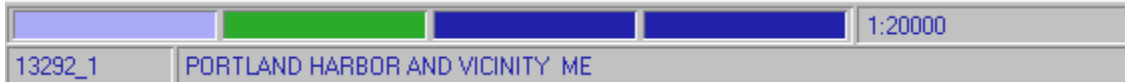
The row of colored rectangles on the left represents other charts available for the area you're viewing. They are arranged in order of scale, from large-scale at left to small-scale (less detailed) at right. The light-shaded rectangle represents the active chart. Green represents a topographic map, and red represents a Navigation Photo. The name, scale, zoom level and chart ID of the active chart are given. When you hold your cursor over each rectangle, that chart's name, scale and ID number are displayed. To switch to a different chart, just double-click on a rectangle.

Cursor Position Data
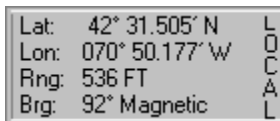
 Gives the lat/lon of your cursor's position. Also gives the range and bearing from your vessel location to the point where your cursor is.

Zoom in/Zoom out

 Press the Plus button for a closer view; press the Minus button for a wider view. Offshore Navigator will either adjust the zoom level at which you're viewing the chart, or switch to a different chart entirely—whichever is closer to a 50% adjustment.

When you first start using Offshore Navigator, the plus and minus buttons are set to adjust EITHER the zoom level or the chart scale. If you prefer, you can set the buttons to adjust zoom level ONLY, or scale ONLY. To adjust this setting, click **View, Options** and select the **General** tab.

CHAPTER 2: GETTING STARTED (THE BASICS)

Opening Charts: The Chart List

All charts available for viewing are listed in the Chart List. There are several ways you can open the Chart List:

- Press the Chart List button on the toolbar.

  Chart List button.

- From the File menu, choose **Open Chart**.
- From the Charts menu, choose **Chart List**.

Note: If you are reading charts from a CD, be sure the CD is present in your drive. (If it's in the drive, but the charts aren't listed in the Chart List, click **Charts, Change CD/Refresh Chart List**.)

From the resulting list, double-click on the title of the chart you want to open. (For more about charts and the Chart List, see page 34.)

Moving Around the Charts

Dragging and Scrolling

The Drag Tool, represented by a small hand symbol, is the main way of repositioning the chart. (The drag tool is the default cursor tool, so it is already selected each time you start Offshore Navigator.) Left-click anywhere on the chart and drag the chart to move it.

When you hold the cursor near the edge of the screen, it changes to a small black arrow. Hold down the left mouse button and the chart will scroll smoothly in the direction of the arrow. If you hold the cursor in a corner, the arrow will point diagonally.

Drag Tool changes to scrolling arrow at edge of screen.
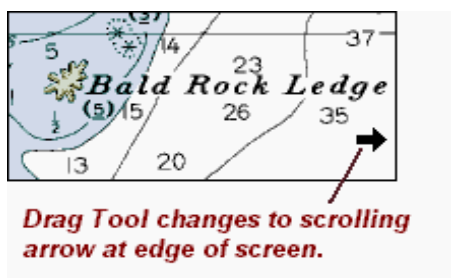
To shift the chart area by half a screen in any direction, hold the cursor at the edge of the screen until the edge arrow appears, and then double-click.

Using the Overview Window
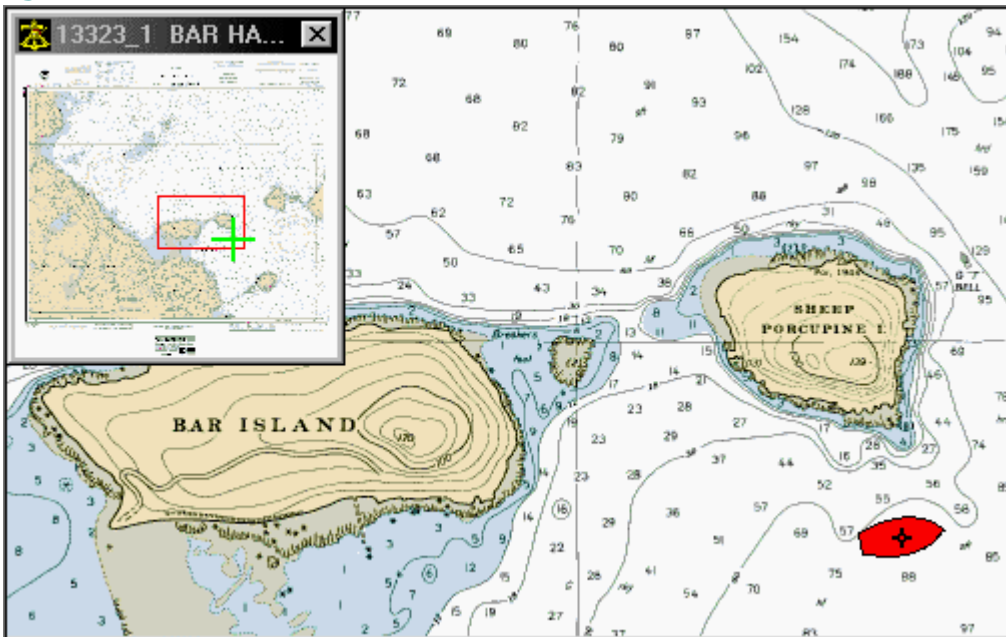
The Overview Window is a smaller, separate window that appears as an inset in a corner of your screen. It shows a thumbnail overview (extremely zoomed-out view) of the chart on display in the main window. A small red rectangle represents your screen, enclosing the area that is being shown in the main window. You can use the cursor to click and drag this red rectangle to any part of the Overview, and the desired area will appear in the main window. This is handy for quickly moving to a distant portion of a chart.

Zooming In and Out
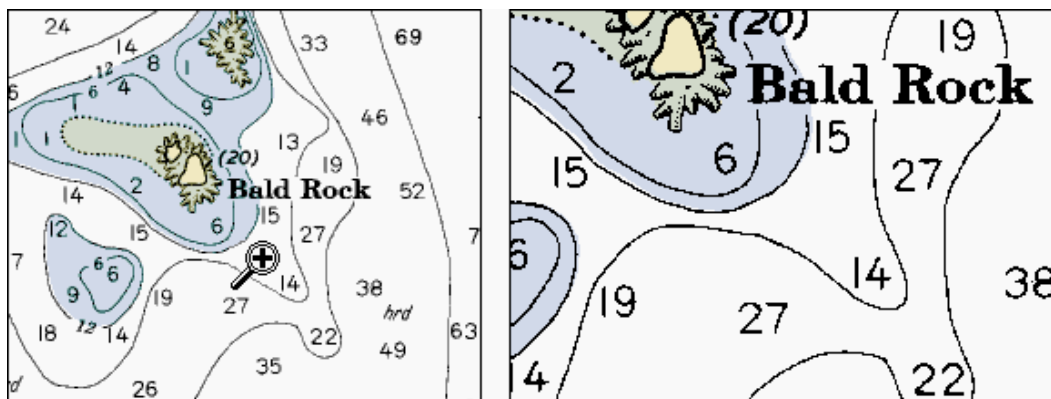
You can view your charts at up to seven different zoom levels. There are several ways to zoom in and out on your charts.

- **Toolbar buttons:** Click on either button to select that tool, then click anywhere on the chart to zoom in/out one level. The point you click will be centered on the screen.

- **View menu:** Select **Zoom In** or **Zoom Out** from the View menu, then click on the chart.
- **Right-click on the chart** and choose **Zoom In** or **Zoom Out**.
- Use the plus and minus buttons in the navigation panel at the bottom of your screen. Plus zooms in, minus zooms out.

Different Scales of Charts

Chances are good that you have more than one chart for the same general area, at different scales. You can switch to a different-scale chart for the area you're viewing. There are several ways to change scales:

- **Toolbar:** Click on either the **Scale In** or the **Scale Out** button to switch to the next available chart (the chart whose scale is closest to the current chart). Click on the **Max Detail** button to go straight to the largest-scale chart (the most detailed scale) available for the area you're viewing.

- **View menu:** Choose **Scale In, Scale Out,** or **Max Detail** from the **View** menu.
- **Right-click on chart:** These commands are also available when you right-click on a chart.
- Use the scale control:

Each colored rectangle represents a chart available for the area you're viewing. Hold the cursor over a rectangle to see that chart's name, ID and scale. Click on a rectangle to switch to that chart.

Automatic Zoom/Scale

As mentioned, there are toolbar controls specifically designed for zooming in and out on the chart you're viewing, and other controls designed to let you switch to a different chart whose scale shows a closer or wider view. The Plus and Minus buttons on the Navigation Panel combine both these features in a single control.

When you press the plus (+) button, Offshore Navigator will move you in closer by a factor of approximately 50% (for roughly twice as close a view). Press the minus (-) button to move farther out from the chart, also by a factor of approximately 50%. This will let you see more area on the screen. In each case, the point at the center of your screen will remain the same.

In adjusting your view, Offshore Navigator will either zoom in/out on the current chart, OR switch to a chart of a different scale. This depends on the zoom level at which you are already viewing the chart, and on the availability of other charts for the area.

For example, if you are viewing a chart at close zoom, you might be better off switching to another chart scale, instead of trying to zoom in further on the same chart. In this case, Offshore Navigator will open a larger-scale chart whose scale best approximates a 50% closer view. (A larger-scale chart covers less area, but provides greater detail.) In other cases, a 50% closer view may be best obtained by zooming in on the chart that's already open.

If you prefer, you can set the plus and minus buttons to adjust zoom level ONLY, or scale ONLY. To adjust this setting, click **View, Options** and select the **General** tab.

Limit of Plus (+) button

For areas where you do not have detailed chart coverage, Offshore Navigator will zoom in to the maximum usable zoom level on the most detailed chart available. If the plus button is grayed out, this means you have already attained the closest view possible for that area.

Limit of Minus (-) button

The smallest-scale chart available is the Maptech World Chart. Zooming out on the World Chart provides the widest available chart view for any area.

Linking Two Charts for One Location
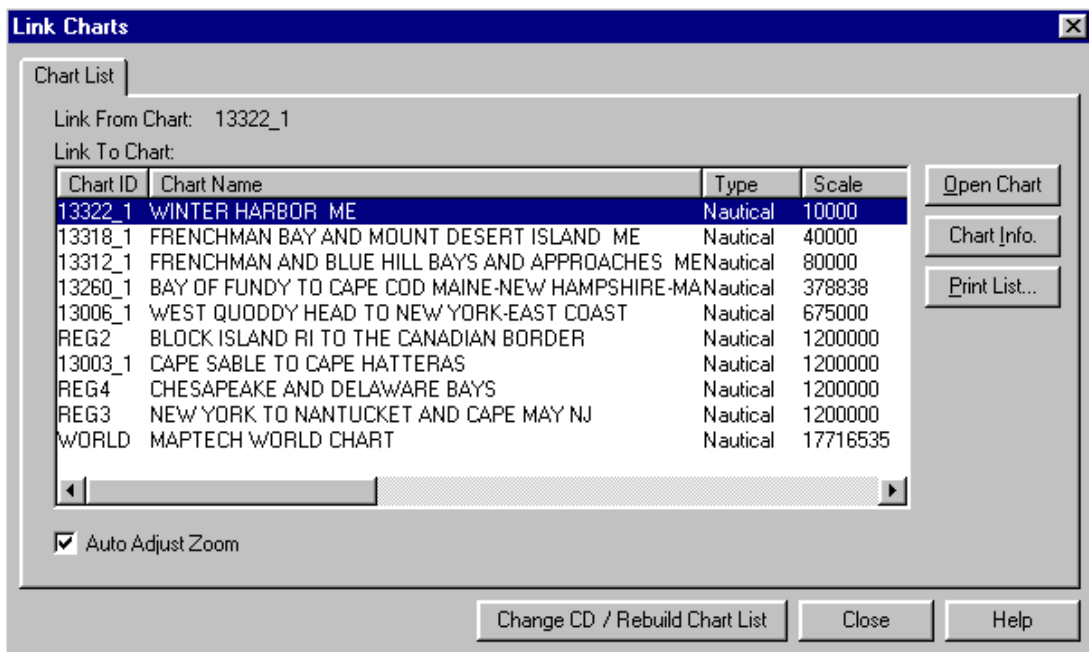
You may already know that if you want to open another chart for the area you're viewing, you can click **Charts, Charts at This Location** and select from a list of charts available for the location you're viewing. If you want to be able to view two charts for the same lat/lon, AND have both charts move/scroll together at the same time, you can *link* the two charts.

To do this, use the Charts menu and choose **Link Two Charts at Location.** A modified Chart List window will appear, listing only those charts that cover the lat/lon of the point at the center of your screen. Highlight a chart title and press **Open Chart,** and the two charts—your original chart plus the one you just opened—will appear side-by-side on the screen. Whenever you scroll or drag one chart, the other chart will follow so that both charts are always centered on the same lat/lon. (Check the **Auto Adjust Zoom** checkbox in the chart list and Offshore Navigator will automatically present the chart at the same zoom level as the chart you were already viewing.)

This lets you view different chart scales for the same area, or view different types of coverage (nautical chart and topographic map, for instance).

Below is a sample of two linked charts—notice that the center of each chart image shows the same geographic location.
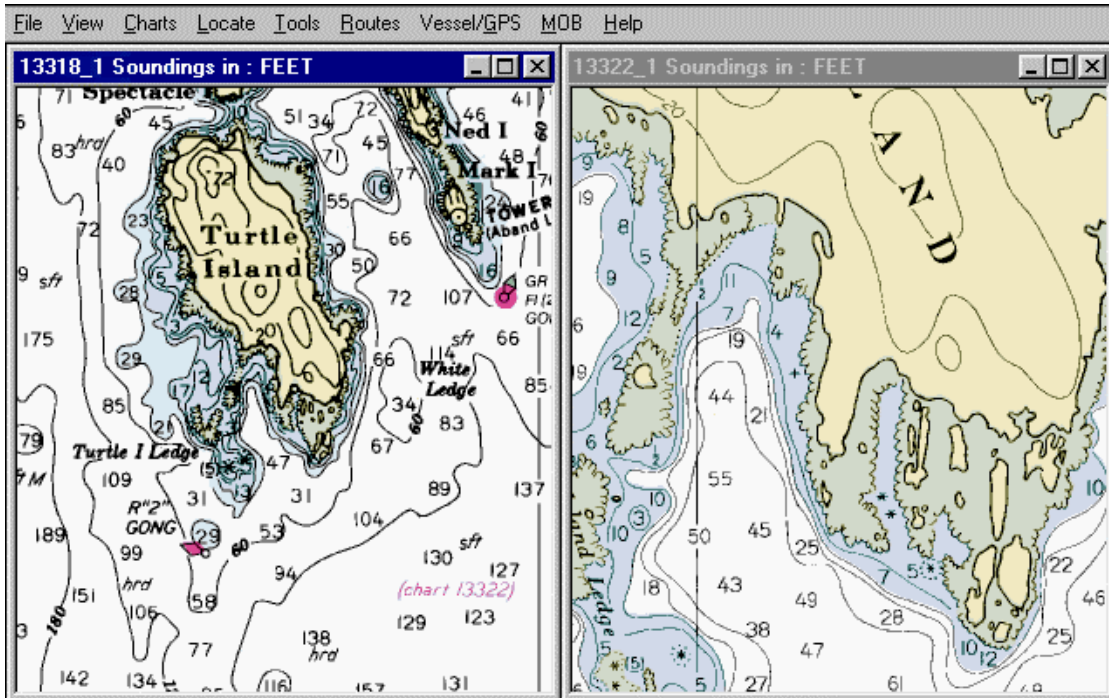
The Vessel

Whether you're planning a trip or already on the water, Offshore Navigator helps you predict or control your vessel's course. A special symbol is used to represent your vessel.
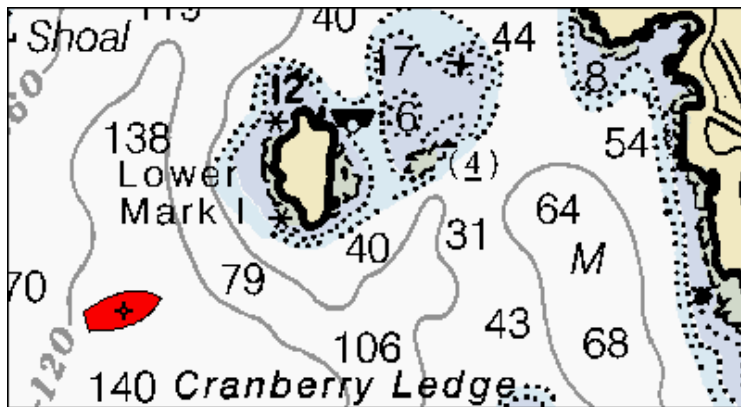
Positioning the Vessel

If your GPS is on and connected, the vessel will be placed at the lat/lon reported by your GPS. You can also position the vessel at any point on the chart, by right-clicking on the chart and choose **Put Vessel Here**.

Locate Vessel

To find the vessel's location and display the chart containing the vessel, use the Locate Vessel command (click the **Locate** button on the toolbar, or choose **Locate Vessel** from the Vessel/GPS menu).

Creating Routes, Setting Course

Offshore Navigator lets you set waypoints on the charts, to mark your destination and planned course of travel. Once you tell Offshore Navigator where you plan to go, Offshore Navigator can provide useful data to help you keep to the plotted course.

"Go To" Feature (FULL VERSION ONLY)

For a direct route to a single destination, create a *Go To*.   A Go To always starts at your vessel, and contains only one waypoint. (This is modeled after the "GOTO" navigation feature provided by most GPS units.) Use a Go To when you want to go directly to a particular location.
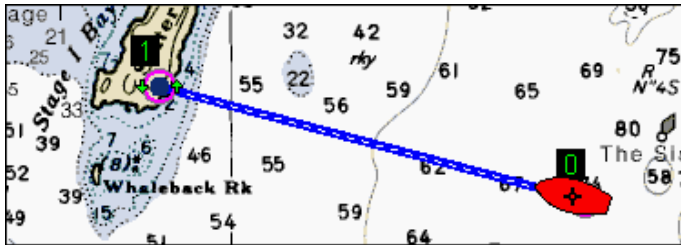
 There are three ways to create a Go To:

- Click the **Create Go To** toolbar button, OR-
- Choose **Create Go To** from the Route menu, OR-
- Right-click on a chart and choose **Create Go To.**

A line appears on the chart, starting at your vessel. The cursor turns into the waypoint symbol. Move the cursor to the location you'd like to go, and click to set the waypoint on the map. (If you know the lat/lon of your destination, right-click and choose **Key in Lat/Lon**, then type the desired coordinates.)

Routes

If you use a GPS, you are already familiar with routes and waypoints. A **route** is a series of locations (**waypoints**), connected in sequence. On a chart, a route is shown as a series of waypoint symbols connected in order by straight line segments.
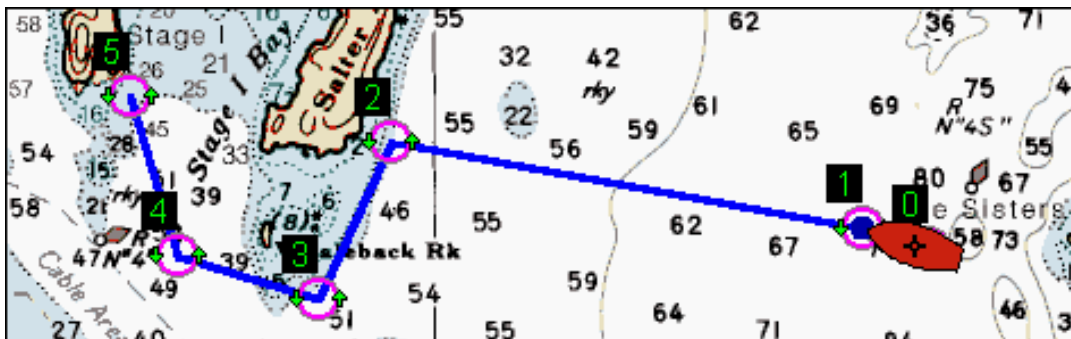
 To create a route:

- Click the **Route** button on the toolbar, OR-
- Choose **Create Route** from the Route menu, OR-
- Right-click on a chart and choose **Create Route**.

Then, click on the chart where you want to set a waypoint. As you click, waypoint symbols are added to the chart and are automatically connected with lines. When you have reached the end of your route and set your final waypoint, right-click and choose **Save.** The cursor changes back to the Drag tool (hand symbol).

To Move a Waypoint

To move a waypoint, hold the cursor over the waypoint until the cursor changes to a cross shape. Then you can click and drag the waypoint to a new location.

To Delete a Waypoint

To delete a waypoint, right-click on it and choose **Delete this Point**.

To Add a Waypoint

Hold the cursor over the route, and when the cursor changes to a cross shape, right-click. Choose **Insert Waypoint at End, at Beginning,** or **in Line.** (If you choose Insert in Line, the waypoint will be placed at the portion of the route where you placed the cursor. The Insert in Line option only appears when you right-click over a *leg* of the route- that is, on the line between two waypoints.)

If you know the lat/lon where you want to place a waypoint, right-click and choose **Insert Waypoint at End** or **at Beginning**, then when the cursor changes into the waypoint-adding symbol, right-click again and choose **Key in Lat/Lon**. Type the desired coordinates in the window provided.

You can change the route name, waypoint symbol and color, line color, etc., and add notes about a route, in the Route Properties window. Right-click on a route and choose **Route Properties** to edit the route.

Following a Route, with GPS
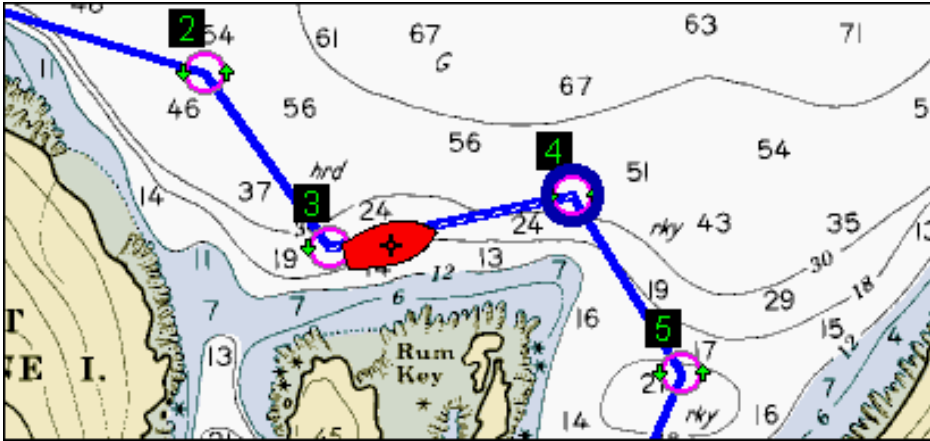
If you use a GPS unit aboard your vessel, you can connect your GPS to Offshore Navigator and see your current vessel position and movement on the charts.

When you install Offshore Navigator software on your computer, the Setup procedure includes a GPS Setup Wizard. The Wizard automatically detects your GPS unit, determines its make and model, and configures Offshore Navigator accordingly. If you skipped the GPS Wizard during initial software setup, you can run it anytime by clicking **Vessel/GPS, Setup, GPS Setup Wizard**.

To start communication between Offshore Navigator and your GPS, choose **Vessel/GPS, Position from GPS**, and your GPS will tell Offshore Navigator where you are. Offshore Navigator will move the vessel icon to indicate your present location, using position data received from your GPS unit. This creates a visual reference so you can immediately see if you need to make corrections to stay on course.

If your vessel is equipped with an Autopilot, you can follow a route using Autopilot (see page 112). You can also use the Simulator to experiment with following routes under different current conditions and vessel speed/heading (see page 111). This lets you see what type of course correction would be required under various conditions, which you specify for each simulation. See page 84 for more about the Simulator.

Keeping the Vessel in View

To keep the vessel in view on your screen, just check the **Follow Vessel** checkbox at the bottom of the chart window. When this is checked, the screen automatically "follows" the vessel icon as it moves. This means that your vessel can't drift out of view: the chart image will update itself to keep the vessel always visible on the screen. This is especially handy when following a route.

Specify Chart-Vessel Orientation

Once you check **Follow Vessel**, you have three chart-vessel orientation options:
- **Relative:** The vessel stays in the center of your screen, while the chart "moves" underneath. (This is Offshore Navigator's default orientation.)
- **True:** The vessel moves across the chart, and the chart only scrolls itself when the vessel nears the edge of the screen.
- **Look Ahead:** Works like Relative, but keeps the vessel at the screen's edge, to maximize your view of chart area ahead in your vessel's path. The chart scrolls while the vessel stays in the same place on your screen.

Remember, in order for the icon to move, you must check either **Position from GPS** or **Position from Simulator** from the Vessel/GPS menu. See page 56 for more details.

Automatically Follow Vessel

To automatically start following the vessel once you bring your vessel icon into view, choose **View, Options, General** and check **Follow Vessel upon Locate Vessel command**.

Monitoring Your Progress with Data Windows
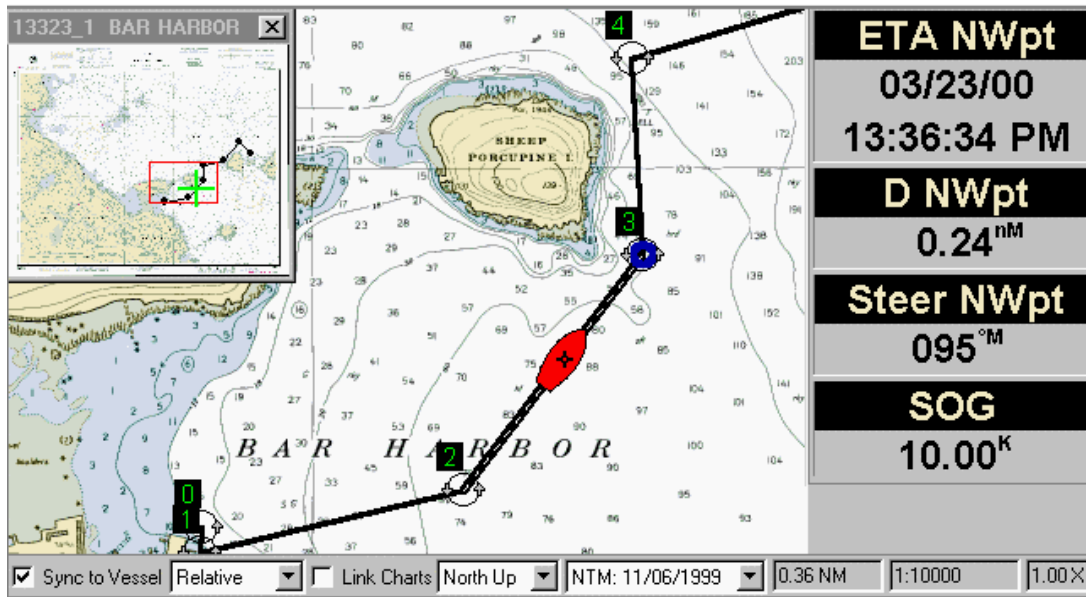
Data windows are designed for quick reference during navigation. The data window panel may be dragged to any area on your screen. Each data window displays a different piece of information—you specify what information you want to see.

Turning Data Windows On and Off

To bring data windows into view, check the **Data Windows** option on the View menu. Uncheck it to turn data windows off.

Configuring Data Windows

To configure your data windows, choose **Vessel/GPS, Setup, Data Windows** (or just right-click on the data windows themselves). There are several kinds of data that you can select for display. See page 65 for more information about using data windows, including a list of available data values.

Creating Marks
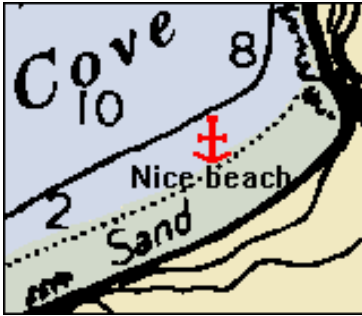
Offshore Navigator lets you add symbols to indicate points of interest on the charts. These symbols are called **Marks**.

Creating a Mark

Press the Mark toolbar button, or click **Tools, Marks, Create Mark**, and then click on the chart at the point you'd like to mark.

Position Marks (FULL VERSION ONLY)

Position Marks are marks you place at your current vessel location. The position mark stays behind on the chart after the vessel icon moves away. Position marks are handy for recording things you notice while you cruise, and for when you want to make a quick note of where you were at a given time. In the Mark List, a Position Mark is indicated by an asterisk (*).

To place a mark symbol on the chart at your vessel location, press the **Position Mark** toolbar button (or click **Tools, Create Position Mark**).

Changing Symbol, Color, Etc.
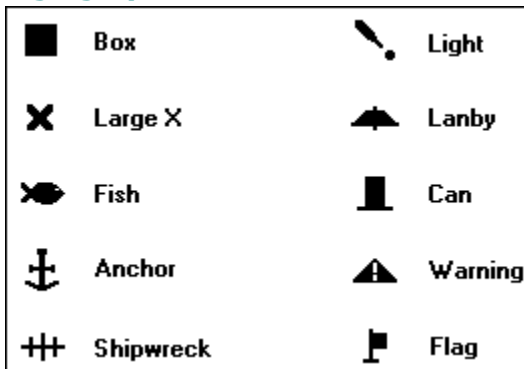
To change settings for how all your marks should look, click **Tools, Marks, Mark List**, and select the **Setup** tab. Several symbols are available. To make changes to one mark at a time, right-click on the mark symbol and choose **Properties**.

Searching for a Specific Mark

Click **Locate, Marks** to find any mark's location on the chart.

Locating Points of Interest

Searching by Place Name

Your Maptech Digital ChartKit may provide an extensive database of Place Names and their chart locations, classified by type. The Place Names database saves you the trouble of scrolling around a chart in search of a particular point. Instead, you can type a keyword and search specific categories of locations: canals, bays, harbors, summits, rivers, reservoirs, etc. These places and categories are taken from the Geographic Names Information System (GNIS) developed by the US Geological Survey (USGS). Offshore Navigator keeps track of each location's coordinates, so that it can instantly display the chart coverage for any location you select.

Locate Place

List | Setup

Region: REG2

Search
For: eliot
Found: 9 Matching Geo. Marks Found.

Prev.
Next
Help

Name	Feature	Lat	Lon
Eliot	ppl	43° 09.183′ N	070° 48.033′ W
Eliot Bridge	bridge	43° 11.433′ N	070° 49.600′ W
Eliot High School	school	43° 07.417′ N	070° 47.300′ W
Eliot Mountain	summit	44° 18.233′ N	068° 16.433′ W
Eliot, Town of	civil	43° 08.817′ N	070° 47.367′ W
Elisha Ledge	bar	41° 26.617′ N	071° 09.517′ W
Elisha Ledge	bench	41° 26.667′ N	071° 09.533′ W
Elishas Pond	lake	41° 41.667′ N	070° 13.750′ W
Elizabeth Hastings Junior High School	school	41° 38.867′ N	070° 53.933′ W
Elizabeth Islands	island	41° 28.750′ N	070° 48.750′ W
Elizabeth Park	ppl	43° 35.633′ N	070° 14.150′ W
Elizabeth, Cape	cape	43° 33.900′ N	070° 11.900′ W
Elizabeth, Lake	lake	41° 38.333′ N	070° 20.000′ W
Ellingwood Rock	island	43° 43.000′ N	069° 45.633′ W
Elliot Street Shopping Plaza	locale	42° 33.383′ N	070° 53.533′ W

Total: 19288

OK | Cancel | Apply

To search for a name, click **Locate, Place Names**, then type a word (or portion of a word) in the Search window. You can also scroll through the Place Names list, or rearrange the order of Place Names by double-clicking on any of the headings (Name, Feature type, Lat, Lon). When you have found your point of interest, press **OK** and Offshore Navigator will take you to that chart location, marking the location for easy identification.

Marine Facilities Search

Your Maptech Digital ChartKit may also provide a Marine Facilities database, which works the same way as the Place Names database.   See 105 for instructions on setting up your Marine Facilities search options.

Setting Your Personal Preferences

Click **View, Options** to adjust your personal preferences for how your charts and data should be presented. The Options window lets you adjust the look and feel of how Offshore Navigator operates.

Chart Display Options
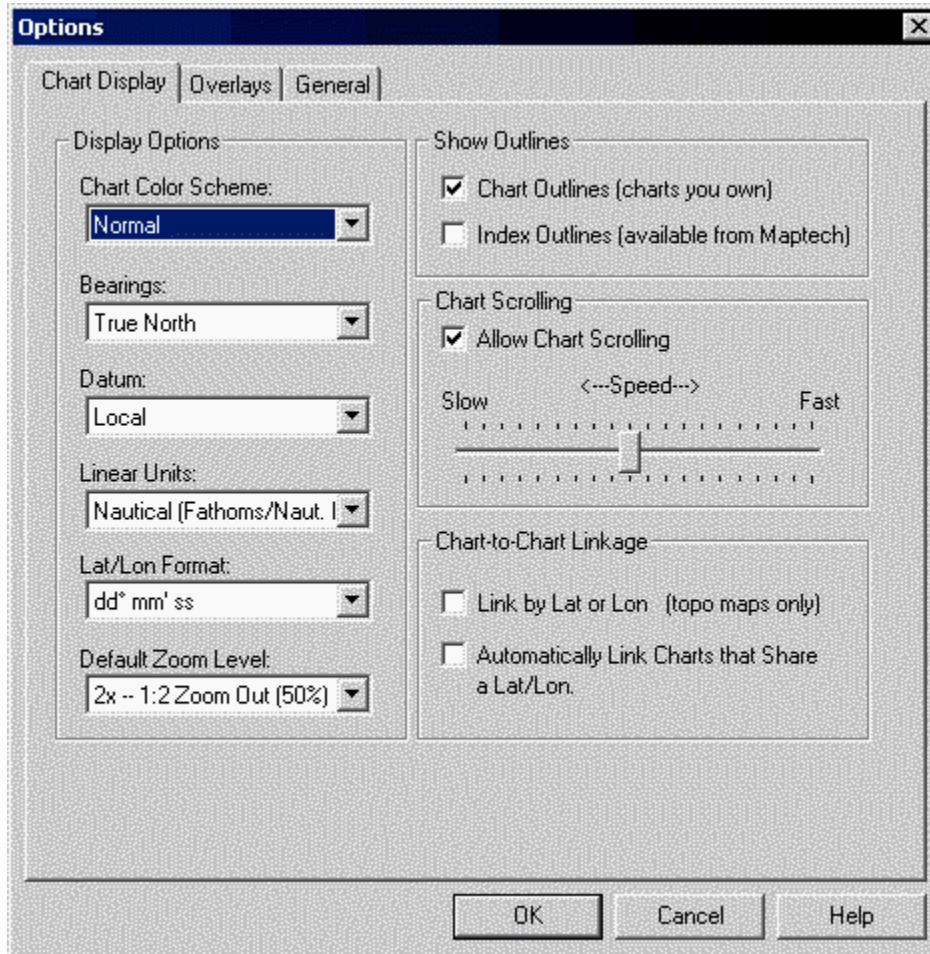
Chart Color Scheme
Six different color palettes are available, all designed to make the charts and controls easier to see in different light conditions. Experiment to find the options that work best for you. **Note:** *This setting will affect your screen display for ALL programs, not just Offshore Navigator. Not available for Windows XP "theme".*

Bearings
Choose whether you would like your bearings displayed in Magnetic North or True North. This setting applies to all readings and calculations in Offshore Navigator.

Datum

Choose a datum in which Offshore Navigator should display lat/lon. Choose **WGS84** and all lat/lons will be given in WGS84 datum. Choose **Local** and Offshore Navigator will display coordinates in whatever datum was originally used to create this particular paper chart. (You can find out a chart's datum by right-clicking on the chart and choosing Chart Information.)

Linear Units

Linear measurements can be given in **nautical** (nautical miles and feet for distance, knots for speed), **statute** (statute miles and feet for distance, miles per hour for speed), or **metric** units (kilometers and meters for distance, kilometers per hour for speed). This setting affects all windows or readouts where data is displayed or entered.

Lat/Lon Format

Offshore Navigator can display latitude/longitude readings in four ways:

Degrees Minutes Seconds (DD^O MM' SS")

This coordinate system displays locations in Degrees, Minutes, and Seconds. For example, in Deg. Min. Sec. the location of Maptech's New Hampshire office would look like this:

43º 02' 08" N 070º 50' 36" W

Degrees and Decimal Minutes, carried out three decimal places: **(DD^O MM.mmm')**

This is the default coordinate system in Offshore Navigator and is commonly used with GPS systems. It is like Deg. Min. Sec. except that the seconds are replaced by fractions of minutes (the digits to the right of the decimal point).

Maptech's NH Office Location:

43º 02.141' N 070º 50.596' W

Degrees and Decimal Minutes, carried out four decimal places: **(DD^O MM.mmmm')**

The same format as the previous example, but carried out one more digit for more specific readings.

Maptech's NH Office Location:

43º 02.1411' N 070º 50.5957' W

Degrees/Minutes and Decimal Minutes (DDMM.mmm')

This is just like Degrees and Decimal Minutes, except that there is no space between the degrees and the whole minutes. The minutes are carried out to the third decimal place.

Maptech's NH Office Location:

4302.141 N 07050.596 W

Default Zoom Level

When you first open a chart, it will be presented at whatever zoom level you select here.

    1x: 100%, or 1:1 zoom (original image)
    2x: 50%, or 1:2 zoom.
    4x: 25%, or 1:4 zoom.
    8x: 12.5%, or 1:8 zoom (maximum zoom-out)

Chart Outlines

Chart Outlines are black, rectangular outlines that indicate areas covered by larger-scaled Maptech charts. To find out the chart's ID and scale, hover the cursor over any corner of the outline. This highlights the outline in green for easy visibility, and the chart's ID and scale are displayed in a small popup window. To open the chart, double-click the outline's corner.

Chart Outlines are shown on the World Chart and in any other area for which larger-scaled charts are available.

Chart Outlines.
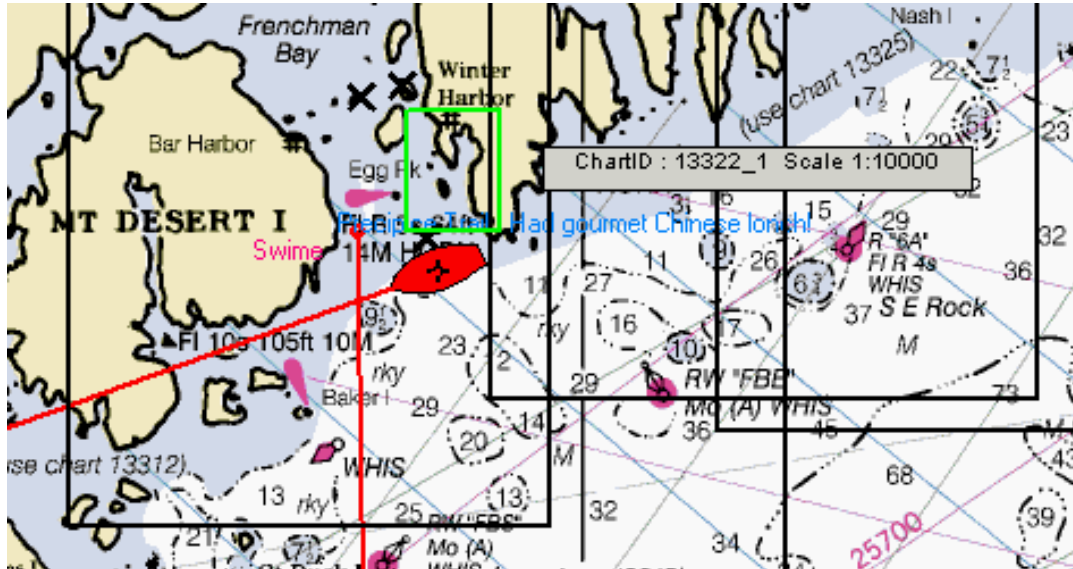
Index Outlines

Like Chart Outlines, Index Outlines are rectangles that indicate areas covered by Maptech charts. While *Chart Outlines indicate charts that you already own, Index* Outlines show chart coverage that is available from Maptech, but not installed on your system. Index Outlines let you see what other charts are available for a particular area of interest. Index Outlines are color-coded by region, so you can discern each ChartKit region's coverage area.

Chart Scrolling

When you hold the drag tool near the edge of the screen, the cursor changes to an arrow symbol. By holding down the left mouse button, you can scroll the chart. Use this lever to control the speed at which charts are scrolled.

If you don't want the cursor to change into the scrolling arrow when placed at the screen's edge, uncheck the **Chart Scrolling** checkbox.

Note: Another way to increase scrolling speed is to try switching to 16-bit color (decreasing color resolution from 32-bit to 16-bit). Use the Windows Control Panel to adjust this Display setting (from the **Start** menu, choose **Settings, Control Panel, Display, Settings, Colors**). You may also try **256 Colors** if necessary.

Chart-to-Chart Linkage

Offshore Navigator allows you to *link* charts: simultaneously display two or more charts that have a common lat/lon location. This lets you view different chart scales for the same area, or view different types of coverage (nautical chart and topographic map, for instance). As you move the chart with your mouse in one window, the chart in the linked window will automatically scroll to mirror that movement.

Link by Lat or Lon: Allows you to link two topographic maps that share EITHER the same latitude OR the same longitude. *(IMPORTANT: For safety reasons, it is NOT recommended that you use this linking method for two nautical charts.)*

Automatically Link Charts that Share a Lat/Lon: This setting affects the charts you open from the Navigation Panel. When this option is checked, clicking on another chart rectangle in the Navigation Panel will open that new chart in an additional window. To view the two linked windows together, press the **Tile Vertically** or **Tile Horizontally** toolbar buttons.

Overlay Options
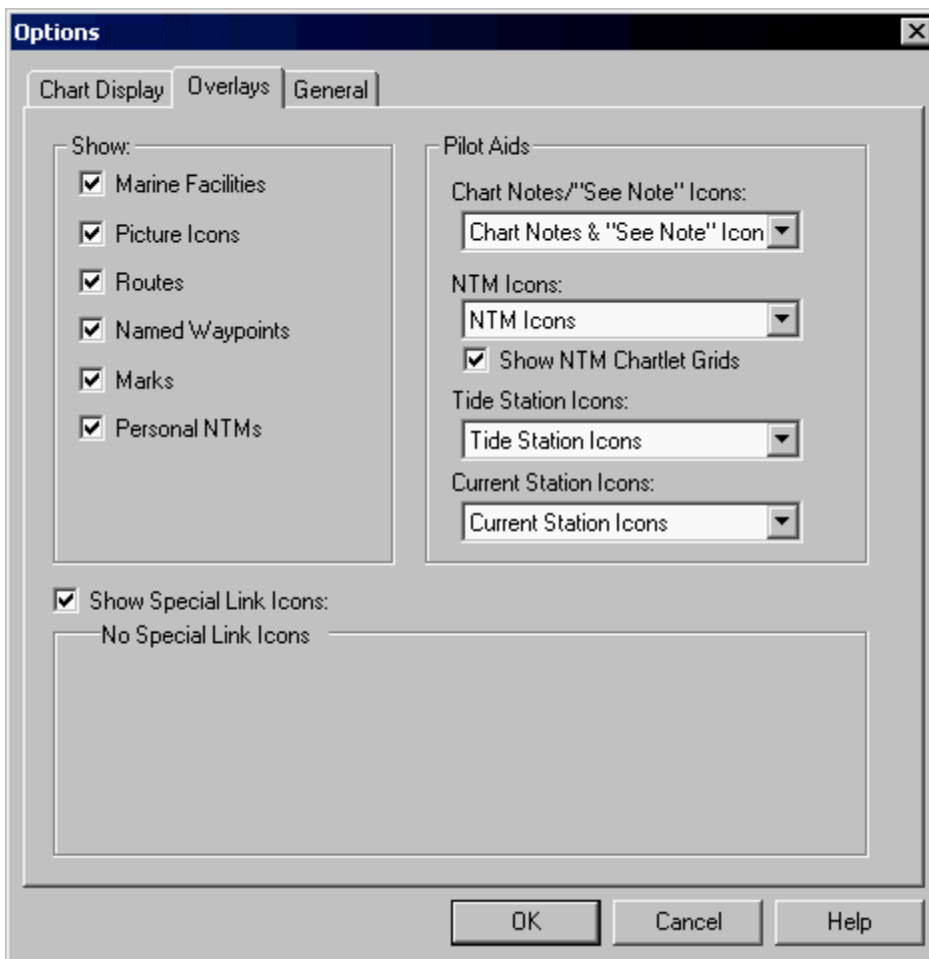
Overlays

If your chart image is getting too "cluttered" with overlays, uncheck any of these options. All overlays of the type(s) you check will be removed from view.

Chart Notes

Chart Notes are text notes made by the cartographer in creating a particular chart. A Note might refer to areas where special caution is needed, or it might draw your attention to some important data. To read a list of all Notes on the chart you're viewing, click **Charts, Chart Notes**. You can then click on any Note to read it in full.
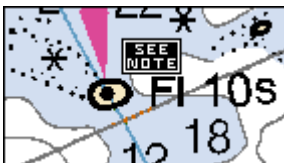
The chart image itself may include text captions to indicate some of the areas mentioned in Notes, but usually there are several areas that are not specially marked on the charts. Offshore Navigator can mark ALL note areas with "See Note" icons, to draw your attention to each area. You can either click **Charts, Chart Notes** to find a particular note, or you may hover the cursor over any "See Note" icon and the corresponding Note text will appear in a popup window.

If you would like to remove these "See Note" icons from view, click **View, Options, Overlays** and under Pilot Aids, Chart Notes/"See Note" icons, select **none**. (Even though the area won't be marked by a "See Note" icon, you can still hover the cursor over a Note area to read the related note.)

NTM Icons

(For subscribers to Maptech's Notice-to-Mariners Chart Update Service)

Locations of Notice to Mariner updates can be marked by red circles on the charts. Check this option to display these NTM icons and/or include the NTM labels.

NTM Chartlet Grids

(For subscribers to Maptech's Notice-to-Mariners Chart Update Service)

Areas that include one or more NTM changes can be marked off by NTM *chartlets*: yellow rectangular grids. (This feature is useful when applying corrections to your paper charts, helping identify the chart areas over which the new chartlets should be pasted.)

Tide Station Icons

Maptech ChartKit CDs edition 3.0 and higher contain extra data on tide measurements at specific points, called tide stations. Tide tables are available for each tide station, so you can predict tides many months in advance.

These stations can be marked by icons on the charts. The icons' appearance changes to indicate whether the tide is ebbing or flooding, and the icons also note the approximate maximum tide height at each station.

Under **Tide Station Icons**, choose whether to include icons and/or their labels on the charts. (The label appears underneath the icon and tells the station name.)

Current/Tidal Stream Station Icons

Maptech ChartKit CDs edition 3.0 and higher include extra data on current speed and direction measurements, taken at specific points called current /tidal stream stations. (For charts produced by the British Admiralty, the preferred term is *tidal stream*.) These stations can be marked by icons on the charts.

The icons' appearance changes to show whether the current is ebbing or flooding. Right-click on an icon to view the current table and information about each current station.

Under **Current Station Icons**, choose whether to include icons and/or their labels on the charts. (The label appears underneath the icon and tells the station name.)
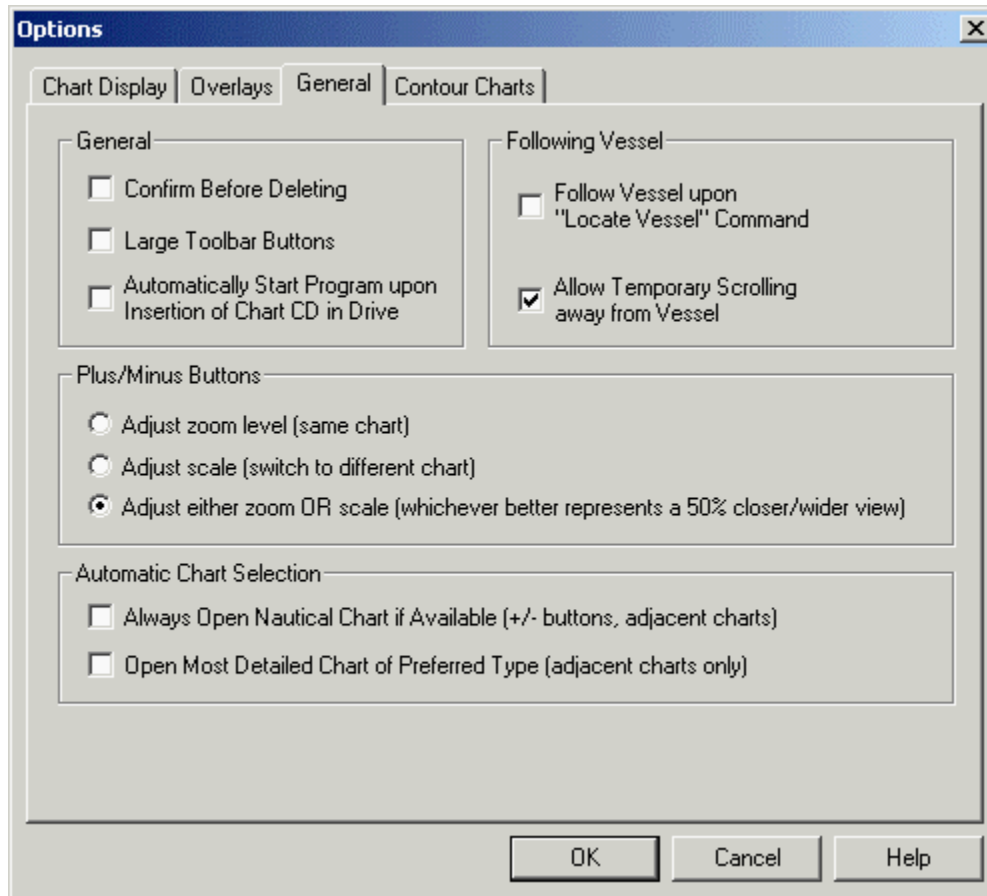
General Options

Confirm Before Deleting

Check **Confirm Before Deleting**, and every time you tell Offshore Navigator to delete something (a marker or route, for example), you'll be asked if you're absolutely sure before Offshore Navigator actually deletes the item. This is a good safeguard if you're afraid you might accidentally delete something important.

If you would rather not be prompted to confirm your decision each time you delete something, uncheck this checkbox.

Large Toolbar Buttons

For help distinguishing the different toolbar buttons. The buttons are enlarged and labeled. (The example button pictures throughout this Help system are all shown in Large format.) If you don't need large buttons, turn this option off to gain a little more chart-viewing space.

Automatically Start Program upon Insertion of Chart CD in Drive

Check this box, and Offshore Navigator will automatically start whenever you insert a Maptech ChartKit CD in your CD drive.

Following Vessel

Check here and the chart display will "follow" the vessel as it moves, so that the vessel icon is always visible on the screen. If your vessel leaves the area of the chart you're viewing, Offshore Navigator automatically opens an adjacent chart.

Follow Vessel upon "Locate Vessel" Command: Check here if you want to automatically Follow the vessel whenever you give the **Locate Vessel** command (see page 20).

Allow Temporary Scrolling away from Vessel: Checking this option lets you scroll away from the vessel icon (even though **Follow Vessel** is checked), and gives you a few seconds to look around before the screen view returns to the vessel. This option is handy because it lets you explore nearby chart areas, while still keeping an eye on your vessel location.

Plus/Minus Buttons

The Plus and Minus buttons on the Navigation Panel allow you to adjust zoom level and/or chart scale. Changing zoom level means changing the magnification of the chart you're viewing. Changing chart scale means switching to another chart entirely in order to get a more detailed/wider view.

You can choose whether the buttons should affect **zoom level only, chart scale only**, or whether the buttons should automatically "decide" whether to change **zoom OR scale**. If you choose this last option, Offshore Navigator will do whatever better represents a 50% adjustment in your chart view. Sometimes this will mean zooming in/out on the same chart, and sometimes you'll be switched to another chart scale. In either case, the chart image will automatically be centered on the point of interest.

Note: The plus/minus buttons in the Navigation Panel aren't the only buttons you can use for zooming and scaling. They're just the only buttons that you can configure for either function. The toolbar along the top of the Offshore Navigator window offers dedicated zoom and scale buttons, and you can also right-click anywhere on a chart and choose zoom/scale options from the popup menu.

Automatic Chart Selection

When the Follow Vessel checkbox (bottom of chart window) is checked, the screen "follows" the vessel as it moves, so that the vessel icon is always visible. If your vessel leaves the chart that you're viewing, Offshore Navigator automatically opens an adjacent chart.

Open Most Detailed Chart Available: When you reach the edge of one chart, Offshore Navigator will always open the largest-scale (most detailed) chart available for the area you have entered.

Always Open Same Chart Type (as previous): Whenever Offshore Navigator opens an adjacent chart, it will always be of the same type you're already viewing. (For example, if you are viewing your vessel location on a Navigation Photo, checking this option will cause Offshore Navigator to open only Navigation Photos as it follows the vessel's progress.)

Always Open Nautical Chart: In following the vessel on its course, check here if you want Offshore Navigator to open and display only nautical charts (i.e. no topographic maps, no Navigation Photos, etc.). (See Chapter for more about different chart types.)
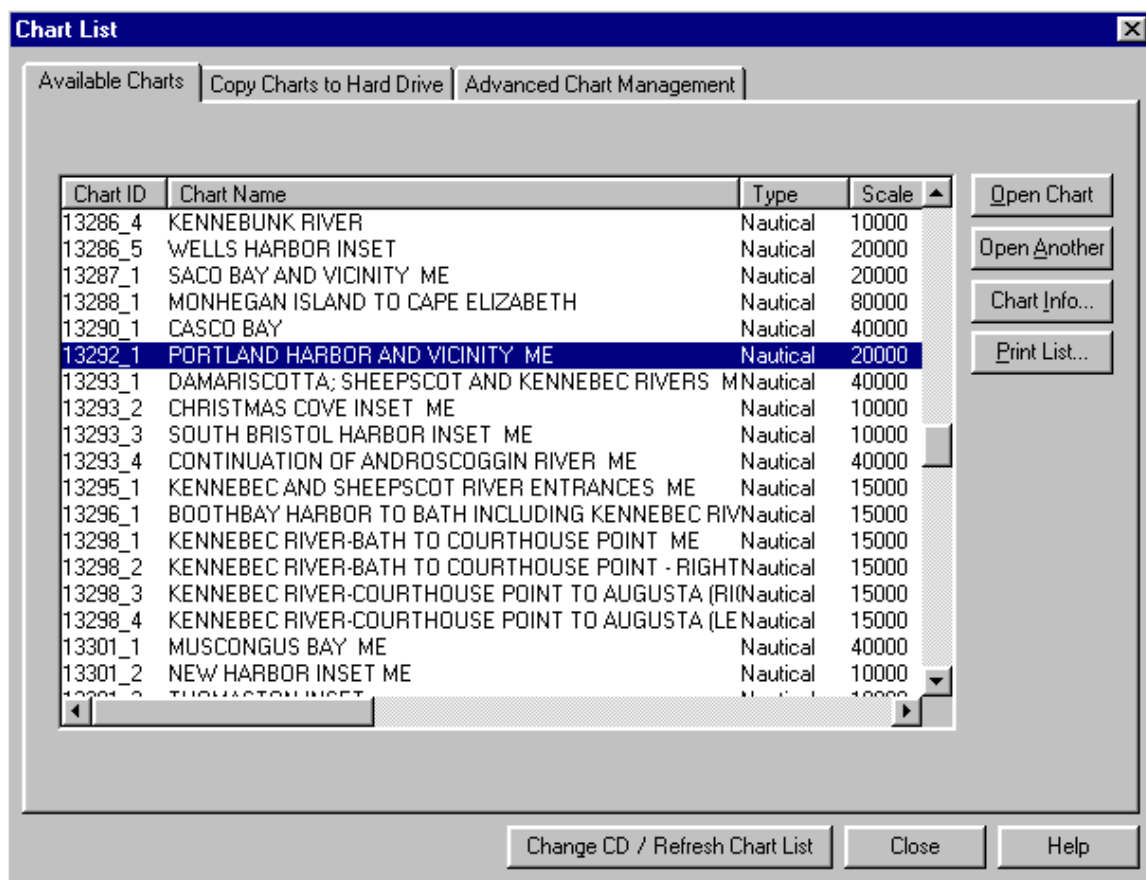
Contour Chart Options

If you have installed contour charts, a fourth tab appears in the Options window. For more information on contour charts, see page 46.

The Chart List

The Chart List shows all charts immediately available for viewing. To view the Chart List, press the Chart List button, or click **Charts, Chart List**.

To open a chart, highlight the title and press **Open Chart** (or simply double-click the chart title).

Refresh the Chart List Whenever You Insert a CD

The Chart List may include charts on a CD or charts stored on your hard drive. If you are viewing charts from CD, then any time you insert a chart CD while Offshore Navigator is running, you must *refresh the Chart List.* Click **Charts, Change CD/Refresh Chart List**, or press the **Refresh** button in the Chart List window. This will tell Offshore Navigator that you have inserted a new CD, and Offshore Navigator will scan the CD and add those charts to the Chart List, so they will be available for use.

Rearranging the Order in which Charts are Listed

You can arrange charts in order by ID, Name, Type, Scale, or any other heading (see below for information on columns that aren't visible in the graphic on this Help page). Simply click the heading at the top of the column, and the chart list will rearrange itself automatically.

For example, to place all the charts in alphabetical order, click on the **Chart Name** heading at the top of the chart name column. This will arrange the charts in order from A to Z. To reverse the order (that is, to list charts from Z to A), simply click on the **Chart Name** heading again.

Information Shown for Each Chart:

In addition to the **Chart ID, Name, Type** and **Scale** (as shown in the graphic above), there are several other pieces of information available for each chart in the list. Use the scroll bar along the bottom of the chart list window to find the following types of information:

- **Rev Date:** The date when this chart was last revised. (See Edition, below.)
- **Prod Date:** This field is available for certain kinds of data only. It indicates the date the chart or map was created.
- **Edition:** The edition number of this chart. (For example, as NOAA chart coverage of a particular region is revised over time, a new edition is printed after each revision.)
- **NTM Edition:** If any Notice to Mariner changes have been applied to this chart, the edition of the most recently applied changes is given here.
- **Agency:** The agency that created the original paper chart that was scanned into electronic format.
- **Mag Var:** The magnetic variation for the chart. (magnetic variation is the number of degrees by which Magnetic North differs from True North. This figure changes depending on location.)
- **Full Path:** Gives the precise directory location of this chart (whether it is on a CD or hard drive).

Chart Management Options (other tabs in this window)

Other Chart Management options are available, from different tabs in the window pictured above. You can copy charts to your hard drive, and use the Advanced Chart Management options to manage your chart storage.

Copying Charts to Hard Drive
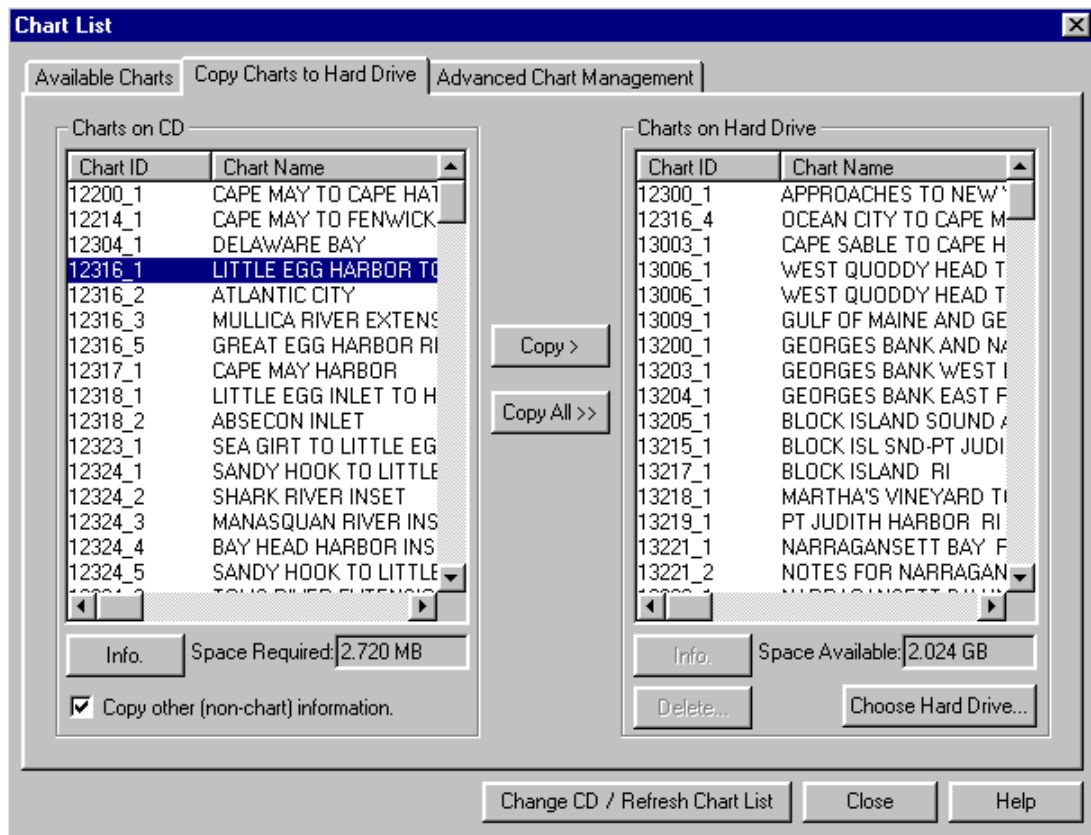
Offshore Navigator offers you several Chart Management options, including the ability to copy charts to your hard drive.

Why Copy Charts to My Hard Drive?

Copying charts to your hard drive provides faster display capability. It also saves you the need of keeping CDs on hand, and the trouble of switching them in and out of your CD drive. If there are charts you plan to use frequently, you'll probably want to copy them to your hard drive. This window is designed to let you do this quickly and easily.

Copying Charts: Step by Step

1. Insert a Maptech chart CD in your CD drive.
2. From Offshore Navigator's Charts menu, choose **Chart List**.
3. Select the **Copy Charts to Hard Drive** tab.
4. If the charts on the CD do not appear in the "Charts on CD" list on the left, press the **Change CD/Refresh Chart List** button and the charts will be added to the list.
5. Click on the chart titles to highlight the ones you want to copy to your hard drive.
    *   **Highlight multiple charts at once.** To highlight several charts in a row, hold down the Shift key on your keyboard while you click on charts (all the charts between the ones you have clicked will automatically be highlighted). To highlight several charts scattered through the list, hold down your Control key while you click on the charts you want.
    *   **Get details about a particular chart.** Use the scroll bar at the bottom of each chart list to see various details about each chart, including edition number, revision date, NTM information, etc. (The information available here is also provided in the **Chart List**: refer to the Chart List help topic for further explanations of the types of information available.) You can also get details about a chart by highlighting it and pressing the **Info** button.

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- **Space Required.** As you select charts to copy, the **Space Required** figure at the bottom of the window shows you how much disk space you'll need for the charts you have selected. This number will change as you select additional charts.

6. When you have made your selections, press the **Copy** button in the center of the window. The charts will now be copied to the hard drive you have specified.

Copying the Entire Contents of a CD

In addition to charts, certain Maptech chart CDs may also contain non-chart data, such as GNIS (Geographic Names Information System) Place Names data, Tides and Lights information, Coast Pilot Help, Symbols Help, marine facility information, etc. Copying this data to your hard drive will allow you access to it whenever you like, without needing the CD.

To copy everything contained on a CD (all charts and other non-chart information): Press the **Copy All** button in the center of this window.

To copy all the charts on a CD, but no additional data: Instead of using the **Copy All** button, use the Shift key on your keyboard to highlight all charts in the list. (Highlight the first chart in the "Charts on CD List" and, holding down the Shift key, scroll to the last chart at the bottom of the list and highlight that chart. All the charts in between will automatically be highlighted.) Then press the **Copy** button.

Changing the Default Hard Drive

When you use this **Copy Charts to Hard Drive** feature, your charts are automatically copied to a particular hard drive on your machine. This is your **default** hard drive.

If you have multiple hard drives, you can tell Offshore Navigator which one to use for storing the charts. Press the **Choose Hard Drive** button to specify a different drive.
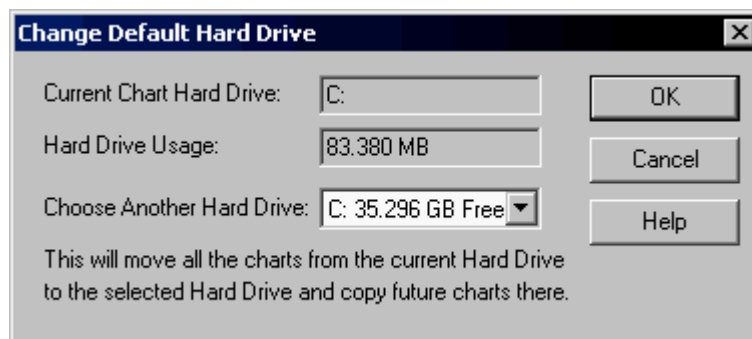
Note: When you choose a different hard drive to use as the default drive, all the charts that are stored on your current default drive will be moved to the new default drive.

Current Hard Drive Usage tells you how much space your charts are taking up on your current hard drive. All other available drives are listed, along with the amount of space available on each.

You can change the default hard drive whenever you wish, by pressing this **Choose Hard Drive** button.

This **Copy Charts to Hard Drive** feature is designed to provide a quick and easy way of transferring charts from a CD to your machine. Once charts have been copied to your hard drive, you can rearrange your chart storage if you like, using the Advanced Chart Management options provided.

For details on copying Contour Charts to your hard drive, see page 51.

Advanced Chart Management
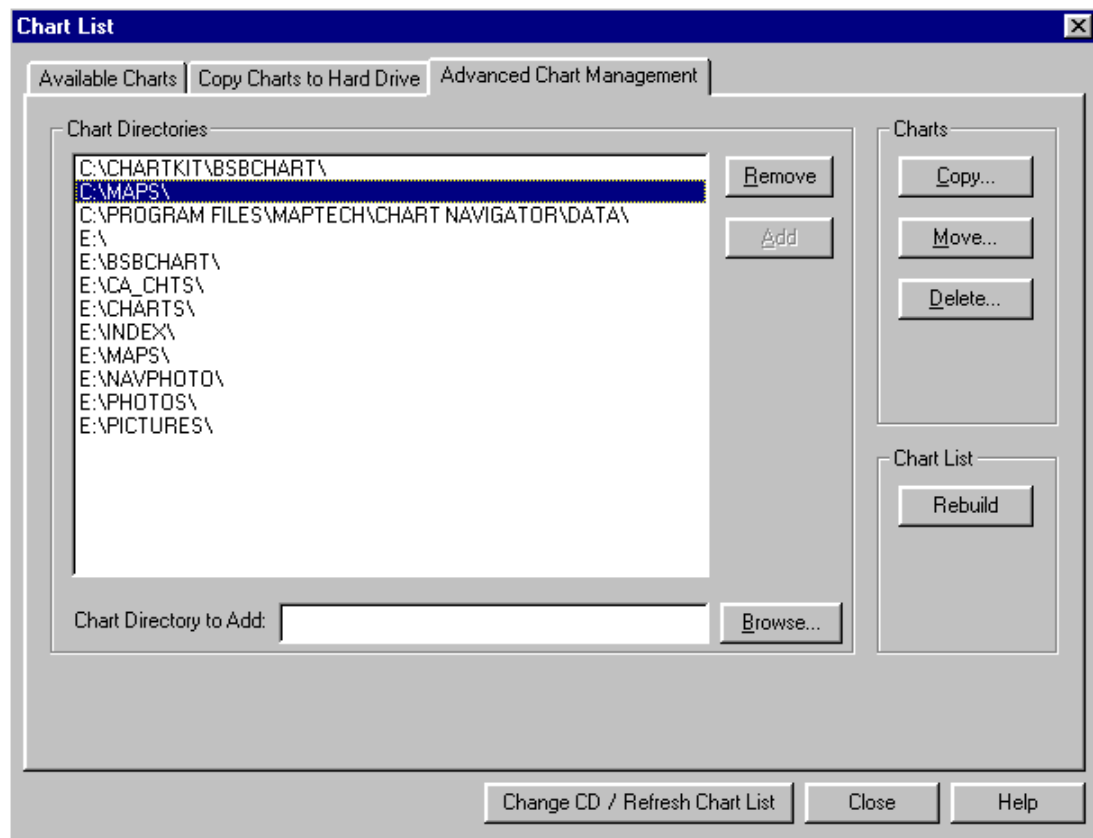
The Advanced Chart Management feature is designed to let you manage your chart storage.

The directories shown in this list are scanned by Offshore Navigator when building the Chart List. Every chart in each of these directories will be included in the chart list. (For the directories on the CD drive, you must remember to give the **Change CD/Refresh Chart List** command so that Offshore Navigator will scan the CD drive's directories.)

By manipulating the directories in this list, you can control what charts are included in the Chart List. You can create new directories, remove directories, and move charts from one directory to another.

- **Remove:** Highlight a directory in the list and press **Remove** to remove it from the list. This will not delete the directory or its contents, but it will no longer be scanned into the Chart List. You will need to add it back to the chart list in order for access to those charts.
- **Add:** When you have specified a new chart directory in the Chart Directory to Add window, press the **Add** button to add it to the directory list.
- **Copy:** Lets you copy charts to any new location. Highlight a directory and press **Copy**. A list of that directory's charts will be displayed. In this new window, select a chart(s), press **Copy** again, and choose a target directory where you'd like the copy to be saved.
- **Move:** Works just like the Copy button (described above), but moves a chart to a new location instead of just copying it.
- **Delete:** Highlight a directory and press Delete, and you will be presented with a list of that directory's charts, from which you can select the ones you want to delete.

- **Chart Directory to Add; Browse:** Lets you specify or create a new chart directory. Once you select the new directory, you must press the Add button (see above) to add it to the list of chart directories.
- **Rebuild Chart List:** The Rebuild button will rebuild the Chart List from the ground up, reading through all your chart directories and any CD(s) present in your drive(s). (CDs not present during the Rebuild will be scanned the first time they are inserted after the Rebuild.)

  The Rebuild feature is intended primarily for use as a diagnostic tool. If you suspect that your list of available charts is corrupt, performing a Rebuild will solve the problem or eliminate the possibility.

Chart Information

Click **Charts, Chart Information**, or right-click on the chart image and choose **Chart Information**, to get data about the active chart.

The samples above show the different information provided for nautical charts, topographic maps, and Navigation Photos.

- **ID, scale, and name** of the active chart. For nautical charts, the ID is assigned by NOAA (or in some cases, by Maptech). For topographic maps, the ID is assigned by the USGS. The characters in the ID correspond to the latitude/longitude of the coverage area, the type of coverage, and the scale. For Navigation Photos, this ID is assigned by Maptech. Each chart has a unique ID.
- **Agency:** The agency that created the original paper chart that was scanned into electronic format.
- **Navigation Photo Path:** The directory location where this Navigation Photo chart is stored.
- **Edition:** The edition number of this chart. As NOAA's nautical chart coverage of a particular region is revised over time, a new edition is printed after each revision. USGS topographic maps are not assigned edition numbers, so for a topo map, this field will always be "None." For Navigation Photos, the Edition number corresponds to the release of the CD containing this Navigation Photo chart. (Edition 1 indicates that this chart image is from the first CD release for this Navigation Photo region.)

- **Date:** The date when this chart (paper original) was issued.
- **Production Date:** For topo maps, this is the date that the map was initially created by the USGS. For Navigation Photos, this is the date that Maptech produced the Navigation Photo CD containing this image.
- **NTM (Notice to Mariners) Edition:** For subscribers to Maptech's Chart Update Service. The Chart Update Service uses electronic chart patches to keep electronic charts as current as their paper equivalents. The NTM Edition tells you the paper chart edition to which this electronic chart now corresponds. (Since topographic maps do not receive NTM updates, in the case of topographic maps this field will always be blank.)
- **Projection:** The projection used in creating the paper original of this chart.
- **Depth Units:** The unit of measurement for depth readings printed on a nautical chart. In the case of topographic maps, the "depth units" field refers to the units of measurement of the elevation readings shown on the map image. For Navigation Photos, this field is blank, since Navigation Photo charts do not contain depth or elevation readings.
- **Estimated Magnetic Variation:** The degree of magnetic variation for the chart. The magnetic variation figure is the number of degrees by which Magnetic North differs from True North. This figure changes from location to location, depending on the distance and relative bearing to the magnetic pole, and local magnetic disturbance.
- **Datum:** The datum used in creating this chart.
- **Navigation Borders:** The lat/lon for the four corners of this chart's navigable area. (Excludes notes in margins, legends, etc.)

Chart Notes List
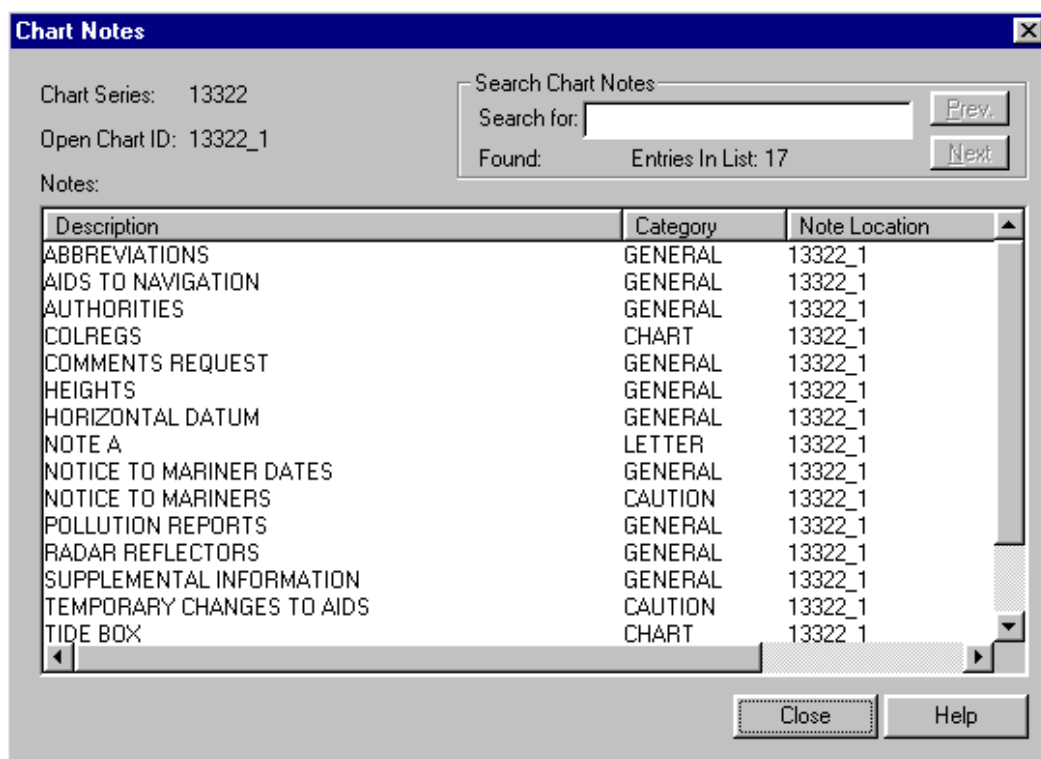
As you know, paper nautical charts don't always contain perfectly rectangular chart areas. In addition to navigable cartographic data, other information (such as notes, legends, etc.) can occupy much of a printed chart.

For safety reasons, non-navigable areas of a chart aren't included in the on-screen display in Offshore Navigator. To view the non-cartographic data, click **Charts, List Chart Notes** (or right-click on a chart and choose **List Chart Notes**). A window will appear, listing the additional pieces of information included on the paper version of this chart. To read any note, double-click it.

You can also hold your cursor over a **See Note** icon, and the corresponding note will appear on the screen. (To make sure See Note icons are included in the chart display, click **View, Options** and check **Show See Note Icons**.)

Charts at Your Location
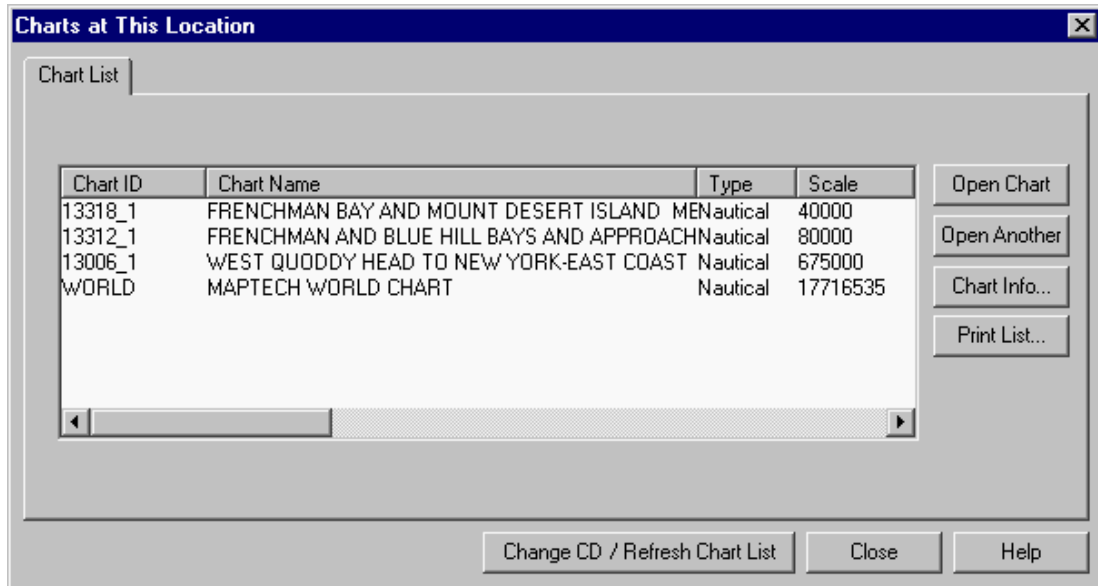
To see a list of the chart titles available for the location you're viewing, choose **Charts, Charts at This Location**. A modified Chart List window will appear, listing all the charts that share the lat/lon of the point at the center of your screen. To switch to one of these charts, highlight the chart and press **Open** (or double-click the chart title).

If you want to open one of these charts *in addition to* the chart you're already viewing, press **Open Another.** This will open the chart in a separate window, without closing your original chart. If you like, you can link the two charts together, so that the two charts will scroll together at the same time: as you move around on one chart, the other chart will mirror your movements.

Printing Charts

Print

Click **File, Print** to print the chart area you're viewing on the screen. This is a one-step process, so you don't need to make any selections or specifications.

The center lat/lon of the area you're viewing will be the center of your printout. Everything you see on the screen will be included in the print, plus some extra chart area as needed to fill the paper. Paper orientation, print quality, and other settings will correspond to the settings in the Print Setup window.

The printout will include the chart name, chart ID, and the coordinates of the top left and bottom right corners. This information will be printed along the bottom of the printout. Latitude/longitude rulers will be printed around the border of the chart.

If you want to print a larger portion of a chart, use the **Print Chart Packet** command.

Print Chart Packet
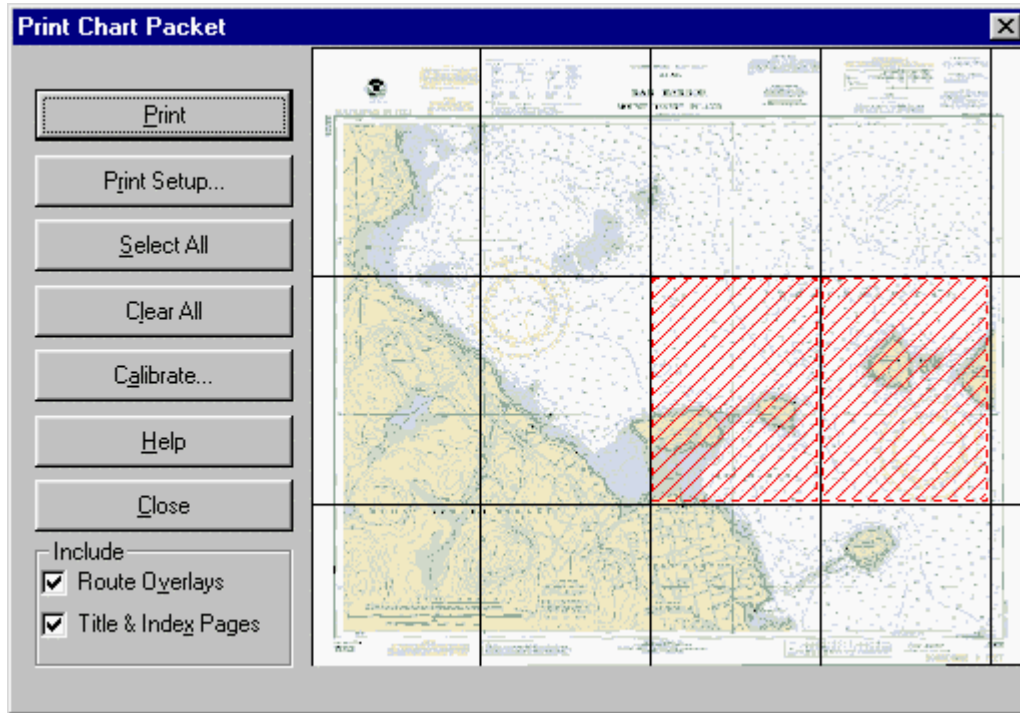
When you choose **Print Chart Packet** from the File menu, this window appears, showing an overview of the active chart, with a grid superimposed over it. Each rectangle in the grid represents the area covered by a sheet of paper. (The size and/or shape of these rectangles will change if you switch your printer to a different paper size.)

Click to highlight the areas you'd like to print. The area highlighted above would be printed on two sheets of paper. If you'd like to print the entire chart, press the **Select All** button. To clear all highlighting, press **Clear All.** When you have made your selections, press **Print.** The chart image is printed at the same scale and resolution as the original paper chart.

- **Print:** When you have made all your selections, press the Print button to start printing.
- **Print Setup:** Press Print Setup to make adjustments to your printer settings (paper size and orientation, for example).
- **Select All:** Highlights every grid in the chart overview window at right. This selects all chart sections, so the entire chart will be printed.
- **Clear All:** Clears all the highlighting from the chart overview at right. (If you were selecting various sections/pages to print, and want to start over, press Clear All.)
- **Calibrate:** The Calibration option is provided for use in the rare cases when a printout does not exactly match the scale of the paper original. For the most part, you will not need to use the Calibrate option. If find that there is a discrepancy between a chart printout and the paper original, you can use the Calibrate feature to fine-tune the printout so it matches perfectly.
- **Include Route Overlays:** Check this option to include routes on your printout. This will ensure that if a route is present on the screen in a particular chart area, it will be included when you print that portion of the chart.
- **Include Title and Index Pages:** When this option is checked, your chart printout will be accompanied by two additional printed pages. The Title page is printed first, and provides the chart ID and name, scale, edition number and date, the agency that created it, datum, projection, and depth units. The Index page is printed next. It provides a grid overview of the chart, with each rectangle labeled in order (A0, A1, A2, B0, B1, B2, etc.). Each printed chart image is then labeled with the corresponding rectangle code, so you can use the Index page as a reference and see where each rectangular quadrant is on the chart.

Print Setup
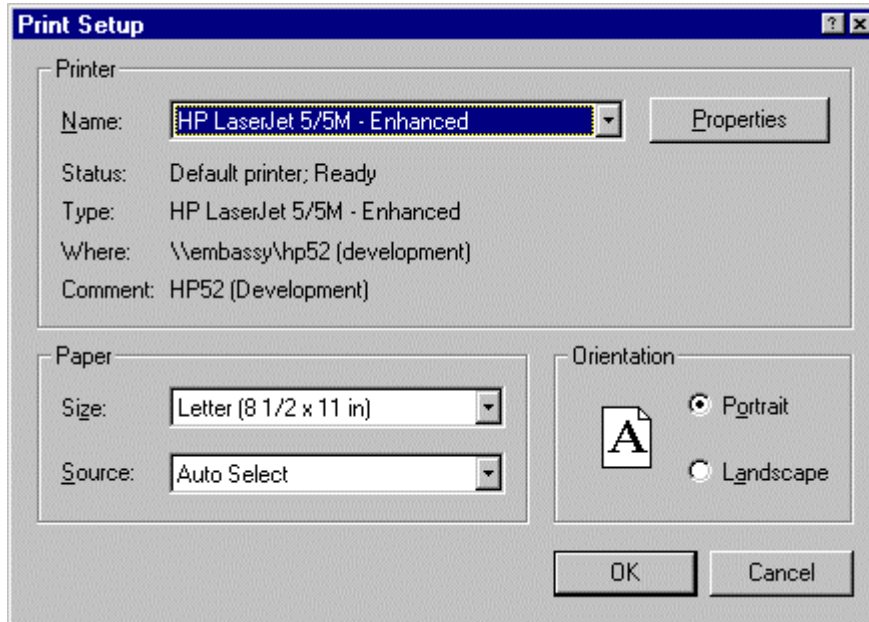
Choose **Print Setup** from the File menu (or press the **Print Setup** button in the Print Chart Packet window) to adjust paper size and orientation or to select a different printer. Press the **Properties** button to specify number of copies, print quality, and adjust printer device options. (These options vary from printer to printer, so your options may differ.)

Navigation Photos

A Navigation Photo linked with a nautical chart.
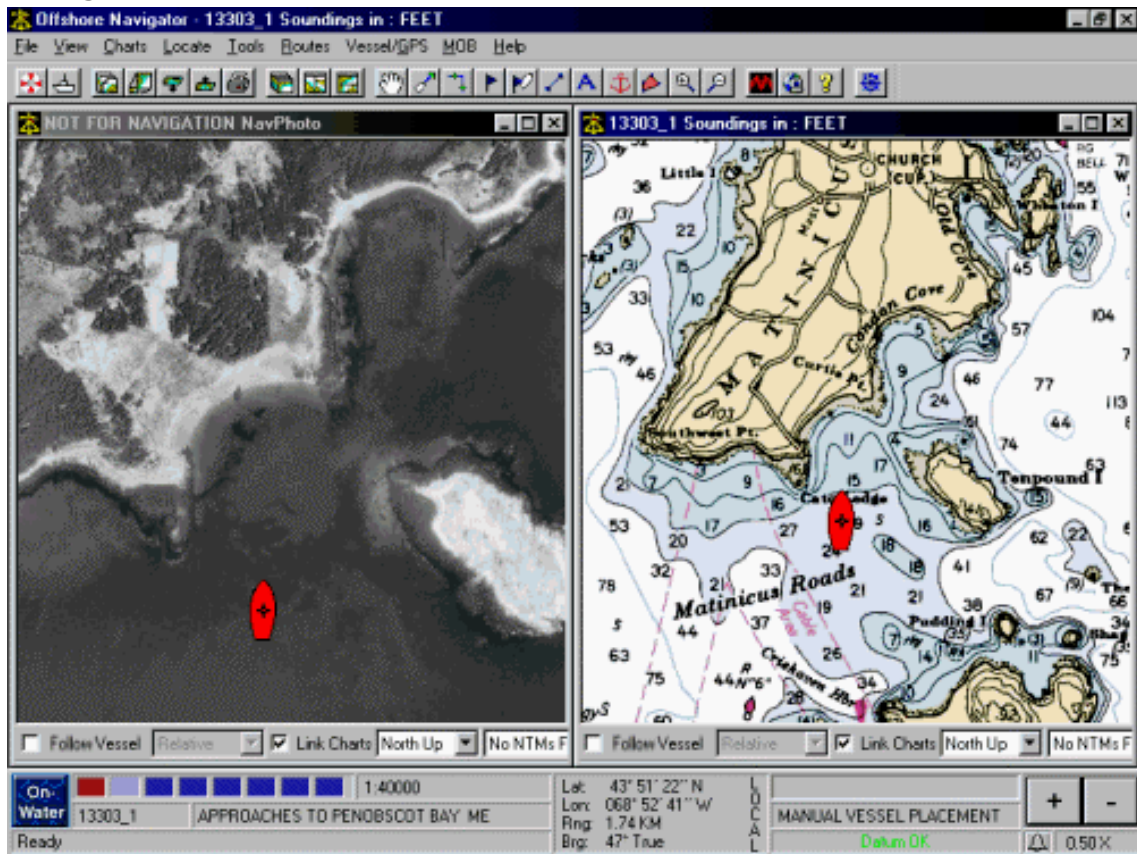
Maptech Coastal Navigation Photos are included in most Digital ChartKit regions. Navigation Photos are aerial photographs of coastal areas, georeferenced so that your overlays—vessel icon, routes, etc.—may be properly positioned. Navigation Photos help you discern depth changes and other details close to shore.

In the Chart List, Navigation Photos are listed under the Type heading as "Navigation Photo." In the Navigation Panel's chart selection bar, Navigation Photos are represented by red rectangles. (Nautical charts are blue rectangles, topographic maps are green.) To open a Navigation Photo for your location, click on the red rectangle.

Note: Navigation Photos are designed to serve as aids to navigation, and as accompaniments to nautical chart coverage. They should not be solely relied upon during navigation.

Contour Charts
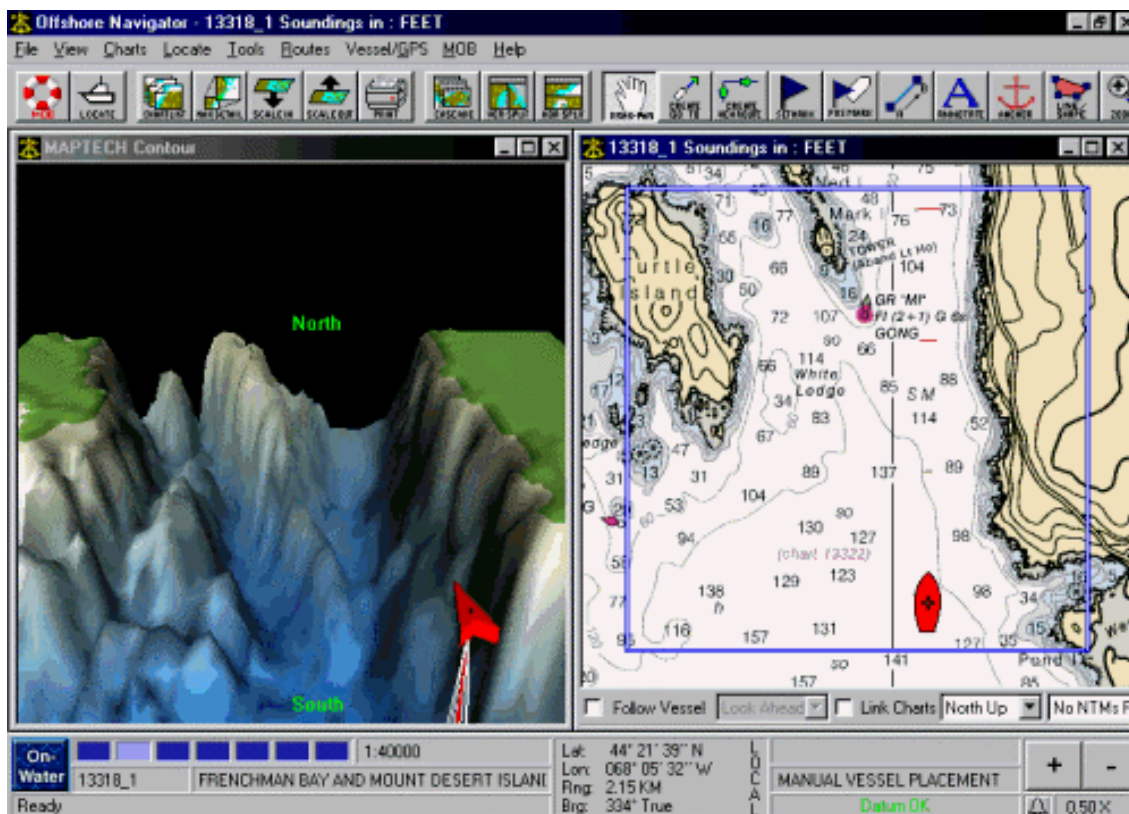
Maptech's Contour Charts provide a 3-D view of underwater topography. If you have installed contour charts on your computer, you can view underwater contour coverage alongside a nautical chart or Navigation Photo. Choose **Charts, Link to Contour Chart**, and Offshore Navigator will automatically open the contour chart that corresponds to the location you're viewing in the active window.

Enhancing the Contour View

When contour charts have been installed, a fourth tab, appears in the Options window. Choose **View, Options** and select the **Contour Charts** tab to adjust display settings for your contour charts. For example, you can adjust the contour chart colors, assigning different colors and patterns to use for dry land, underwater terrain and the horizon. Several optional enhancements are also available, including a depth scale and transducer cone graphic, translucent surface layer, a depth marker that you may set to indicate a specific depth level, and a variety of different vessel icon shapes. See the following page for information about all settings.

Moving Around a Contour Chart

To look at a different geographic area, you must move the nautical chart to which the contour chart is linked. The contour chart will follow along as you move the linked chart.

You can adjust the angle at which you're viewing the contour chart, by clicking and dragging the chart foreground. If you hold the left mouse button down on the foreground and move the cursor up on the screen, this will "lift" the contour chart. If you click and drag down, it "pushes" the chart down, so you're viewing it from higher up. You can use the same method to spin the chart and change the angle of your viewpoint. North, South, East and West are labeled on the horizon, to help keep you oriented.

Zooming In and Out

The plus and minus buttons in the Navigation Panel at the bottom of your screen can be used to zoom in and out on the contour chart image. Just make sure that the contour chart is *active* (click the title bar at the top of the window to make the chart window active).

Contour Chart Control

When viewing contour charts, an optional control may be used for more precise chart manipulation. The Contour Chart Control lets you rotate the chart to any angle, tilt it up or down for a better view, and zoom smoothly in and out.

To activate the Contour Chart Control, click **View, Contour Chart Control.** (This command is only available when the contour chart is the active window, so if you don't see this item in the View menu, click on the title bar of your contour chart window to highlight it and make it active.) The Contour Chart Control will appear in the upper right corner of your screen. It may be dragged to another area of your screen if you prefer.
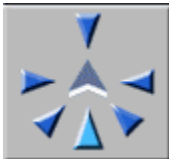
The top section of the control lets you make major viewing angle adjustments quickly and precisely. The chevron shape in the center represents your vessel, bow facing forward. Click any arrow to "look" in that direction: for example, to look at the contours to starboard, click the arrow pointing to the right; to look straight ahead, click the arrow that's pointing in the same direction as the vessel icon, etc.

The "spin" ball lets you make finer adjustments. Click any point on the spin ball to rotate or tilt your viewing angle in that direction. To view the chart from higher up, click the up-arrow on the top of the spin ball. To move your viewpoint around to the left, click the left arrow, etc. To continue spinning, just hold the arrow down.

Finally, the plus and minus buttons let you zoom in (+) and out (-) on the chart. Hold either button down for a continuous zoom.

Removing the Contour Chart Control

Click the "X" button at the top of the Control to close it.

Switching to Another Chart

You can switch charts while you're linked to contour coverage. Simply open a different nautical chart (or Navigation Photo) in the linked window.

As always, when you drag the linked chart, the contour chart will automatically follow along. *If you open a chart for a different area, you may need to drag the new nautical chart slightly,* to send a signal to the contour chart display and alert it to the presence of a new chart in the linked window.

Contour Chart Options
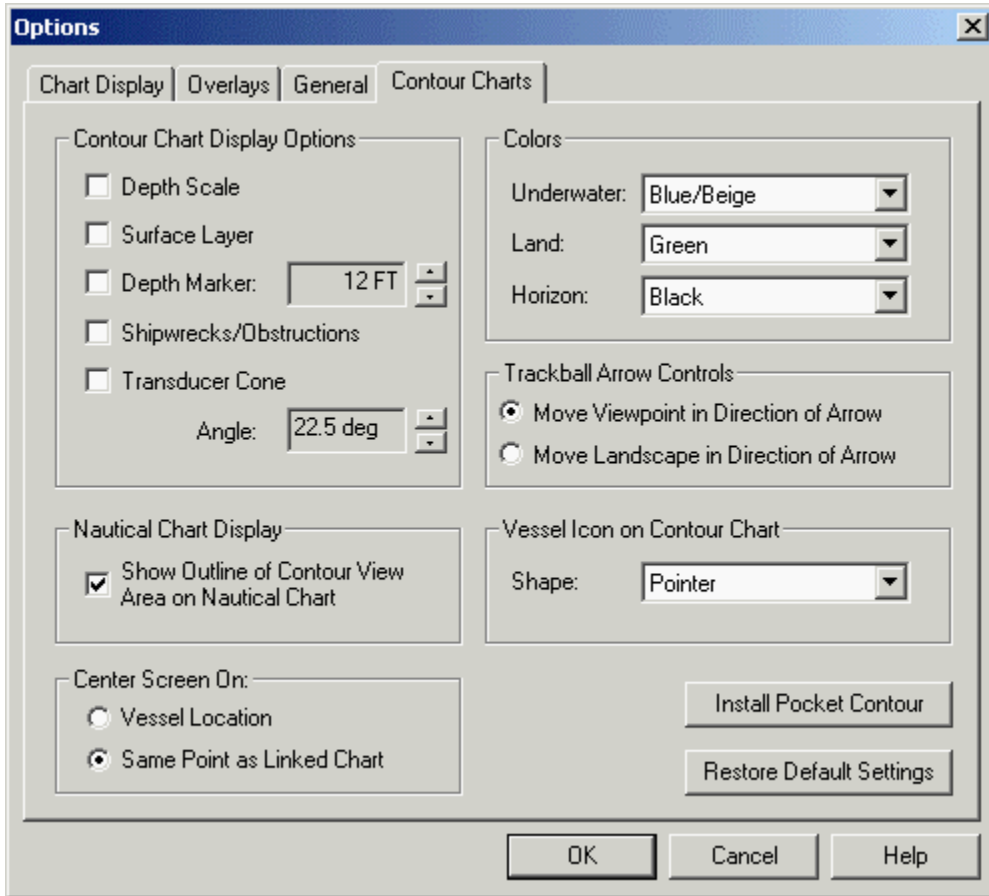
If you have installed contour charts this fourth tab will appear in the Options window. Choose **View, Options, Contour Charts** to adjust the following settings:

Depth Scale
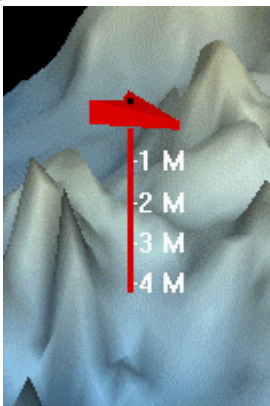
A vertical line extending down from the vessel icon. The line is notched and labeled at regular depth intervals.

Surface Layer

A translucent, flat plane representing the water's surface. The surface layer is shaded lightly, but you can still see through to the contours underneath.

48
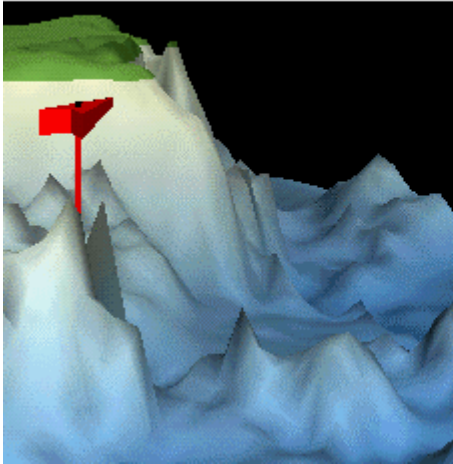
Surface Layer Off.   Surface Layer On.
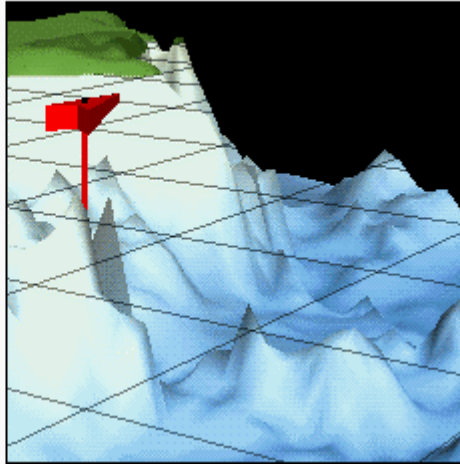
Depth Marker
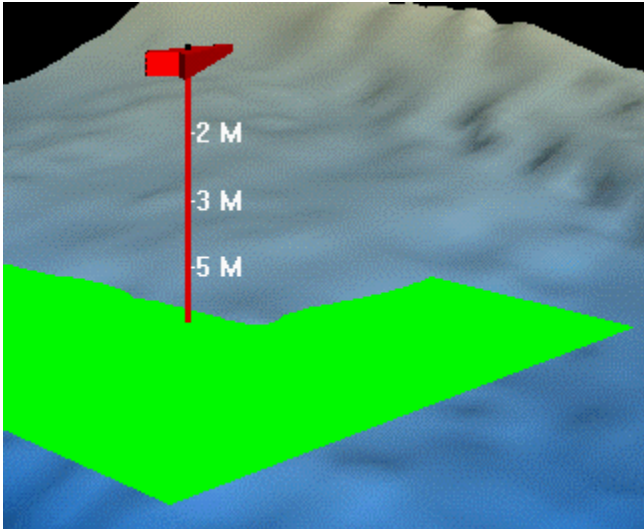
A horizontal, opaque plane directly underneath the vessel icon, placed at a depth level that you specify here. As your vessel moves, the Depth Marker moves with it. The Depth Marker draws your attention to areas within a certain depth range, and lets you disregard areas that aren't in that range.

Shipwrecks/Obstructions

Check here to see the locations of shipwrecks and obstructions such as rocks, reefs, deadheads, piles, stumps, etc.; marked and labeled directly on the contour charts.

Transducer Cone
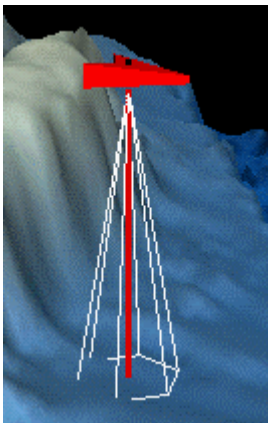
Helps you visualize the amount of terrain covered in your transducer's beam angle.

Show Outline of Contour View Area on Nautical Chart
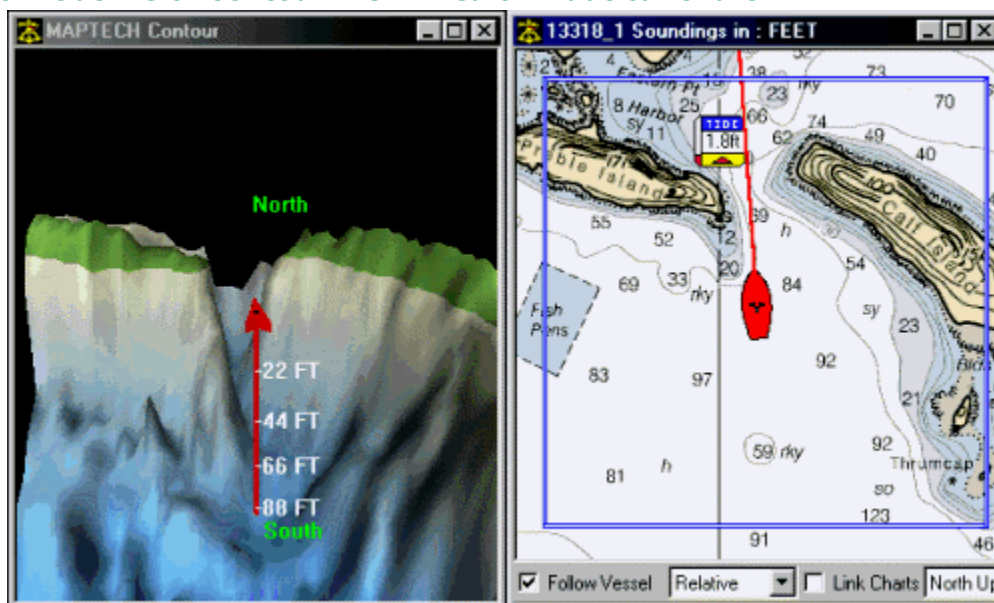
Places a blue rectangle indicating the boundaries of the chart area displayed in the contour chart window. (Note: You'll only be able to see the blue outline when the nautical chart is showing more area than the contour chart. If the nautical chart is zoomed in closer than the contour chart, the blue outline will be outside your field of view.)

Center Screen On:

Vessel Location: The Contour chart will "follow" the vessel icon as it moves. The icon will always be at the center of the screen.

Same Point as Linked Chart: The Contour chart will match itself to the area displayed in the nautical chart window. (If you switch from one nautical chart to another, you may need to drag the nautical chart image slightly in order for the contour chart window to update itself to match the new coverage area.)

Colors

Specify colors to use for different portions of the contour charts.

Trackball Arrow Controls

Refers to the Spin Ball in the Contour Chart Control. The spin ball lets you make fine adjustments to your contour chart viewing angle. Arrows on the surface of the spin ball represent direction of movement. You can choose whether the arrows should move your viewpoint, or move the landscape. Offshore Navigator's default setting is for the arrows to move your viewpoint, which means that if you press the forward-facing arrow, you'll be moved in closer to the landscape. You can change this setting as you wish.

Install Pocket Contour

If you have purchased Pocket Contour software, insert your Pocket Contour CD and press this button to installed Pocket Contour software on your Pocket PC. (Visit www.maptech.com for more information about Pocket Contour software.)

Vessel Icon on Contour Chart

Choose a shape for the contour chart's vessel icon. In addition to **Pointer** and **Sphere**, the following shapes are available:
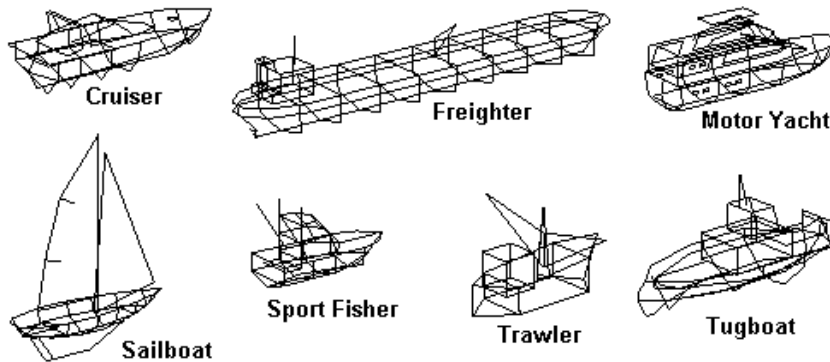
Restore Default Settings

Press this button to return all options in this window to their original (Maptech) settings.

Copying Contour Charts to Hard Drive
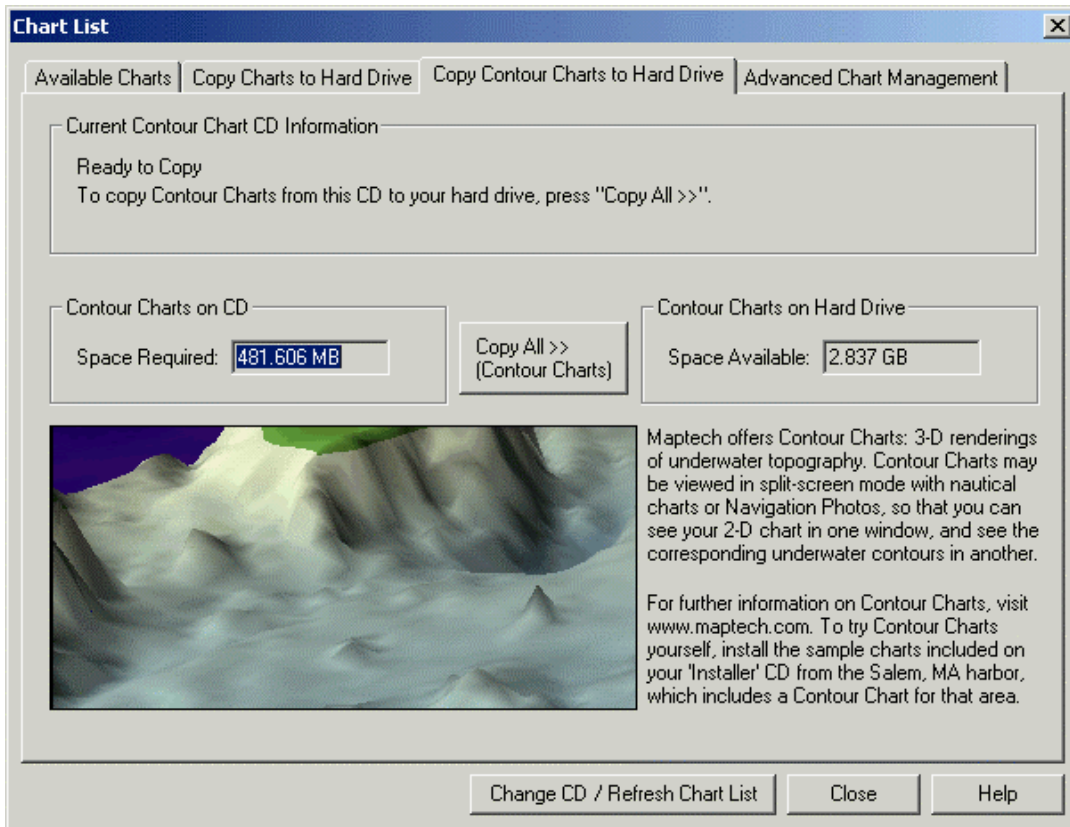
If you own Maptech Contour Charts (see page 46), you must copy them to your hard drive for access. Click **Charts, Chart List** (or press the Chart List toolbar button), and select the **Copy Contour Charts to Hard Drive** tab. (This tab only appears when a Contour CD has been detected in your CD drive.)

The Copy Contour Charts window tells you how much room your contour charts will require (Space Required), and how much room you have on your hard drive (Space Available). To copy the charts from your CD to your hard drive, press **Copy All>>(Contour Charts)**. (It is not possible to copy only selected charts; the entire CD must be copied.)

CHAPTER 4: NAVIGATION

Vessel

Vessel Setup: Data

To help Offshore Navigator provide an accurate representation of your vessel's movement, supply some details in the Vessel Setup window. From the Vessel/GPS menu, choose **Setup, Vessel**. The window will open to the Vessel Data tab:

Vessel

Owner's name, vessel name and vessel type (choose **Power**, **Sail**, or **Other**).

Vessel Size

Length: From bow to stern.
Beam: The maximum width.
Draft: The depth to which the vessel sinks when afloat, measured from the waterline to the lowest immersed part of the hull or keel.
Height: From the waterline to the highest point (including antenna).

Speed and Fuel

Tell Offshore Navigator your typical cruising speed and maximum speed, then press the **Adjust Fuel Burn Rate** button to provide further details in the Fuel Burn Rate Table**.** This data will be used to calculate trip times in Route Planning so be sure to be as precise and accurate as possible. (Fuel consumption information can usually be found in the vessel manufacturer's Vessel Engine Specifications.)

GPS Offset

For the greatest possible position accuracy, specify where your GPS is located on board your vessel. (These settings are of greatest use for large vessels where the GPS is not located at the vessel's center.)

Type the distance, in feet, from the center of the vessel to the location of the GPS unit. If your GPS is located starboard of the centerline, type a minus sign before the number. Also use a negative number if the GPS is located forward of center.

Changing Settings

Any time you need to change your settings, choose **Setup, Vessel** from the Vessel/GPS menu, or simply right-click on the vessel icon.

Additional settings are found under the Vessel Display tab.

Vessel Setup: Display

From the Vessel/GPS menu, choose **Setup, Vessel** to provide vessel data and adjust vessel display (shown below). Settings under the Vessel Display tab affect the vessel icon, letting you control how your vessel location is displayed. See below for explanations of each setting. When you have made your selections, press **OK**.
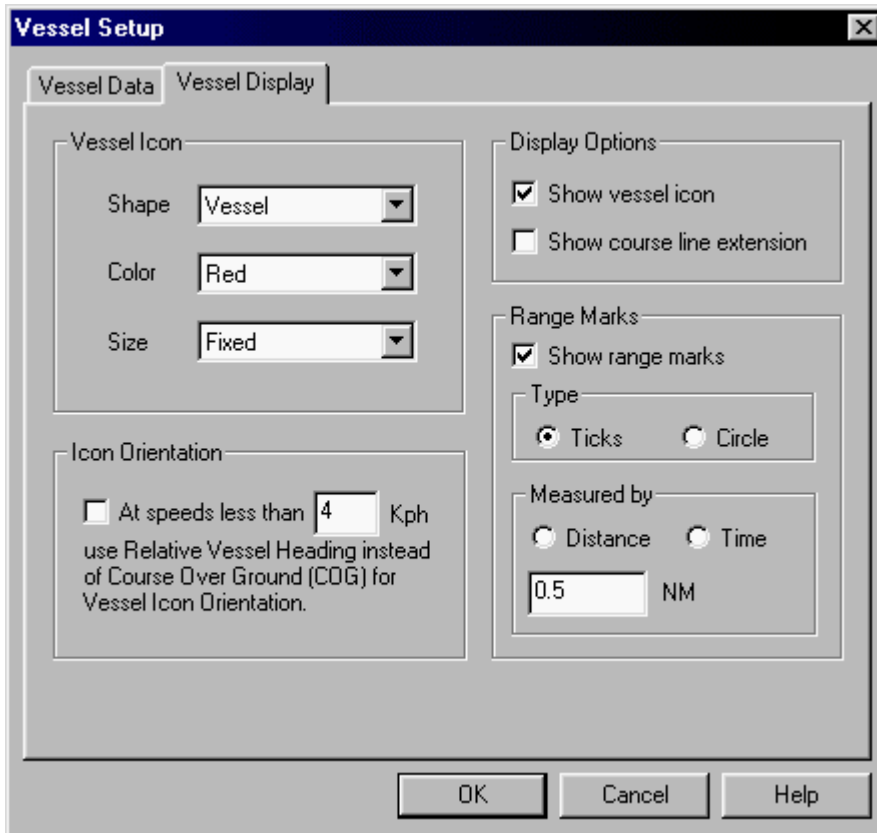
Vessel Icon
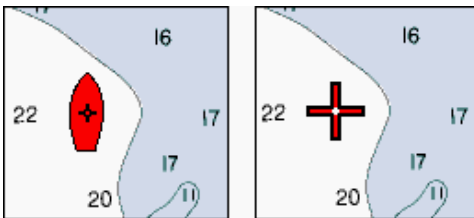
Shape: Choose Vessel, Airplane. or Crosshairs.

Color: Red, Green, Blue, Cyan (light blue), Yellow, Magenta, Black, or Transparent.

Size:

> Length: From bow to stern.
>
> Beam: The maximum width.
>
> Draft: The depth to which the vessel sinks when afloat, measured from the waterline to the lowest immersed part of the hull or keel.
>
> Height: From the waterline to the highest point (including antenna).

Display Options

> **Show vessel icon:** Check whether or not you want the vessel icon to be shown on the screen.
>
> **Show course line extension:** This will display a line pointing straight out from the vessel's bow in the direction the vessel is headed.

Range Marks

> Range marks radiate out from the vessel icon, to help you gauge distance (range). Check **Show Range Marks** to include range marks on the screen.

Circles: Four circles will surround the vessel.

Ticks: Ten tick marks, of graduated size, will extend forward from the vessel's bow.

Measured by Distance: Specify an interval at which the marks should be set. (According to the settings in this sample graphic, the range marks would be 0.5 nautical miles apart.)

Measured by Time: Specify a time interval in minutes. Offshore Navigator will set the range marks at intervals that show how far the vessel will travel in that time interval. This lets you see at a glance how many minutes away you are from a given point.

Icon Orientation

"At speeds of less than X miles per hour, use Relative Vessel Heading instead of COG (Course Over Ground) for vessel orientation."

This feature is intended primarily for use by very large craft when maneuvering in tight or congested areas, like harbors, loading docks, etc. This feature is only available for use on vessels equipped with a compass that transmits NMEA data.

Ordinarily, your vessel's orientation is aligned to your COG (Course Over Ground): your path of travel. This means that the vessel icon points directly in line with your heading. However, moving at slow speeds causes a vessel to become more susceptible to current, wind, etc. In such cases, the vessel may experience a certain degree of rotation or "sideslip." In such a case, the vessel might be moving along a 45 degree course, but the bow might be angled at 43 degrees.

For most craft, such a deviation would not pose a problem in navigation. Careful attention when maneuvering in congested areas is usually a sufficient precaution to avoid traffic difficulties or collisions. But for a very large vessel, such as a freighter or a barge, a difference in orientation angle is magnified. In addition, large craft require more time to turn or slow down. Using the Relative Vessel Heading to position the vessel icon on the chart helps Offshore Navigator provide the most accurate vessel position *and* orientation.

Check the **Orientation** checkbox, and specify the speed below which you would like to use Relative Vessel Heading to orient the vessel icon.

Vessel Position Source
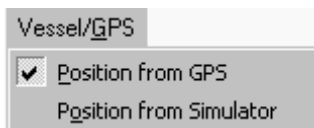
Offshore Navigator can move the vessel icon across the chart images in a representation of actual vessel movement across the water. There are two sources from which Offshore Navigator can get vessel location data, so that it "knows" where to place the vessel icon.

- **A connected GPS.** If you are on the water and cruising, turn on the GPS connection and your position will be marked on the charts and updated every three seconds.
- **The vessel movement Simulator.** This lets you simulate vessel movement to help you plan a cruise in advance—even before you get on the water.

Since there are two possible data sources, there are two Vessel Positioning options. From the Vessel/GPS menu, choose **Position from GPS** or **Position from Simulator** to specify where position data should come from. When neither is selected, the vessel icon will remain stationary unless you manually move it. (You can click-and-drag to move the vessel icon, or you can right-click anywhere on a chart and choose **Put Vessel Here**.)

Once a Position source is selected, the vessel icon will begin to move at the speed and course indicated by the GPS or the Simulator. To stop the movement of the vessel icon, uncheck the current Position option on the Vessel/GPS menu.

GPS

GPS Setup

```
GPS & Autopilot                                    [X]
┌────────────┬──────────────────┬────────────────────┐
│  Passthru  │  Autopilot Setup │  Advanced Autopilot │
├────────────┴──┬──────────────┴──┬─────────────────┤
│   GPS Setup   │  Port Settings  │  Dead Reckoning  │
└───────────────┴─────────────────┴──────────────────┘

  ┌─ Select GPS ──────────────────────┐   ☑ GPS On
  │  Manufacturer: [Garmin        ▼]  │
  │                                   │   SetTime From
  │         Unit: [GPS 12XL       ▼]  │   ☑ GPSTime
  └───────────────────────────────────┘
  ┌─ Setup ───────────────────────────┐   ┌──────────┐
  │     COM Port: [2    ▼]            │   │Properties…│
  │                                   │   └──────────┘
  │   GPS Datum: [Query Unit      ▼]  │   ┌──────────┐
  └───────────────────────────────────┘   │  Test…   │
                                          └──────────┘
  ┌─ GPS 12XL ────────────────────────────────┐
  │ Your Garmin GPS unit provides several     ▲
  │ interface settings. For successful        │
  │ communication, ensure that the GPS unit's │
  │ interface is set to GRMN/GRMN. (Interface │
  │ options can usually be found under the    │
  │ GPS unit's main menu.)                    ▼
  └────────────────────────────────────────────┘

        [  OK  ]   [ Cancel ]   [ Help ]
```

Before Offshore Navigator can establish communication with your GPS unit, you need to supply some information so the GPS can be properly configured.

Configure Your GPS Settings Easily with the GPS Setup Wizard

The fastest and easiest way to get Offshore Navigator properly configured for your GPS is to use the GPS Setup Wizard. The Wizard will automatically detect your GPS, find out its make and model, and determine what COM port it is connected to on your computer. The Wizard will then make all necessary settings so Offshore Navigator can communicate with your GPS unit, and vice versa. If any connection problems are detected, the Wizard will likely tell you exactly how to fix them. All you have to do is click **Vessel/GPS, Setup, GPS Setup Wizard** and follow the simple instructions on the screen.

When the Wizard is finished, Offshore Navigator will be ready to communicate with your GPS unit.

GPS Status

As explained on page 55, when you click **Vessel/GPS, Position from GPS** Offshore Navigator will place the vessel icon at the coordinates received from your GPS unit. As your vessel moves, so will the vessel icon. This is called GPS Navigation.

During GPS Navigation, your GPS signal status is represented by an icon and note in the lower right corner of your screen. These brightly colored square icons show you your GPS status at a glance; for more details, click on the icon and a message will provide more information.

GPS: OK — When your GPS is sending valid position data, a green check mark indicates that all is well.

GPS: No Position Lock — If your GPS temporarily loses its satellite fix, a yellow exclamation point notifies you that there isn't enough data being received from your GPS in order to accurately plot your location. You should make sure that your GPS antenna is properly connected to the GPS unit, and that the antenna has a clear view of the sky.

GPS: No Connection — A red "X" indicates that your GPS connection has been cut off. Either the GPS was turned off, or the cable became disconnected. Plug it back in, and wait for your GPS to reestablish your location. (To avoid seeing this "X," uncheck **Vessel/GPS, Position from GPS** when you no longer require a GPS signal.)
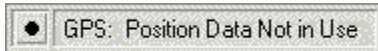
GPS: Position Data Not in Use — When you're not using your GPS for navigation, this icon and message serve as a reminder that the vessel icon DOES NOT necessarily indicate your GPS position. Since the icon isn't being positioned according to the GPS data, you can move the icon by clicking-and-dragging it with the mouse cursor.   Pressing the icon (black dot) will open the GPS Setup window (see page 57).

Dead Reckoning

If a problem develops and your GPS is no longer able to send out an accurate position fix, Offshore Navigator can continue to simulate your vessel's progress along a route, using the values you set in Dead Reckoning.

To enable Dead Reckoning in the event of GPS failure, choose **Setup, GPS** from the Vessel/GPS menu, and check the **Allow Dead Reckoning** checkbox. Set a time interval for Offshore Navigator to attempt reconnection to your GPS. (The most often Offshore Navigator can retry is once a minute.)

Type in your estimated speed and heading, along with the current drift and set, and Offshore Navigator will move your vessel icon over the charts to correspond to your settings.

Autopilot (FULL VERSION ONLY)

Setup
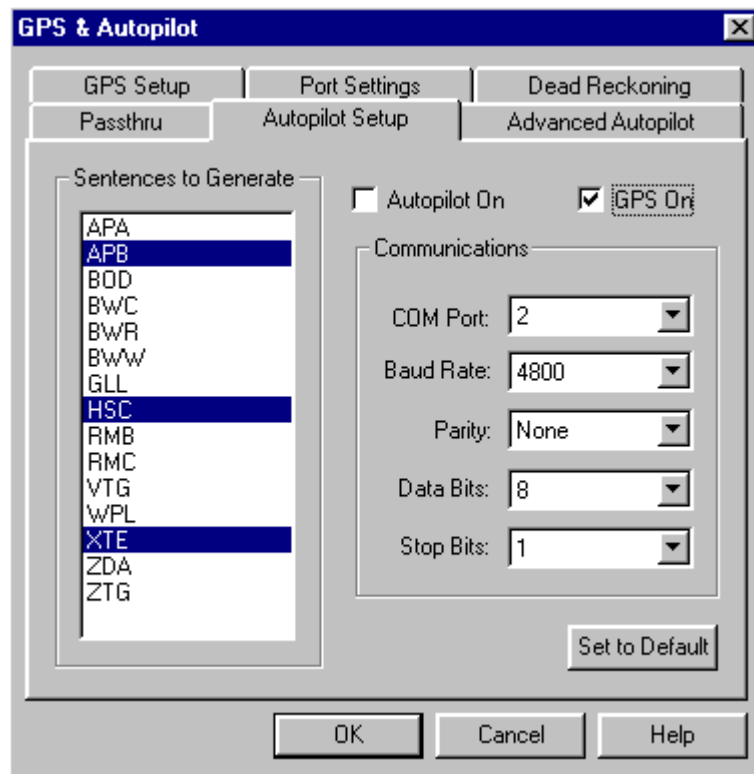
An Autopilot is an external unit that controls the steering of the vessel. Offshore Navigator supports Autopilot use, so if your vessel is equipped with a GPS unit and an Autopilot, you can interface these two devices via a computer running Offshore Navigator. In this way, you can select a route in Offshore Navigator and have your Autopilot follow it.

To configure communication settings for using your Autopilot with Offshore Navigator, choose **Setup, Autopilot** from the Vessel/GPS menu.

Offshore Navigator gets current position data from the GPS and sends it, along with data for the selected route, to the Autopilot. This communication takes place using the NMEA (National Marine Electronics Association) 0183 Standard for Interfacing Marine Devices.

NMEA 0183 defines electrical signal requirements and specific sentence formats, or "NMEA sentences." Each sentence represents a particular type of data- one sentence might provide the time and date, another sentence might contain the bearing from waypoint to waypoint, etc. Some of these strings are generated by Offshore Navigator, and some are taken directly from the GPS unit and passed through Offshore Navigator to the Autopilot.

Offshore Navigator can generate NMEA sentences and send them to the Autopilot. Select the sentences you want from the options under **Sentences to Generate**. Three are pre-selected for you:

APB: Heading/Track Controller (Autopilot) Sentence "B"

HSC: Heading Steering

XTE: Cross-Track Error, Measured

You can change these selections and/or choose other sentences; see the following page for a list of character IDs and NMEA Sentences.

When you have configured your settings, establish communication between Offshore Navigator and the Autopilot by checking **GPS On** and **Autopilot On.** You are now ready to use your Autopilot to follow a route (see page 112).

Note to Garmin GPS Users: In order to work with your Autopilot, your GPS Interface option must be set for NMEA. (The "Garmin" or "Garmin/Garmin" interface option, which is necessary for the transfer of stored coordinate data to and from your computer, will prevent Autopilot communication. Remember to change the interface in your GPS unit when you wish to operate your Autopilot. Consult your GPS user's manual for instructions.)

Passthru Data
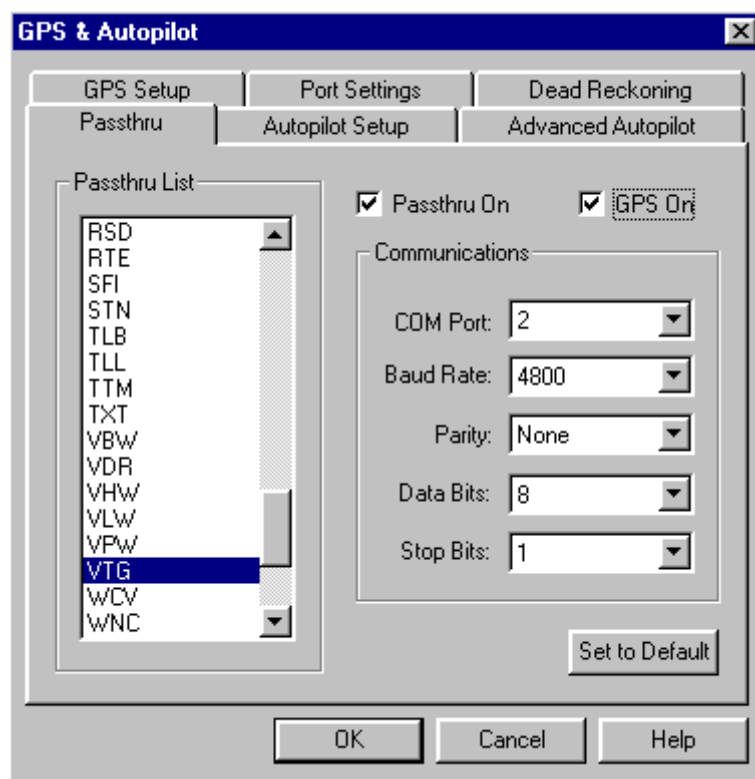
NMEA 0183 defines electrical signal requirements and specific sentence formats, or "NMEA sentences." Each sentence represents a particular type of data- one sentence might provide the time and date, another sentence might contain the bearing from waypoint to waypoint, etc.

The settings under the Passthru tab apply to your GPS unit. The Passthru window lets you select the NMEA sentences that you would like the GPS to *pass directly through* Offshore Navigator, without modification, to the Autopilot. To specify which sentences you want to pass through, choose **Setup, GPS** or **Setup, Autopilot** from the Vessel/GPS menu, and click on the **Passthru** tab.

Three sentences are pre-selected for you:
GLL: Geographic Position – Latitude/Longitude
RMC: Recommended Minimum Specific GNSS Data
VTG: Course Over Ground and Ground Speed

Table of Passthru Character IDs/Sentence Formatters

The following list was taken from the NMEA 0183 Standard for Interfacing Marine Electronic Devices.

CHARACTER ID	DEFINITION
AAM	Waypoint Arrival Alarm
ACK	Acknowledge Alarm
ALM	GPS Almanac Data
ALR	Set Alarm State
APB	Heading/Track Controller (Autopilot Sentence "B")
BEC	Bearing & Distance to Waypoint – Dead Reckoning
BOD	Bearing – Origin to Destination
BWC	Bearing & Distance to Waypoint
BWR	Bearing & Distance to Waypoint – Rhumb Line
BWW	Bearing – Waypoint to Waypoint
DBT	Depth Below Transducer
DCN	Decca Position
DPT	Depth
DSC	Digital Selective Calling Information
DSE	Expanded Digital Selective Calling
DSI	DSC Transponder Initialize
DSR	DSC Transponder Response
DTM	Datum Reference
FSI	Frequency Set Information
GBS	GNSS Satellite Fault Detection
GGA	Global Positioning System Fix Data
GLC	Geographic Position – Loran-C
GLL	Geographic Position- Latitude/Longitude
GNS	GNSS Fix Data
GRS	GNSS DOP and Active Satellites
GSA	GNSS Pseudo Range Error Statistics
GST	GNSS Satellites in View
HDG	Heading, Deviation & Variation
HDT	Heading, True
HMR	Heading Monitor Receive
HMS	Heading Monitor Set
HSC	Heading (Steering)
HTC	Heading/Track Control Command
HTD	Heading/Track Control Data
LCD	Loran-C Signal Data
MLA	GLONASS Almanac Data
MSK	MSK Receiver Interface
MSS	MSK Receiver Signal
MTW	Water Temperature
MWD	Wind Direction & Speed
MWV	Wind Speed & Angle
OSD	Own Ship Data
RMA	Recommended Minimum Specific Loran-C Data

RMB	Recommended Minimum Navigation Information
RMC	Recommended Minimum Specific GNSS Data
ROT	Rate of Turn
RPM	Revolutions
RSA	Rudder Sensor Angle
RSD	Radar System Data
RTE	Routes RTE – Routes
SFI	Scanning Frequency Information
STN	Multiple Data ID
TLB	Target Label
TLL	Target Latitude/Longitude
TTM	Tracked Target Message
TXT	Text Transmission
VBW	Dual Ground/Water Speed
VDR	Set & Drift
VHW	Water Speed & Heading
VLW	Distance Traveled through Water
VPW	Speed, Measured Parallel to Wind
VTG	Course Over Ground & Ground Speed
WCV	Waypoint Closure Velocity
WNC	Distance – Waypoint to Waypoint
WPL	Waypoint Location
XDR	Transducer Measurements
XTE	Cross-Track Error, Measured
XTR	Cross-Track Error, Dead Reckoning
ZDA	Time & Date

Sentence Formatters Not Recommended for New Designs

(These sentences are sometimes used by older Autopilots.)

CHARACTER ID	DEFINITION
APA	Autopilot Sentence "A"
BER	Bearing & Distance to Waypoint, Dead Reckoning, Rhumb Line
BPI	Bearing & Distance to Point of Interest
DBK	Depth Below Keel
DBS	Depth Below Surface
DRU	Dual Doppler Auxiliary Data
Gda	Dead Reckoning Positions
Gla	Loran-C Positions
Goa	OMEGA Positions
Gxa	TRANSIT Positions
GTD	Geographic Position, Loran-C TDs
GXA	TRANSIT Position
HCC	Compass Heading
HCD	Heading & Deviation
HDM	Heading, Magnetic
HVD	Magnetic Variation, Automatic
HVM	Magnetic Variation, Manually Set

IMA	Vessel Identification
MDA	Meteorological Composite
MHU	Humidity
MMB	Barometer
MTA	Air Temperature
MWH	Wave Height
MWS	Wind & Sea State
OLN	Omega Lane Numbers
OLW	Omega Lane Width
OMP	OMEGA
ONZ	Omega Zone Number
Rnn	Routes
SBK	Loran-C Blink Status
SCY	Loran-C Cycle Lock Status
SCD	Loran-C ECDs
SDB	Loran-C Signal Strength
SGD	Position Accuracy Estimate
SGR	Loran-C Chain Identifier
SIU	Loran-C Stations in Use
SLC	Loran-C Status
SNC	Navigation Calculation Basis
SNU	Loran-C SNR Status
SPS	Loran-C Predicted Signal Strength
SSF	Position Correct Offset
STC	Time Constant
STR	Tracking Reference
SYS	Hybrid System Configuration
TEC	TRANSIT Satellite Error Code & Doppler Count
TEP	TRANSIT Satellite Predicted Elevation
TGA	TRANSIT Satellite Antenna & Geoidal Heights
TIF	TRANSIT Satellite Initial Flag
TRF	TRANSIT Fix Data
TRP	TRANSIT Satellite Predicted Direction of Rise
TRS	TRANSIT Satellite Operating
VCD	Current at Selected Depth
VPE	Speed, Dead Reckoned Parallel to True Wind
VTA	Actual Track
VTI	Intended Track
VWE	Wind Track Efficiency
VWR	Relative (Apparent) Wind Speed & Angle
VWT	True Wind Speed & Angle
WDC	Distance to Waypoint
WDR	Waypoint Distance, Rhumb Line
WFM	Route-Following Mode
WNR	Waypoint-to-Waypoint Distance, Rhumb Line
YWP	Water Propagation Speed
YWS	Water Profile
Zaa	Time, Elapsed/Estimated
ZCD	Timer
ZEV	Event Timer
ZLZ	Time of Day

ZZU	Time, UTC

Advanced Autopilot Setup

The Advanced Autopilot Setup window lets you modify the settings that govern Offshore Navigator's communication with your Autopilot.

For information on choosing settings, refer to your Autopilot's User Manual.

Data Windows
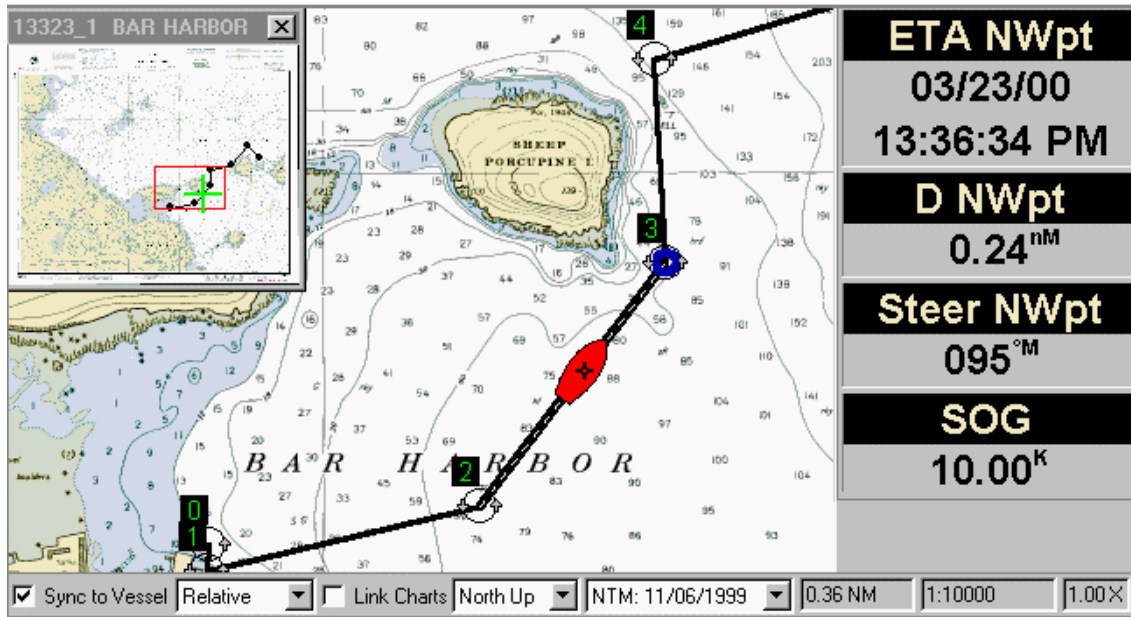
Data windows are designed for quick reference during navigation. They can also be activated in simulation mode. There are several kinds of data that you can select for display. To configure your data windows, go to the Vessel/GPS menu and choose **Setup, Data Windows**.

Data Windows Setup

The left-hand window lists the values that you can choose to include on your screen during navigation. Pick a value that 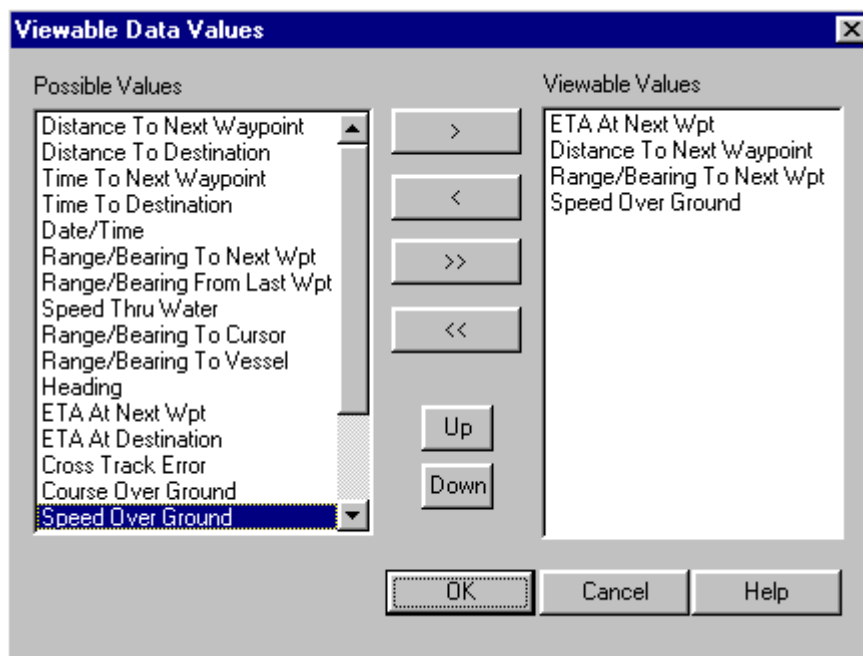you want, and click to select it. Then, press the **>** button to transfer the value to the right-hand window (Viewable Values). The values you place on the right-hand side will be included in your data windows.

Use the **>>** and **<<** buttons to transfer all the values at once, and use the **>** and **<** buttons to move one value at a time. You can include as many as you want, but bear in mind that because your screen space is limited, it is usually easier to use just a few values at a time.

Press **Font Settings** to specify the fonts to use for the data readings and their headings, and also to adjust the **colors** used in the data windows. (Note: Color changes will only take effect when your Chart Color Scheme setting is Normal. Choose **View, Options, Chart Display** to adjust your chart color scheme.)

Font Settings also lets you choose **Full Titles** if you prefer that each data window be identified by a full title instead of an abbreviation.

Turning Data Windows On and Off

To bring data windows into view, check the **Data Windows** option on the View menu.   Uncheck it to turn data windows off.

Moving Data Windows

You can move the data window display to another area of your screen- just click and drag to reposition the window. In addition, you can remove individual values from the data window display- right-click on the value and choose **Hide**.

Units of Measurement, Lat/Lon Format, True/Magnetic North…

To adjust how your data is presented, choose **View, Options, Chart Display**. These settings affect all data displays in Offshore Navigator, including data windows.

Note on Cross-Track Error

When you are off course, the Cross-Track Error (XTE) data window tells you whether you are left or right of your course line, and how far you are from it. In the example XTE window below, "L 0.14 km" indicates that the vessel is 0.14 kilometers left of the course line. IMPORTANT: "L" and "R" indicate your vessel's position relative to the course line. They are NOT steering commands.
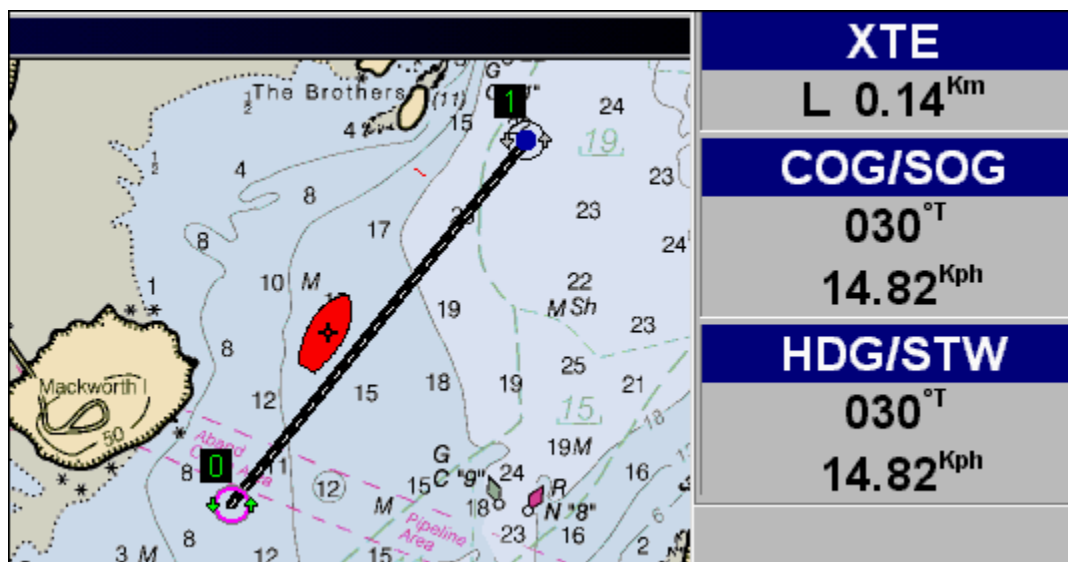
Contour Look-Ahead (When Contour Charts are Present)

If you have installed contour charts on your computer, a special data window is available. This Contour Look-Ahead data window provides a cross-section view of depth changes in the upcoming 3/4 mile of your course. (See page 46 for more about contour charts.)
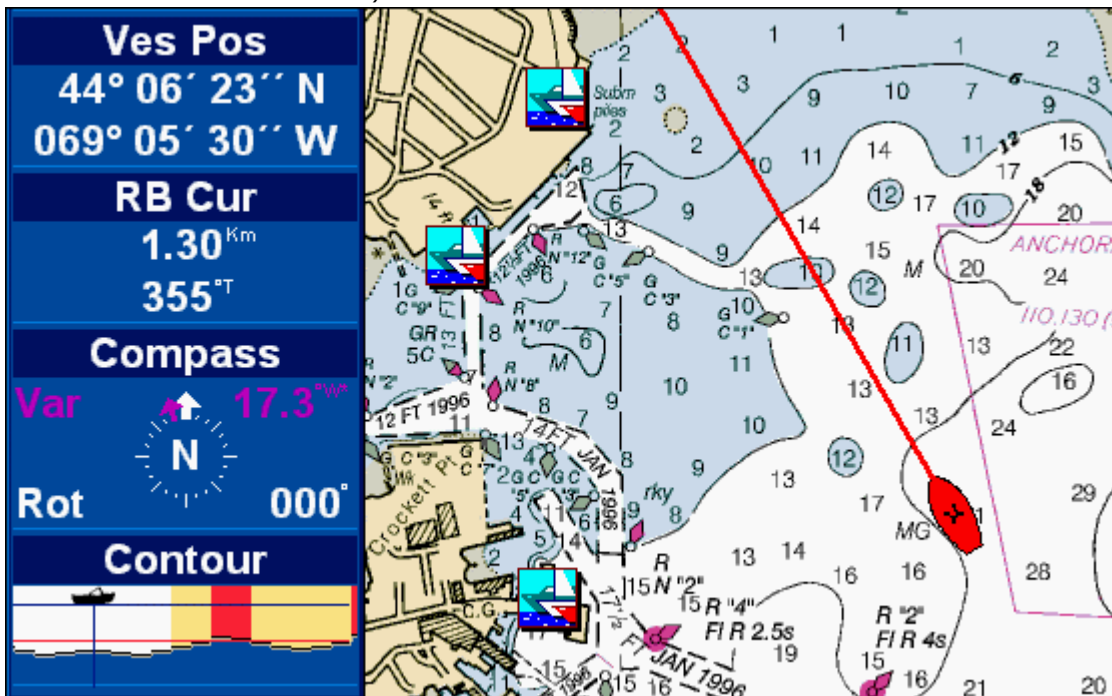
Data Value Abbreviations

Abbreviations conserve space and enable quick identification. Below is a list of abbreviations and their meanings.

ABBREVIATION	DATA VALUE
D NWpt	Distance to Next Waypoint
D Dest	Distance to Destination
T NWpt	Time to Next Waypoint
T Dest	Time to Destination
D/T	Date/Time
RB NWpt	Range/Bearing to Next Waypoint
RB LWpt	Range/Bearing to Last Waypoint
STW	Speed through Water
RB Cur	Range/Bearing to Cursor
RB Ves	Range/Bearing to Vessel
HDG	Heading
ETA NWpt	ETA at Next Waypoint
ETA Dest	ETA at Destination
XTE	Cross-Track Error (see below)
COG	Course Over Ground
SOG	Speed Over Ground
Ves LL	Vessel Latitude/Longitude
Cur LL	Cursor Latitude/Longitude
NWpt	Name and Number of Next Waypoint

Steer NWpt	Course to Steer to Next Waypoint
Set/D	Current Set and Drift
Contour	Contour Look-Ahead

Tracks (FULL VERSION ONLY)

Recording Tracks
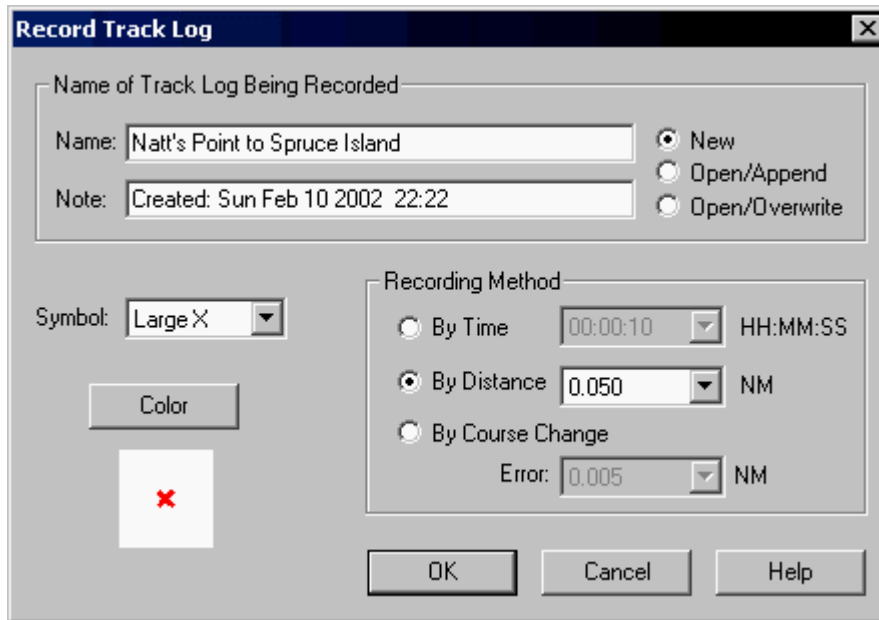
Offshore Navigator includes a tracking feature, which lets you record the vessel's course. The tracking feature may be used when you are actually in motion on the water, or when you are simulating vessel movement.

To record a track, choose **Tracks, Record** from the Vessel/GPS menu. The Record Track Log window, shown above, will appear. You can choose options for how to record the track, assign the track a name, and decide how it should look on the chart. Press OK, and start the vessel icon moving (choose a Navigation Mode from the Vessel/GPS menu).

Name/Note:

Assign the track a name, and a brief note if you wish. (Neither will appear on the chart, but you can read name/notes in Track Log Properties.)

Track Recording Options

- **New:** Makes an entirely new track.
- **Open/Append:** This option lets you add on to an existent track. Select the track's name from the drop-down Name list (at left).
- **Open/Overwrite:** You can effectively "redo" a track. Choose a track from the drop-down Name list at left. The track you choose will be deleted from Offshore Navigator and your new track recording will take its place.

Symbol/Color

Choose a symbol to mark your track points. You can preview each symbol in the preview pane provided. Also, pick a color to use for your track line and points.
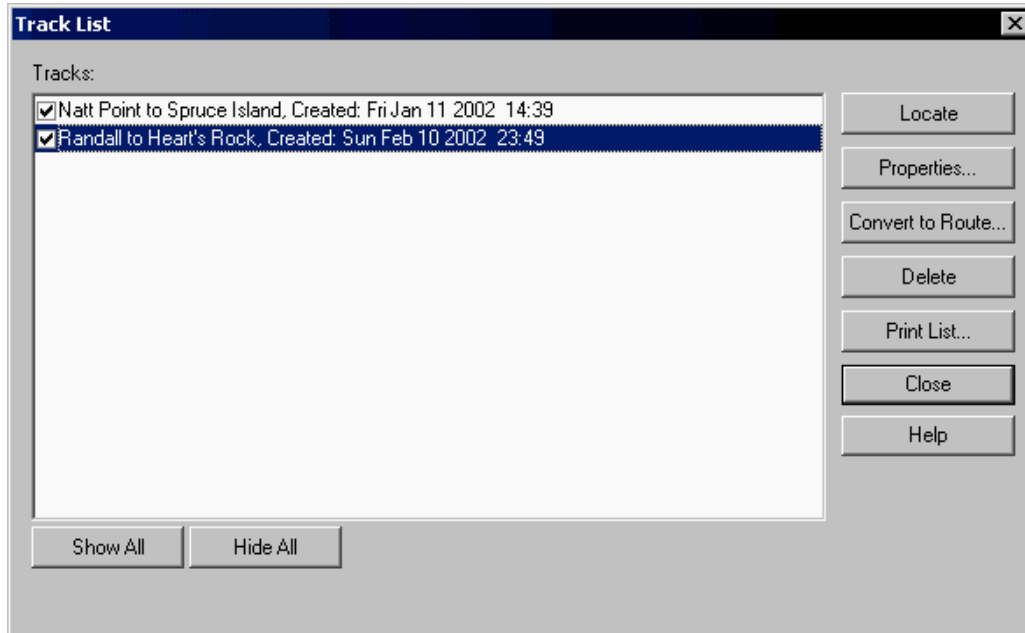
Record Track By:

- **Time:** Select a time interval (how often Offshore Navigator will mark your vessel position with a track point symbol).
- **Distance:** Instead of setting a track point at regular time intervals, this sets track points when the vessel has moved a certain distance. Distance is measured in nautical miles.
- **Error:** Let Offshore Navigator decide how often to set track points on the chart. Instead of creating track points at regular intervals of time or distance, Offshore Navigator will simply set a track point whenever your course's direction changes more than the amount you specify. (Using this method, Offshore Navigator creates only as many track points as are necessary to mark your course. In other words, if you travel in a straight line for some time, Offshore Navigator will only set track points at the beginning and end of the straight segment.)

A track being recorded.
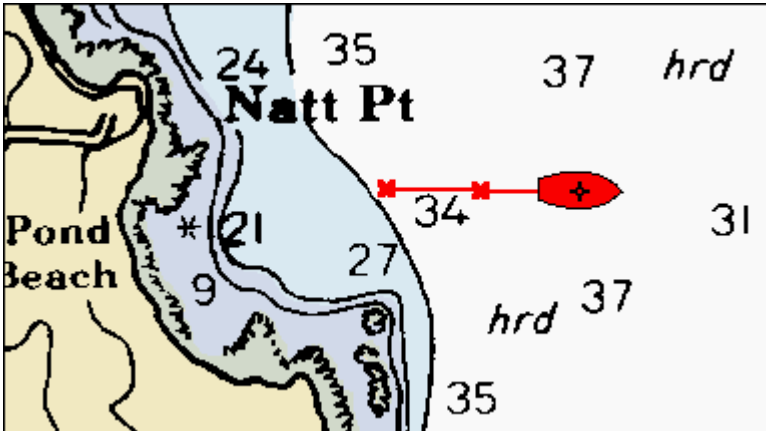
You can temporarily pause the recording by choosing **Tracks, Pause** from the Vessel/GPS menu. To stop recording and finish the track, choose **Tracks, Stop**. (You can continue to add to the track at a later time if you wish, using the **Open/Append** option in the Record Tracks window, pictured above.)

Track List

Offshore Navigator lets you record tracks during vessel movement. (You can also transfer track logs into Offshore Navigator from a GPS unit.) To see a list of your track logs, choose **Tracks** from the Locate menu, or choose **Tracks, Tracks** from the Vessel/GPS menu.

From the Track List, you can pick a track to view on the screen, edit a track's properties, convert a track into a route, delete tracks, etc. Click on the buttons in the image above for details.

Convert/Filter Track Log

Track Log Filtering and Conversion to Route

Name: Bucksport

Note: Created: Fri Jan 11 2002 14:39

Total Points in Track Log: 484
Track Points Checked: 484

Track Points to Convert/Filter:

Trk#	Date	Time	Lat*	Lon*	SOG	COG	intTime	intDist
☑ 1	01/11/2002	14:40:13	42° 31′ 36″ N	070° 52′ 49″ W	0.0	000°	First	First
☑ 2	01/11/2002	14:41:37	42° 31′ 38″ N	070° 52′ 29″ W	10.9	082°	00:01:24	0.25
☑ 3	01/11/2002	14:42:37	42° 31′ 39″ N	070° 52′ 08″ W	15.2	084°	00:01:00	0.25
☑ 4	01/11/2002	14:43:37	42° 31′ 41″ N	070° 51′ 48″ W	15.2	084°	00:01:00	0.25
☑ 5	01/11/2002	14:44:37	42° 31′ 42″ N	070° 51′ 27″ W	15.2	084°	00:01:00	0.25
☑ 6	01/11/2002	14:45:37	42° 31′ 44″ N	070° 51′ 07″ W	15.2	084°	00:01:00	0.25
☑ 7	01/11/2002	14:46:37	42° 31′ 45″ N	070° 50′ 46″ W	15.2	084°	00:01:00	0.25
☑ 8	01/11/2002	14:47:37	42° 31′ 47″ N	070° 50′ 26″ W	15.2	084°	00:01:00	0.25
☑ 9	01/11/2002	14:48:37	42° 31′ 48″ N	070° 50′ 05″ W	15.2	084°	00:01:00	0.25

*Values in WGS84 Datum

Select Track Points:

⦿ All   ○ By Time: ○ By Distance: ○ By Course Change   [Refresh]

○ None   00:00:10 ▾ HH:MM:SS   0.005 ▾ NM   Error: 0.005 ▾ NM

[Convert to New Route...]   [Filter to New Track Log...]   [Done]   [Help]

Offshore Navigator includes a Track-to-Route/Filter New Track conversion feature.

Create a Route from a Track Log

If you have a track log whose course you'd like to follow in your vessel, convert it to a route so Offshore Navigator can follow it.

Filter to New Track Log, with Fewer Track Points

This lets you filter an existent track log, so the new version contains fewer track points. This is often handy when working with track logs that have been transferred from a GPS unit, since such track logs often contain a large number of points.

The Convert Track window provides data on each point, so you can pick the points to include in the new track/route.

- **Name:** The name of this track log.
- **Note:** A brief note that you typed that you assigned the track (or in this example, the Note tells the source of the track log- transferred from GPS).
- **Track Points in Log:** The total number of track points in this track log.
- **Track Points Checked:** The number of track points that are presently selected for inclusion in the new route/track. This number will change as you experiment with different selection methods, below.
- **Check to Include Track Points From Log:** Data for each track point in this track log. The checkboxes at left indicate whether the point is to be included in the new track/route.

Select Track Points

Several methods are available for selecting which track points to include in the new track/route. You can check individual points by hand in the Track Point List above, or use the options here and have Offshore Navigator automatically filter the points for you.

Pick a selection method and press the **Refresh** button to see how that method affects your track point list. The track points that would be removed will be unchecked. The **Track Points Checked** at top right gives you the total to be included in the new track/route.

- **All:** Keeps all the track points (use this if you want to create a route with waypoints that correspond exactly to these track points).
- **None:** Use this to clear your selections and start over.
- **Time:** Select a time interval. Example: If you choose 00:02:00, Offshore Navigator will select the track points that would be closest to the vessel location every 2 minutes while traveling this course.
- **Distance:** Instead of selecting track points at regular time intervals, this selects the track points that would be nearest to the vessel each time the vessel moves a certain distance. Distance is measured in nautical miles.
- **Error:** Let Offshore Navigator decide which points to include. Instead of selecting track points at regular intervals of time or distance, Offshore Navigator will select only the track points that are nearest to a change in course direction. In other words, if the track continues in a straight line for a great distance, Offshore Navigator will only select the track points at the beginning and end of the straight segment, and exclude the points between them.

Specify the amount of error that you will tolerate. The smaller the distance, the more closely the new track/route will follow the original track's course. However, insisting on a very small error amount can make it hard to reduce the number of track points significantly. Experiment with various error amounts and press the **Refresh** button to see how different error amounts affect the track point total for the new track/route.

Refresh: The Refresh button lets you "test" your settings before you finalize anything. Make a selection, and whenever you want to see how your selection would affect the new track/route, press **Refresh** to see which points are checked in the list above.

When you have made your track point selections:

To create a route, press **Convert to New Route**.

To create a new track, press **Filter to New Track Log**.

You will be prompted to type a name for each new track/route that you create. (Your original track remains in Offshore Navigator.) Press **Done** to exit.

Track Log Properties

The Track Log Properties window lets you:
- Adjust the track's appearance (track point symbol and color)
- Get the track's total distance and number of track points
- Add a note about the track (or read existing notes)
- See how the track was recorded ("record By" settings)

To view Properties for a track:
- Right-click on one of the track's waypoints, and choose **Track Log Properties**; or
- Choose **Tracks, Tracks** from the Vessel/GPS menu to view the Track List, then highlight the track name and press the **Properties** button, and select the Track Log Properties tab.

Other tabs in the Track Properties window:
Select the Track Point List tab to get data about each track point in the track log. Highlight a track point, then select the Track Point Properties tab to add a note about that particular point.

Track Point List
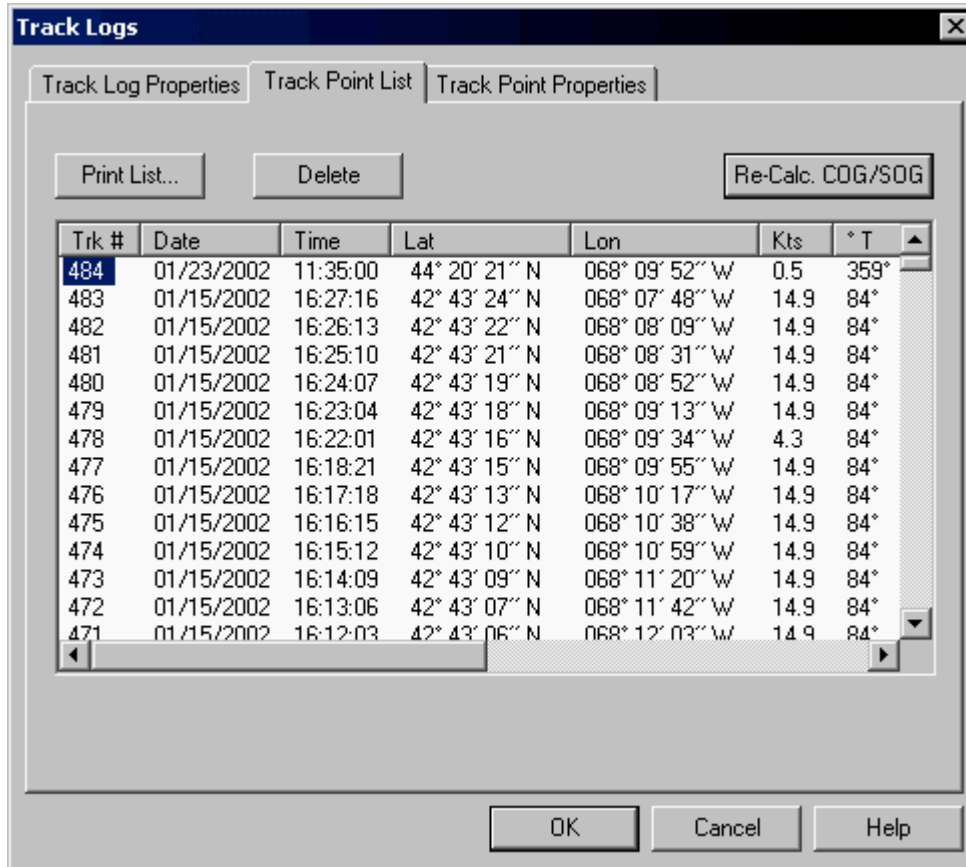
The Track Point List window gives the name, lat/lon and other data for each track point in a track log.

- Right-click on one of the track's waypoints, and choose **Track Point List**; or
- From the Track List, highlight the track name and press the **Properties** button, and select the Track Point List tab.

Recalculate SOG/COG

If you would like to apply different numbers for Speed Over Ground (SOG) or Course Over Ground (COG), you can change the numbers and then press **Recalculate SOG/COG** to see the effects of your changes.

Track Point Properties

If you like, you can assign a name to a track point, and type a short note about it.

- Right-click on one of the track's waypoints, and choose **Track Point Properties**; or
- From the Track List, highlight the track name and press the **Properties** button, and select the Track Point Properties tab.

(Select the desired track point from the Track Points List tab in the Properties window.)

Alarms (FULL VERSION ONLY)

What is an Alarm?

An alarm is an area you define on a chart, so that Offshore Navigator can warn you when your vessel enters or leaves that area.

For example, you might set an alarm around an area of shallow rocks, and ask Offshore Navigator to warn you if you enter that alarm zone. Or, you could delineate an area where you'd like to fish, and Offshore Navigator can warn you if you drift beyond the boundary you set. Alarms appear on the charts as outlines filled in by red cross-hatching (or in the case of line alarms, simply a collection of line segments).

A line alarm, which will be triggered if the vessel crosses it.
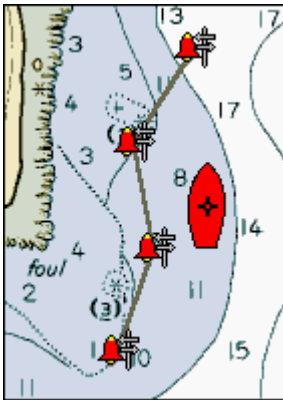
Entry vs. Exit

When you create an alarm that is an enclosure, you must specify whether it is an **Entry** alarm or an **Exit** alarm. Entry alarms are triggered when the vessel enters the alarm area; exit alarms are triggered if the vessel exits the alarm area.

An Entry alarm, delineating a shallow area.
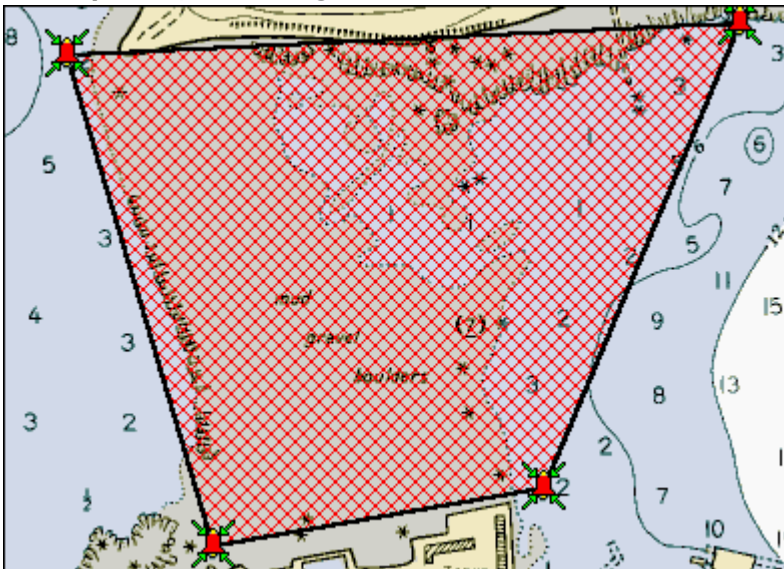
Use an Exit alarm to mark a good fishing spot.
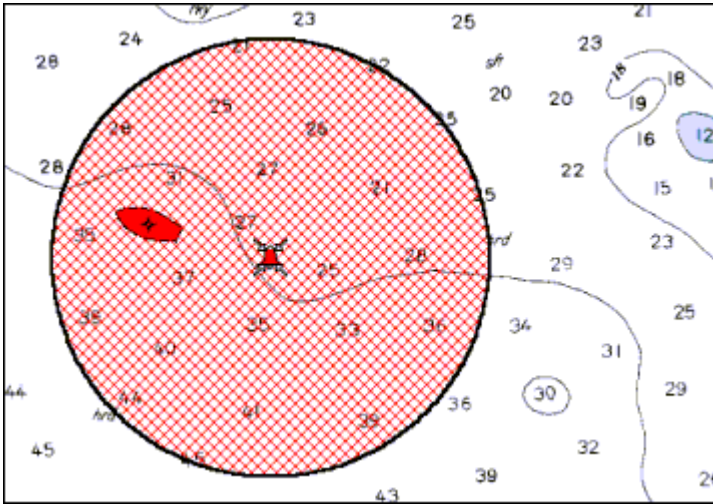
Creating Alarms

Line/Shape Alarms

Select the **Line/Shape Alarm** button on the toolbar, and click on the chart to create an alarm line or enclosure. Each place you click is joined by a line. When you have finished adding line segments, right-click and choose **Save**.

Creating a Line Alarm
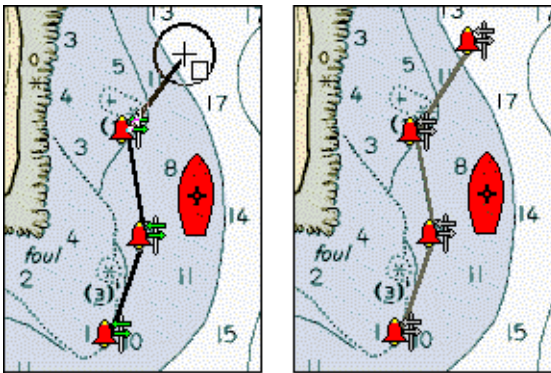
If you create an enclosure, it will be filled in with red cross-hatching.
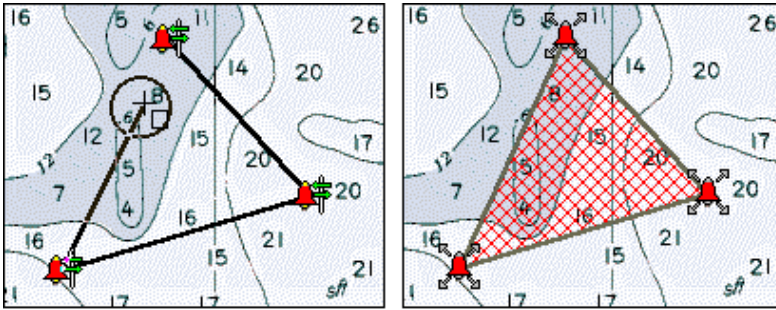
Ellipse Alarms

From the Tools menu, choose **Alarms, Create Ellipse Alarm** to create a round or elliptical alarm area. Click on the chart, and hold the left mouse button down. As you move the cursor away from the point where you clicked, the alarm circle will grow. Release the mouse button when the circle is the size you want.

Creating an Ellipse Alarm
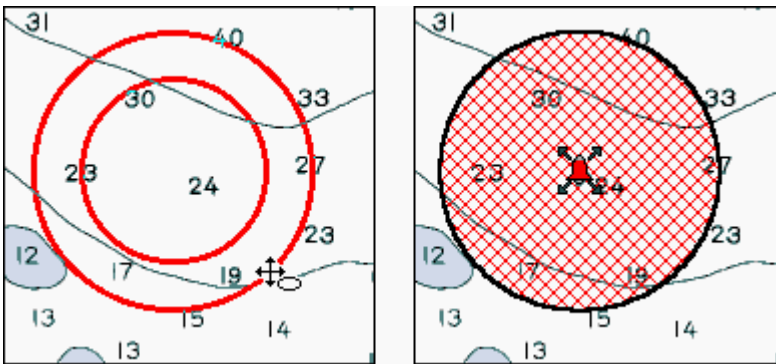
The Anchor Alarm

 The Anchor Alarm is an ellipse alarm, surrounding your vessel when anchor is set. It is by nature an Exit alarm. You tell Offshore Navigator the amount and direction of drift that is acceptable at anchor, and if the vessel strays beyond this range, the anchor alarm will be triggered.

Anchor alarm.
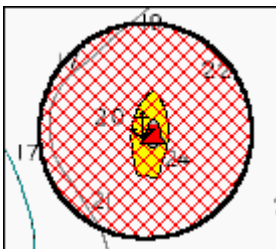
To configure the Anchor Alarm, press the **Anchor Alarm** toolbar button, or choose **Alarms, Create Anchor Alarm** from the Tools menu. This will place a special ellipse alarm directly over your vessel icon. You can then click-and-drag to stretch the alarm zone as needed.
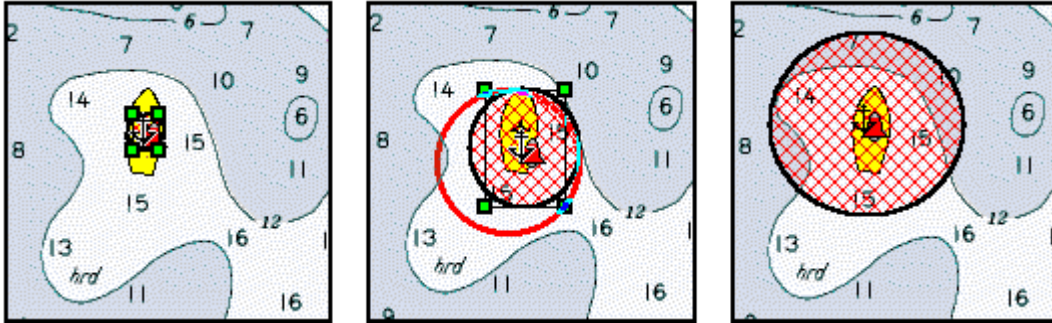
Another way to configure the anchor alarm: from the Tools menu, choose **Alarms, Alarm List.** This will bring up the Alarm Setup window, which contains a space for you to type the Anchor Alarm Diameter.

Alarms Setup

The options in the Alarm Setup window let you choose settings to apply automatically to any new alarms you create.
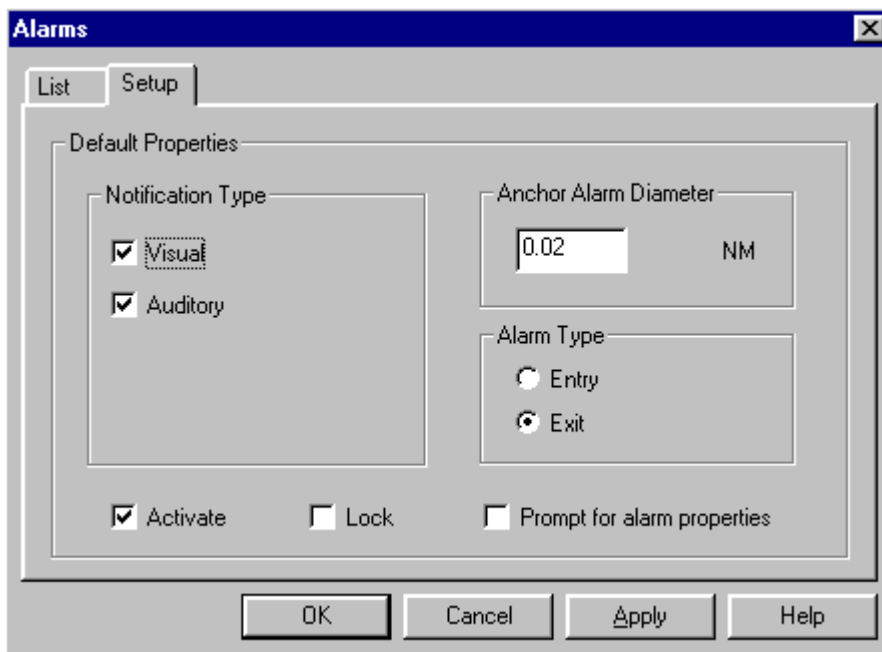
Notification Type

The method by which Offshore Navigator notifies you when this alarm is triggered. Choose one or both.

Visual: A window will appear on the screen, listing the alarms that have been triggered, with this alarm listed first.

Auditory: A warning beep will sound.

Anchor Alarm Diameter

The range to which the vessel can drift when anchor is set. If the vessel moves beyond the range you assign, the anchor alarm will be triggered.

Alarm Type

Entry: The alarm will be triggered when the vessel enters the alarm zone.

Exit: The alarm will be triggered when the vessel exits.

(For the Anchor Alarm, these options are grayed out because the Anchor Alarm is always an Exit alarm.)

Activate

For an alarm to perform its job, it must be activated. For safety reasons, all alarms you create are automatically activated. If you want to temporarily disable an alarm, you can uncheck this **Activate** option.

When an alarm is deactivated, the cross-hatching is shown in green instead of red, and the alarm points change from red to gray. This serves as a visual reminder that the alarm has been deactivated.

Lock

To ensure that this alarm is not accidentally moved on the chart, check the **Lock** option. You won't be able to click-and-drag the alarm until you uncheck **Lock**.

Prompt for Properties upon Creation

When this option is checked, every time you create and save a new alarm the Alarm Properties window will automatically appear on the screen, so you can adjust the settings for the new alarm. (This is a timesaver if you are planning to create several different types of alarms in a row; it saves you the time of right-clicking and choosing **Properties** for each new alarm.)

Alarm Properties

To assign a name to the alarm, choose a notification method, decide whether the alarm should be an Entry alarm or an Exit alarm, etc., right-click on the alarm and choose **Properties**. The Properties window will open to the Display tab.

The Alarm Properties window lets you do several things with an alarm: assign it a name, record notes about it, set it to be Entry or Exit, type a message to be displayed when the alarm is triggered, temporarily disable it, etc.
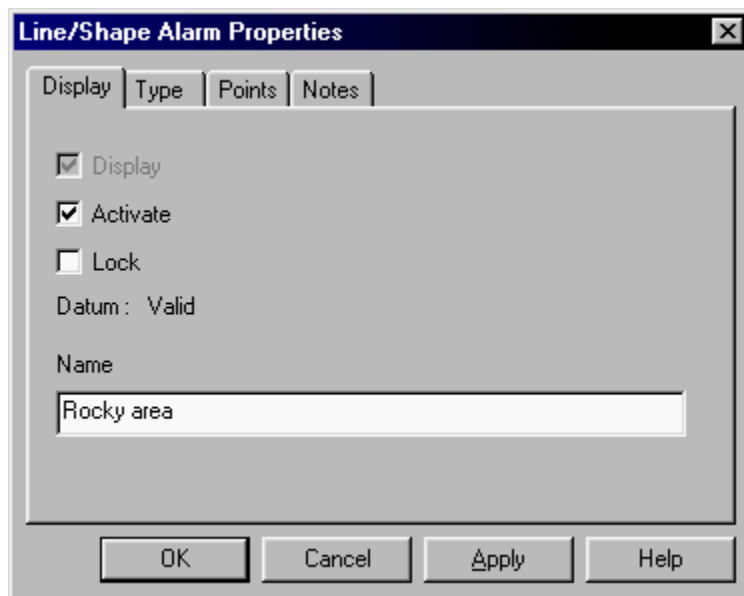
For access to these settings, tight-click on an alarm point and choose **Properties**.

There are four other possible Properties tabs:

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- **Type:** Lets you choose Notification Type (visual or auditory), and specify whether this is an Entry or Exit alarm. You may also type a short Message to be displayed in the Triggered Alarms window when this alarm is triggered.
- **Points (for Line/Shape alarms):** Lets you edit each point's coordinates, or insert a new point by assigning coordinates. Provides total length of alarm line.
- **Size (for Ellipse alarms):** Adjust the lat/lon of the alarm's center point, and its total height and width.
- **Notes:** A space for you to record or view your notes about this alarm.

Adjusting Alarms' Size and Shape

Line/Shape Alarms

To change the size or shape of a polygon/line alarm, grab one of the bell symbols at the corners, and drag that alarm point to a new location.
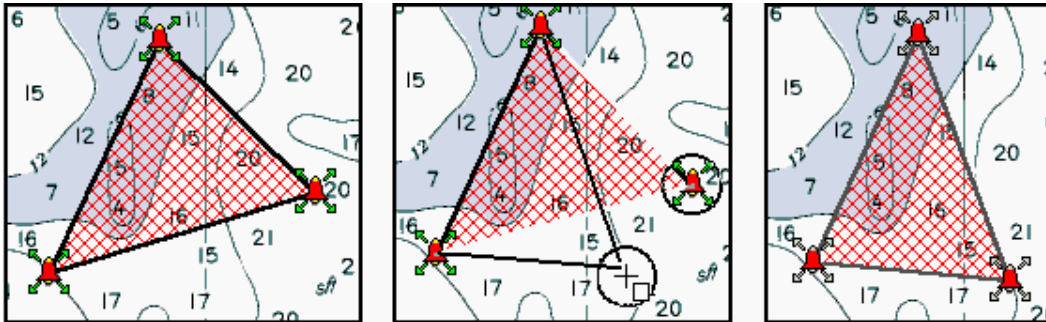
Ellipse Alarms (including Anchor Alarm)

You can stretch or shrink an ellipse alarm. Hold the cursor over the alarm's center (or its edge) and double-click. A frame will appear, with small green "handles." You can grab the alarm edge at any of these handles, and drag in any direction to stretch or shrink the alarm zone. Release the mouse button to complete your adjustment.
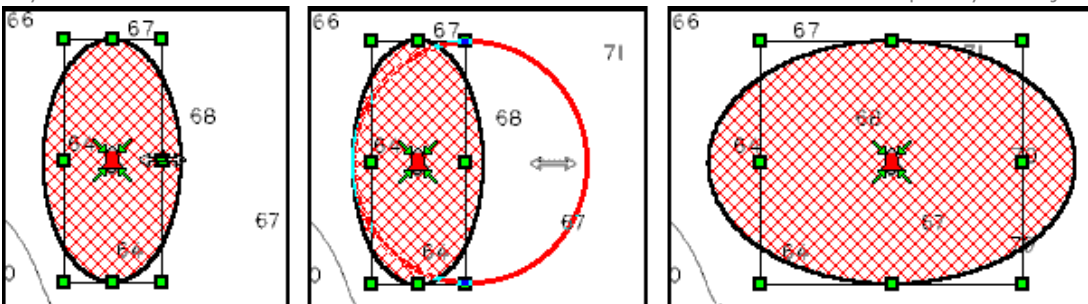
You can also adjust alarms' size using the Properties window (right-click on an alarm point and choose **Properties**).

Moving Alarms

Line/Shape Alarms

To move a polygon/line alarm, grab an edge (or line segment) and drag the entire alarm to a new location.

You can also assign alarms to new locations using the Properties window (right-click on an alarm point and choose **Properties**).

Ellipse Alarms

Hold the cursor over center (or the edge) of the alarm area. The cursor symbol will change into a cross shape, and you can drag the alarm outline to a new location. When you release the mouse button, the entire alarm will move into the location you have selected.
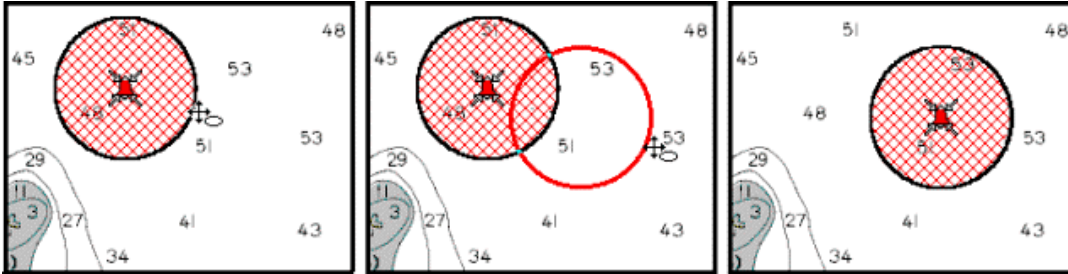
Triggered Alarms
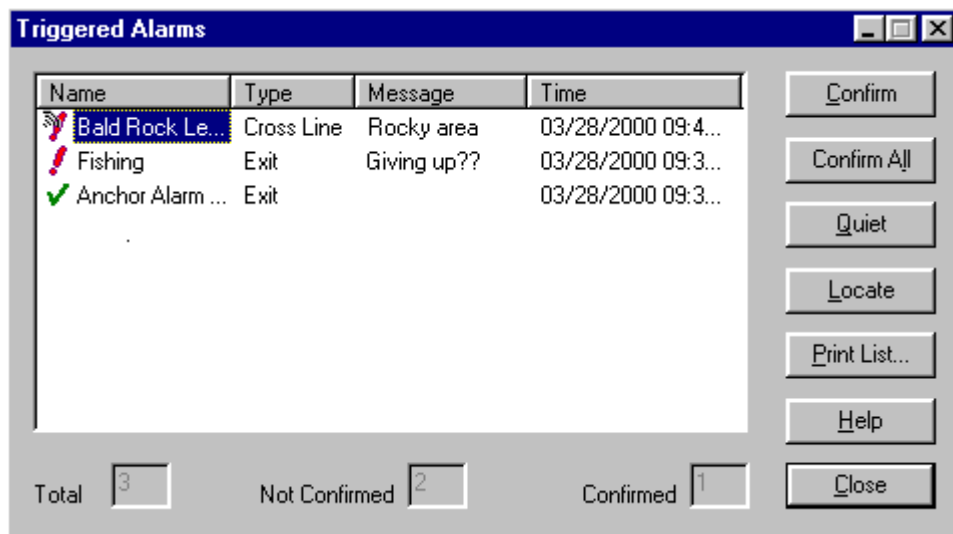
Offshore Navigator will warn you if you trigger an alarm (by entering or leaving an alarm zone).

To view a list of alarms you have triggered, choose **Triggered Alarms** from the View menu, or click the bell symbol in the Status Bar.

When an alarm is triggered, you acknowledge this by pressing the **Confirm** button. This is a safety feature designed to tell Offshore Navigator that you have received the alarm notification.

Unconfirmed alarms are marked here with a red exclamation point. Once you confirm an alarm, a green checkmark appears instead.

The **Quiet** button lets you turn off the alarm sound (for auditory alarms), but does not confirm the alarm.

(The **bell symbol** in the **Status Bar** is red if the Triggered Alarms list contains unconfirmed alarms. When all alarms are confirmed, the bell symbol turns green. If the Triggered Alarms list is empty, the bell is gray.)

Locate will display the chart area that contains the highlighted alarm. **Confirm All** will confirm all alarms at once, and **Print List** will print the Triggered Alarms list.

Using the Simulator
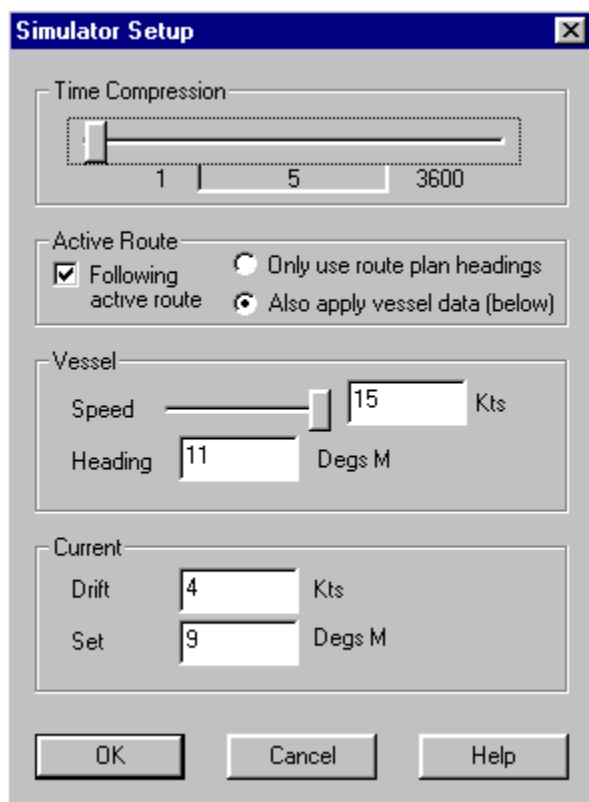
The Simulator helps you visualize your vessel's movement under different conditions, without having to actually be on the water. Using the Simulator, you can specify current set (direction) and drift (speed) and see how those conditions would affect your vessel's progress at various speeds.

To specify Simulator settings, choose Setup, Simulator from the Vessel/GPS menu.

Time Compression

The Time Compression lever controls the rate at which the vessel's movement is simulated. When the slider is all the way to the left, the simulation is portrayed in real time (representing actual vessel progress). Slide the lever to the right to speed it up.

This is like watching a film in fast-forward mode: the events remain the same, but they are displayed at a slower or faster pace. This Time Compression control lets you adjust the length of time that Offshore Navigator takes to simulate a particular route or course of travel, without requiring that you assign a higher vessel speed.

Note: You may find that you don't need to use a very high Time Compression factor. Try a low setting, like 5, to start. (To fine-tune number selection, click on the lever and then press the right arrow on your keyboard to raise the Time Compression factor by one digit at a time.)

Active Route

This section of the Simulator Setup window only applies if you're following a route. (When you're not following a route, this entire section is grayed out.)

Following active route: This is automatically checked if you're following a route. If you want to pause the route, just uncheck this box. Check it again to resume the route.

Only use route plan headings: Lets you see what would happen if the vessel's course were NOT corrected for the effect of a current.

Offshore Navigator will rely on the route plan, using the bearing to the next waypoint as the vessel heading. For example, if Waypoint 2 is at a bearing of 18 degrees from Waypoint 1, Offshore Navigator will assign a vessel heading of 18 degrees, which you may not adjust. The heading will only be changed as each waypoint is achieved. (In this case, a waypoint is considered "achieved" once the vessel icon has traveled a distance equivalent to that route leg—regardless of how close the vessel icon actually is to the waypoint.)

Also apply vessel data: Lets you make course adjustments as necessary to compensate for the effect of the current. This is a "hands-on" way to determine how much of a correction is needed under different conditions (which you set in this window).

To adjust your course, type different **Heading** and **Speed** values in the space provided in the Simulator Setup window. This lets you react to extraneous conditions—namely, the current set and drift that you specify here in Simulator Setup—and make adjustments accordingly. In this way, you can do a "dry run" of a route and find out exactly what corrections you would need to make to stay on course under different conditions.

Vessel Speed and Heading

You must also type vessel speed and heading. (Vessel speed may be already filled in, using whatever figures you entered in the Vessel Setup window, but you can change speed and heading as you like.)

Note: While you're following a route, this section is grayed out UNLESS you have chosen to Also apply vessel data (see above). Once the route is ended, the Simulator will once again use this Vessel data.

Current Set and Drift

You may type a current **Drift** (speed) and **Set** (heading). These conditions will be applied to the vessel icon. Unless you leave both settings at zero, the vessel icon will be deviated from the plotted course. If you want to see how different current conditions would affect your course if you made no heading corrections, check Only use route plan headings. If you want to be able to make course corrections as necessary, check **Also apply vessel data**.

Starting Simulation

When you have made all settings, press **OK** and the Simulation will automatically begin. The vessel icon will move across the chart in the direction, and at the speed, that you specified. You can start and stop Simulation by checking/unchecking **Position from Simulator** at the top of the Vessel/GPS menu. (To bring the vessel icon into view, press the **Locate Vessel** toolbar button. To keep it in view, check the **Follow Vessel** checkbox at the bottom of the chart window.)

The Ship's Log (FULL VERSION ONLY)
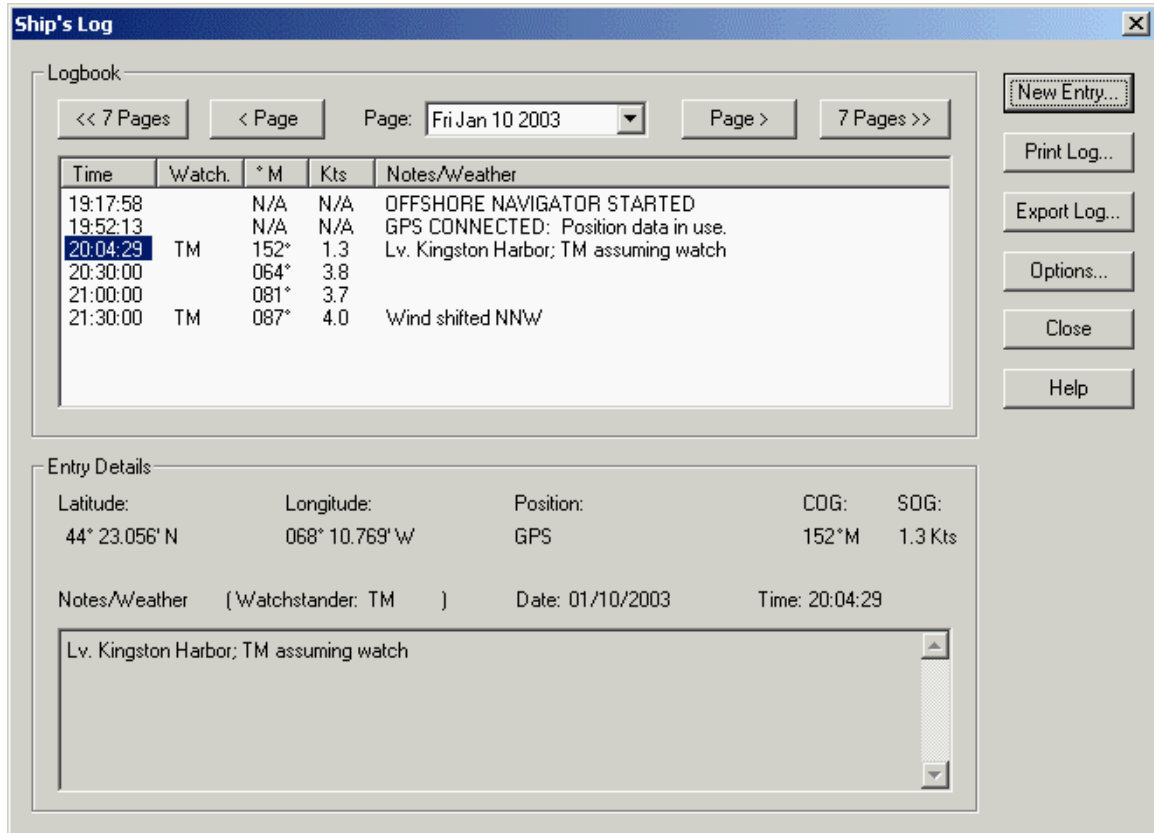
Offshore Navigator's electronic Ship's Log lets you keep an official record of your vessel position, course, speed and progress, and print this information for use as a paper reference. The data you collect may also be exported to a text file for electronic transfer or use in other programs.

To open the logbook, click **Vessel/GPS, Ship's Log**. The top portion of the window is a list of Logbook entries for a given date. Highlight an entry to read it in the Entry Details section below. The most recent entry is shown at the bottom of the list and is automatically highlighted and displayed.

Making a New Entry

To make a log entry, press **New Log Entry**. This will open a new window, noting your position, speed, and course at the moment when you pressed the New Log Entry button. If you like, you can add comments under **Notes/Weather**. When finished, press **OK** and the entry will be saved in the log.

Note: You can also bring up the Log Entry anytime simply by pressing the letter "L" on your keyboard.
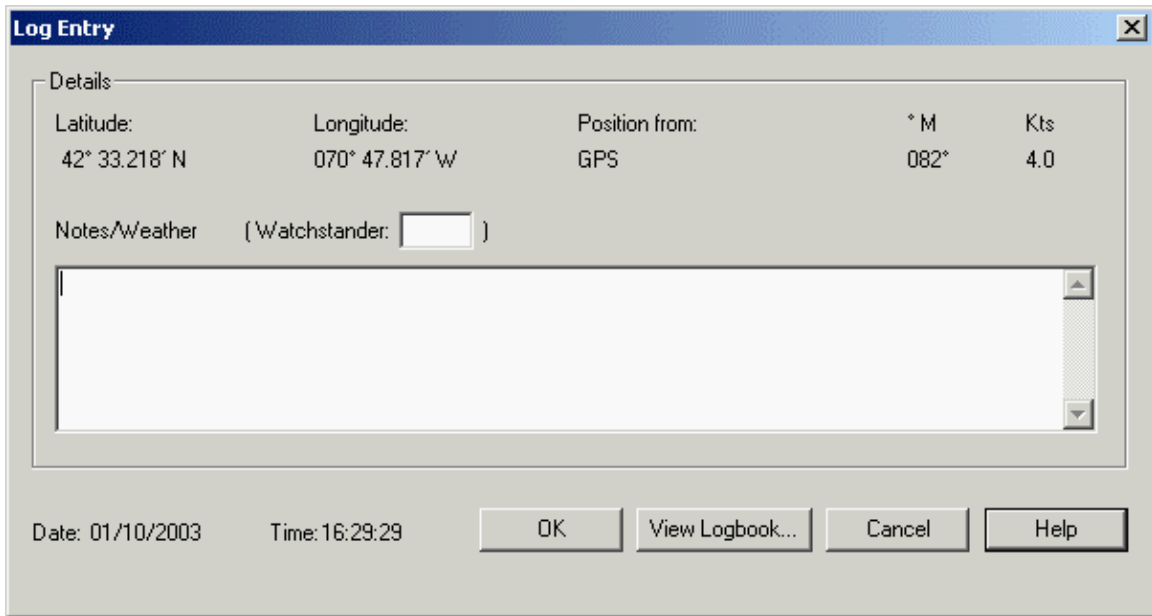
Paging through Previous Entries

To look back in the logbook for previous dates, use the Page controls at the top of the window. Each Page represents one 24-hour period, but Pages are only created for days that have logbook activity. If you make no entries on a particular date, no Page will be created. Pressing either Page button will take you to the closest day for which log entries were made. In other words, regardless of how long it has been since your last cruise, you'll only need to press **< Page** once in order to bring that date into view. Likewise, the **< 7 Pages** and **> 7 Pages** buttons will skip through calendar days as necessary in order to move through ten dates with logbook entries. This prevents you from having to skim through blank days when you're looking for entries.

Scheduling Timed Log Entries
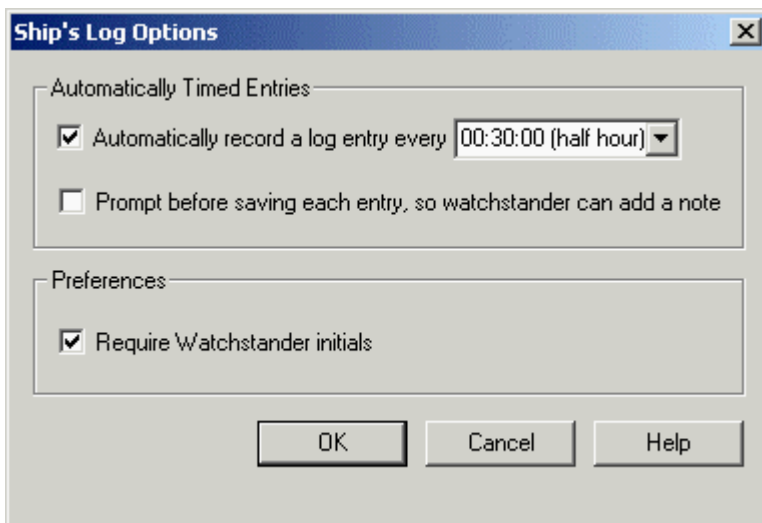
Offshore Navigator can automatically log your vessel position, course and speed at regular intervals. To activate this automatic timing feature, press the **Options** button found in the logbook window, and select a time interval. Entries can be made hourly (on the hour), or every 30 minutes (on the hour, and at half-past).

Important: Keep in mind that timed entries are made not only while you're underway, but whenever Offshore Navigator is running. Offshore Navigator will continue to record log entries regardless of vessel activity until you turn this option off (by clicking the Options button and unchecking the checkbox).

In addition to your automatically timed entries, you can still make log entries manually whenever you like, by pressing the New Entry button in the logbook window, or by pressing the "L" key on your keyboard.

Prompt Before Saving Each Entry

Unless you check this **Prompt...** option, these automatically timed entries will be made "in the background" during program operation: you won't see the entries being made, but you can read them anytime by opening the logbook. However, if you'd like a chance to view the data or add some notes, you can check **Prompt before saving each entry**. Every hour (or half-hour), Offshore Navigator will automatically open the Log Entry window for your review. Add notes if you like, then press **Close** to add the entry to the logbook.

Notes on Prompting:
- The vessel data shown in the entry window won't change, no matter how long you leave the entry window open to add notes. The position, course, and speed are recorded at the time intervals you specified, and aren't affected by the timing of your Notes.
- It is not possible to cancel an automatically timed log entry once that entry window has appeared.
- The log entry window will remain open until you close it. If you haven't closed it by the time the next entry must be made, Offshore Navigator will close the last log entry, adding a note saying "Log entry not acknowledged."

Require Watchstander Initials

The log entry window provides a space where the watchstander may record his initials. If you want to ensure that this space will be filled in, check Require Watchstander Initials. Offshore Navigator will not allow the watchstander to close the entry window unless the Initials space is filled in.

Events that Trigger Logbook Entries

Certain events will automatically trigger a log entry. For example, if you lose your GPS connection, or if you enter an alarm zone, Offshore Navigator will automatically record this event in the logbook. This ensures an accurate record of important events and conditions during navigation. Since there is no need to review or confirm these logbook entries, all personnel are free to focus immediate attention wherever needed when such situations arise. Like all logbook entries, these automatic entries may be viewed at any time in the logbook. Below is a complete list of these events and accompanying logbook notes.

When this happens:	The logbook will record this message:
GPS is unplugged or loses power	"GPS CONNECTION LOST: GPS cable has been disconnected or GPS has lost power. Position shown is last known true vessel position."
Not enough satellite data to calculate vessel position	"INVALID GPS SIGNAL: GPS is still connected, but position signal has been lost."
GPS position data is regained after a problem	"GPS SIGNAL REGAINED: Position data again available."
Switching from Position from GPS to Position from Simulator (in Vessel/GPS menu)	"SWITCHED TO SIMULATOR: Vessel icon to be moved by Simulator. Position shown is last known true vessel position."
Entering Dead Reckoning mode	"DEAD RECKONING BEGUN: Loss of GPS signal has prompted Dead Reckoning mode. Position shown is last known vessel position. Until GPS signal is regained, position will be estimated using course and speed assigned for Dead Reckoning."
Beginning GPS navigation (i.e., each time Position from GPS is selected from Vessel/GPS menu)	"GPS CONNECTED: Position data in use."
Un-checking Position from GPS in	"STOPPED USING GPS FOR VESSEL POSITION:

Vessel/GPS menu	Vessel icon to be moved manually on chart. Position shown is last known true vessel position."
Man Overboard reported	"MAN OVERBOARD REPORTED"
Man Overboard alert canceled	"MAN OVERBOARD ALERT CANCELED"
Vessel enters zone of an Entry Alarm	"ALARM TRIGGERED by entering zone: [name of alarm]"
Vessel exits zone of an Exit Alarm	"ALARM TRIGGERED by exiting zone: [name of alarm]"
Vessel exceeds circular range allowed by Anchor Alarm settings	"ALARM TRIGGERED: Anchor drag."
Offshore Navigator is closed.	"OFFSHORE NAVIGATOR STOPPED"
Offshore Navigator is started.	"OFFSHORE NAVIGATOR STARTED"
Automatically timed log entry never acknowledged, even though Prompting was requested	"LOG ENTRY NOT ACKNOWLEDGED: Log entry window was automatically closed at [time] to make room for next scheduled log entry."

Printing the Logbook

You may print the Ship's Log for recordkeeping or reference. Click **Vessel/GPS, Ship's Log** to open the logbook, then press Print. This will print the logbook Page (24-hour period) that you're viewing in the logbook window.

Official Ship's Log requirements vary in different areas. Some regulations require paper logs, reviewed and signed by specific ship's personnel. For such purposes, a Signature space is provided at the bottom of each printed page. The ship's name, name of the owner, and date of the log page is also automatically included at the top of each print. (This information is taken from Offshore Navigator's Vessel Setup; click **Vessel/GPS, Setup, Vessel** to modify.)

Exporting the Logbook to a Text File
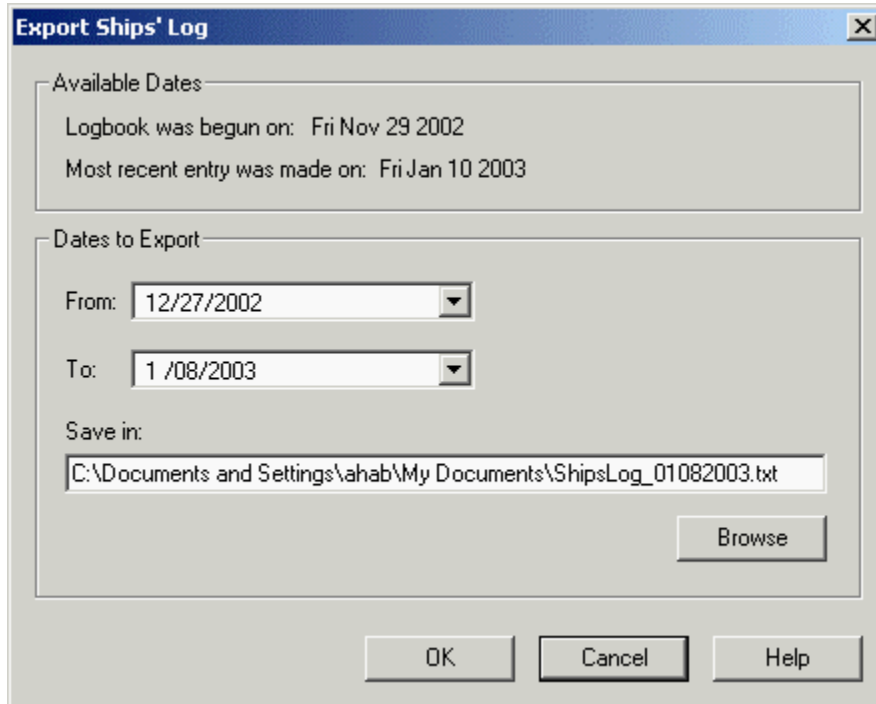
Offshore Navigator allows you to export the ship's log in text file format. Press the **Export** button in the logbook window, and select the date(s) you wish to export. Each date represents one Page of the logbook.

Exported data may be used in other programs; for example, for spreadsheets or databases. The exported files may also be e-mailed.

Importing the Ship's Log into Microsoft Excel

Several Maptech customers have told us that they plan to use Microsoft Excel to view and arrange their exported data. For your convenience, we include the following step-by-step procedure for opening mark text files in Excel. (These instructions were written for Excel97; they may need to be modified for use with other Excel versions.)

1. From Excel's File menu, choose **Open**.
2. Browse to the location of your exported text file. Unless you modified the filename, the exported file is named "Shipslog_[date].txt." (To bring the file into view, you may need to specify **All** or **Text Files** under "Files of Type" at the bottom of Excel's Open window.)
3. The next window that appears will offer you two choices. Choose **Delimited**, and press **Next**.
4. Under "Delimiters," check **Tabs**. Also, check **Treat Consecutive Delimiters as One**. (If your text file contains two or more tabs back-to-back, this will prevent Excel from creating any unnecessary blank columns.) Press **Next**.
5. In the final window, you may leave the Column Data Format settings as they are (unless you have a preference here), and press **Finish**.

MOB (Man Overboard) Tracking Feature
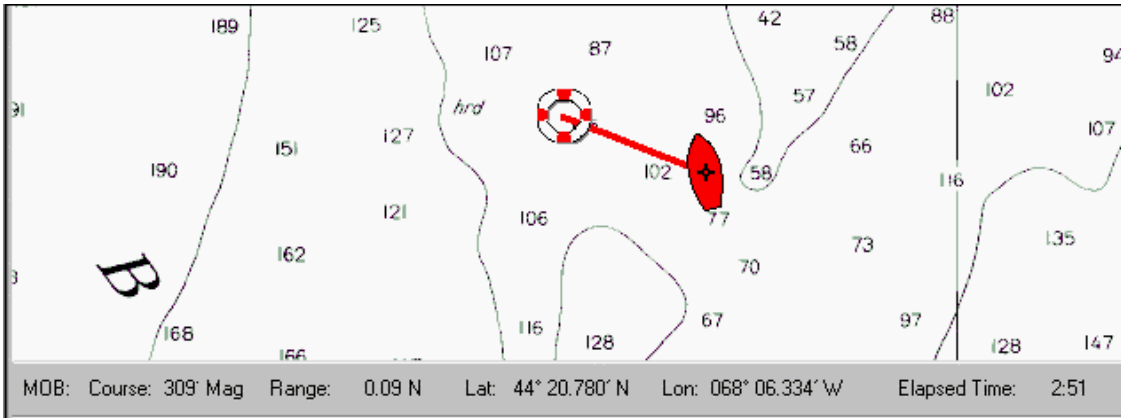
Offshore Navigator is equipped with a Man Overboard tracking feature. In case of such an emergency, press this button and Offshore Navigator will mark the location and note the lat/lon, provide the range and bearing to the man overboard, track the elapsed time, and calculate the time it will take to reach the man overboard from the current vessel location.

To start the MOB tracking feature, press the MOB toolbar button or choose **Start MOB** from the MOB menu. Offshore Navigator will place a life ring symbol on the chart, at the location of the vessel when Man Overboard tracking is started. A line will join the vessel icon to the MOB life ring location, for quick visual reference.

An additional status bar will appear at the bottom of the Offshore Navigator screen. This is the **MOB status bar**, showing the range and bearing to the man overboard. Elapsed time and time to man overboard are also shown here.

Start MOB

In the event of a Man Overboard, start Offshore Navigator's Man Overboard tracking feature by choosing **Start MOB** from the MOB (**M**an **O**ver**b**oard) menu. You can also press the Man Overboard button on the toolbar.

Locate MOB

If Man Overboard (MOB) location is off-screen, choose **Locate MOB** and chart display will center on the MOB location, indicated by a red-and-white life ring symbol.

To end Man Overboard tracking:

- Press the MOB toolbar button, or
- Choose **Cancel MOB** from the MOB menu, or
- Right-click on the MOB life ring icon (on the chart), and choose **Clear**.

For safety reasons, a warning window will ask you to confirm the Cancel MOB command before Offshore Navigator will cancel MOB tracking.

Datum Warnings/Errors

What is datum?

Simply put, datum is a model used for calculating the location of the Earth's center. This center calculation is used as a reference point in establishing coordinate locations, like latitude/longitude, on the Earth's surface.

Why does it matter?

There are many different datums. A coordinate location calculated using one datum may differ by several hundred feet from the same coordinates calculated from another datum. Therefore, before relying on coordinate location information, it is important to know what datum was used in establishing those coordinates.

Offshore Navigator's Status Bar provides at-a-glance datum status. Usually, the Status Bar will read "Datum OK." If there are any discrepancies you need to know about, the Status Bar will note "Datum Warning" or "Datum Error." you can then **click on the status bar's datum note** for further information. Below are explanations of the Datum Warning/Error messages.

Overlay Datum Warning

If you import data or transfer data from a GPS to Offshore Navigator, Offshore Navigator needs to know the datum that was used in creating that data. Most of the time, Offshore Navigator can determine the coordinates' datum and make the necessary adjustments to display the coordinates in their proper position on the chart.

However, if there is any uncertainty about the datum of an overlay (route, mark, track, etc.), Offshore Navigator will display a warning message. It is unsafe to navigate using coordinates whose datum is uncertain. Without knowing the datum, you cannot be sure if the position indicated by the coordinates is really the location that is intended.

For example, if you attempt to follow a route of uncertain datum, the Status Bar will read "Datum Warning" and will provide the following message:

*"**Datum Warning:** The datum of this overlay is unknown, making it unsafe for navigational use. Please verify that the position of the overlay is correct, then right-click on the overlay and choose **Accept Datum as Good**."*

If you cannot solidly confirm the overlay's accuracy by looking at the chart, then *do not* accept the datum as good, and *do not* use that overlay for navigation.

Chart Datum Warning

WGS84 (World Geodetic Survey of 1984) is the most widely accepted datum, and is a standard datum used in creating charts for US waters. If you open a chart that was created using a different datum, Offshore Navigator will convert it to WGS84, and provide this warning:

*"**Datum Warning:** This chart was drawn using a datum other than WGS84, but Offshore Navigator has converted the chart to WGS84, the globally accepted datum. Your vessel and overlays (marks, routes, etc.) are displayed at their true coordinates, shifted to WGS84 datum. Your cursor position is indicated either in the local datum of this chart, or in WGS84- depending on the setting you have specified in Options (under the View menu)."*

You can rely on all your overlays and coordinate data when using this chart. The Datum Warning message is simply a notification that lat/lon data is being given to you in WGS84 datum.


Chart Datum Error

In very few cases, a chart may use a datum that Offshore Navigator is unable to convert to WGS84. The Status Bar will report "Datum Error" and provide the following message:

*"**Datum Error:** This chart was drawn using a datum that Offshore Navigator cannot process accurately. Your vessel and/or overlays (such as marks and routes) may not be displayed at their true coordinates. Because errors may occur between charts of different datums, use caution while navigating on this chart."*

Datum Calculator

Using the Datum Calculator to Convert to Local Datum

The Datum Calculator can convert a set of coordinates from one datum into another. To open the Calculator, click **Tools, Datum Calculator**.
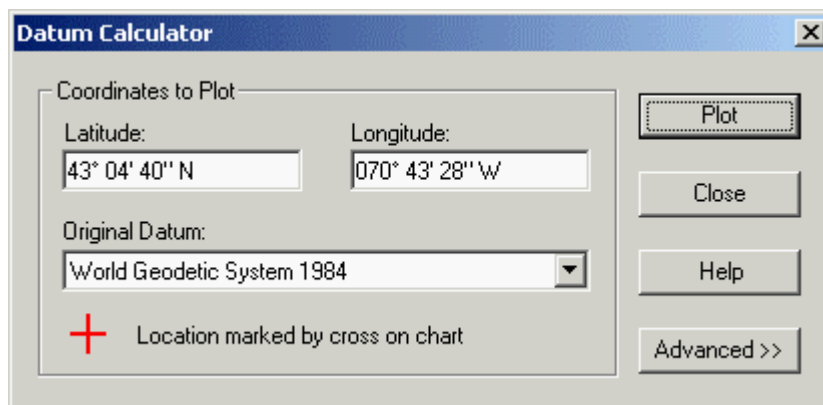
The most common need is to convert coordinates from WGS84 datum (the most popular datum in GPS use) to the Local datum (the datum of the chart you're viewing). When you first open the Calculator, it will automatically fill in the **Latitude** and **Longitude** of the point at the center of the screen, and it will automatically select WGS84 as the **Original Datum** (the datum of the coordinates that you want to convert). You may overwrite the Lat and Lon fields with your own coordinates, and if your coordinates aren't in WGS84, select their datum from the drop-down list. Then, to see this location on the chart, press Plot. The location of your coordinates will be marked with a red cross on the chart. To find that location's coordinates in the Local datum, just hold your cursor over the cross and read the coordinates in the display at the top of the Offshore Navigator window.

Advanced Calculations: Specifying Different Datums

When coordinates are converted, they are shifted from one datum to another. (The adjustment required to express a location in a different datum is called datum shift: a numeric adjustment to the coordinates.) As mentioned above, when you first open the Datum Calculator, it is preset to convert coordinates into the Local datum: the datum of the chart you are viewing. To convert to any other datum, press the **Advanced >>** button.

Under **Shifted Coordinates**, you may specify the datum to which you want to convert the lat/lon, and press **Plot** to perform the calculation. If the location you're converting falls within the boundary of the chart you're viewing, the location will be marked on the chart by a red cross. Since your coordinates always represent the same geographic point regardless of what datum you convert them to, the red cross will remain stationary throughout your calculations. The latitude and longitude figures alone will change: you can read the **Shifted Latitude/Longitude** in the Calculator window.

The yellow cross shows your **Unshifted Coordinates**. This is intended solely as a visual aid for observing datum shift when working within the boundaries of the chart you're viewing. The location of the yellow cross in relation to the red cross demonstrates the amount and direction of datum shift between the two datums. For example, if the yellow (incorrect) cross appears south of the red (correct) cross, this indicates that your Latitude figure was augmented in order to be plotted properly. (If you had NOT converted your latitude and longitude figures--if you had simply used your original figures without applying any shift--your coordinates would be improperly plotted and if you used them for navigation, you would be south of where you actually wanted to be.)

Adjusting Offshore Navigator's Datum Setting

Offshore Navigator displays coordinates either in WGS84 datum, or in the Local datum (whatever datum was used in creating the chart you are viewing). T o adjust Offshore Navigator's datum setting, click **View, Options** and select the **Chart Display** tab. To find out the datum of the chart you're viewing, right-click on the chart and choose **Chart Info**.

CHAPTER 5: ON-WATER MODE (FULL VERSION ONLY)

About On-Water Mode

Designed for Navigation

In On-Water Mode, Offshore Navigator's standard menus and controls are removed from the chart window. They are replaced by a smaller set of buttons and readout panels. These buttons use large-print labels and simple images, to help you easily identify the tools and data that you're most likely to need during actual navigation. This pared-down, simplified control panel makes it easier to glance at the screen and find what you need, in all types of cruising or sailing conditions.

Entering On-Water Mode

To enter On-Water Mode, press the **On-Water** button in the lower left corner of the Plan Mode screen. (Plan Mode is Offshore Navigator's standard mode.)

Returning to Plan Mode

Press the **Plan** button when you want to end On-Water Mode and return to Plan Mode (Offshore Navigator's standard mode).

Adjusting Chart Display

Selecting/Changing Charts

| Nautical ▼ | SALEM, MARBLEHEAD AND BEVERLY HARBORS | ▼ | 13276_1 | ▼ | 1:10000 | ▼ |
| Nautical |
| Topographic |
| Contour |

The chart title, type, ID and scale are listed along the top of the screen. Next to each of these is a drop-down menu, so you can select a different chart based on title, chart type, etc.

Chart Details

SOUNDINGS: FATHOMS

In the lower left corner of the screen, a note window tells you whether the soundings on the chart are given in **feet**, **fathoms** or **meters**.

DATUM: OK

Just as in Plan Mode, a datum status note is provided.

Adjusting the Chart Display

Square buttons across the bottom of the screen make up the rest of the controls:

+

Scale In
Opens the next-larger scale chart available (for closer detail).

—

Scale Out
Opens the next-smaller scale chart available for this area, providing a wider view.

View

Maximizes the chart viewing area, by removing/shrinking controls. Press View again to restore all controls.

Inset

Opens the Chart Overview window as an inset in the top left corner. The Overview Window gives you a view of the entire chart. The area being shown on your screen is outlined in red. You can drag this red outline across the overview to view a different area of the chart.
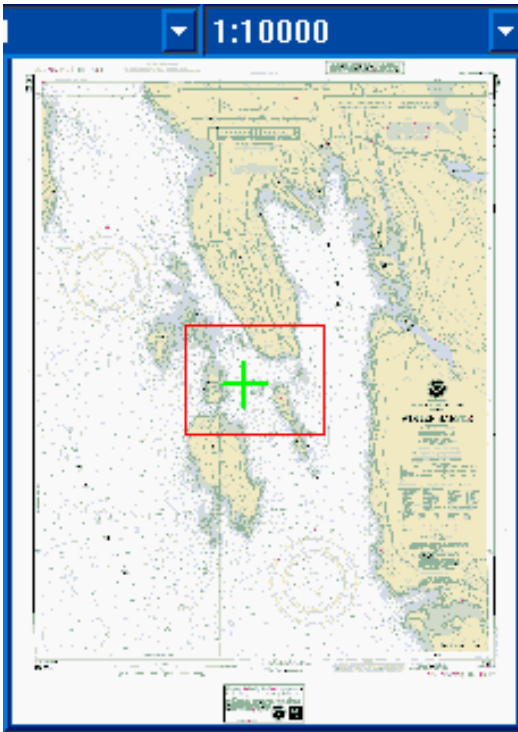
Positioning the Vessel

Locating the Vessel Icon

Press **Vessel** to center the screen on your vessel location (same as the Locate Vessel button in Plan Mode). Your position is marked by a vessel icon on the chart.

Positioning the Vessel Icon

To represent your actual vessel location, Offshore Navigator relies upon position data received from your GPS. All you need to do is make sure your GPS is turned on, is properly connected, and is receiving a valid position fix.

The vessel icon location is accurate ONLY as long as your GPS is on and receiving an accurate signal. To check whether Offshore Navigator is receiving position data from your GPS, check the vessel position status note in the lower left corner of the screen. **GPS: FIX** means that the vessel icon represents the lat/lon received from your GPS.

The GPS status note tells you at a glance whether the vessel icon represents your actual GPS location. If it doesn't, you'll see one of these notes instead:

GPS: ESTIMATED

If your GPS signal is lost for any reason, the note will read **GPS: ESTIMATED**. When this happens, Offshore Navigator can continue to move your vessel icon along an *estimated* course, using Dead Reckoning (requires setup—see page 58).

[MANUAL POSITION]

If your GPS isn't turned on and connected, you can click-and-drag the vessel icon on the chart.

SIMULATOR

You can also use the Simulator to control vessel icon movement and direction.

Tracking Your Progress

Marking Your Position

Anytime you want to mark your location for future reference, press the Position **Mark** button. (For example, to mark the location of a submerged rock, school of fish, etc.) This will create a mark at the location occupied by your vessel at the time that the button is pressed. This Position Mark will remain in place on the chart even after your vessel moves away.

The only difference between Position Marks and standard marks is in the way they're created. Position Marks have all the same characteristics as standard marks: you can rename them, change their symbols, etc. In the Mark List, a Position Mark is indicated by an asterisk (*) after its name. (To view the Mark List and edit your marks, you must return to Plan Mode. Press the **Plan** button to leave On-Water Mode and return to standard Plan mode.)

Recording Your Progress

To lay down a track line along your course as you cruise, press **Track.** The track line connects symbols "dropped" at regular intervals as your vessel moves. Your Track will be saved on the chart.
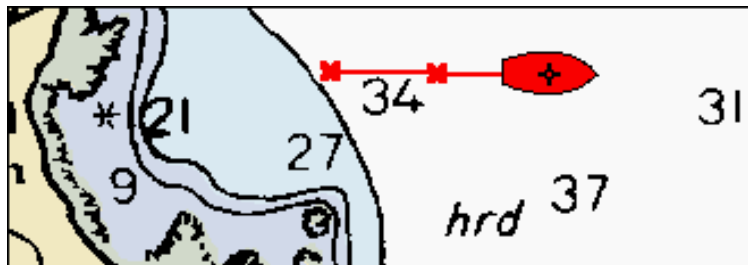
To set the symbol interval and other track recording options, press **Plan** to return to Plan Mode and then choose **Vessel/GPS, Tracks, Record**. See page 66 for details. (Note: In order to use this tracking feature, your GPS must be on and connected to Offshore Navigator.)

MOB: Man Overboard Tracking

In the event that someone falls overboard while you're cruising, press this button immediately to start Man Overboard Tracking. As soon as the button is pressed, Offshore Navigator will drop a life ring symbol mark at the location of your vessel. A panel will appear at the bottom of the screen, with bearing information to guide you directly back to the MOB location (marked by the life ring). A line will join your vessel icon and the MOB location, serving as a visual aid. In addition, a timer will count down the time elapsed since the MOB button was pressed. (This information will be invaluable in describing a victim's condition in the event that emergency treatment is required.)

When the Man Overboard emergency is ended, press the **MOB** button again. The information display and the life ring symbol will be removed.

Spherical Horizon View
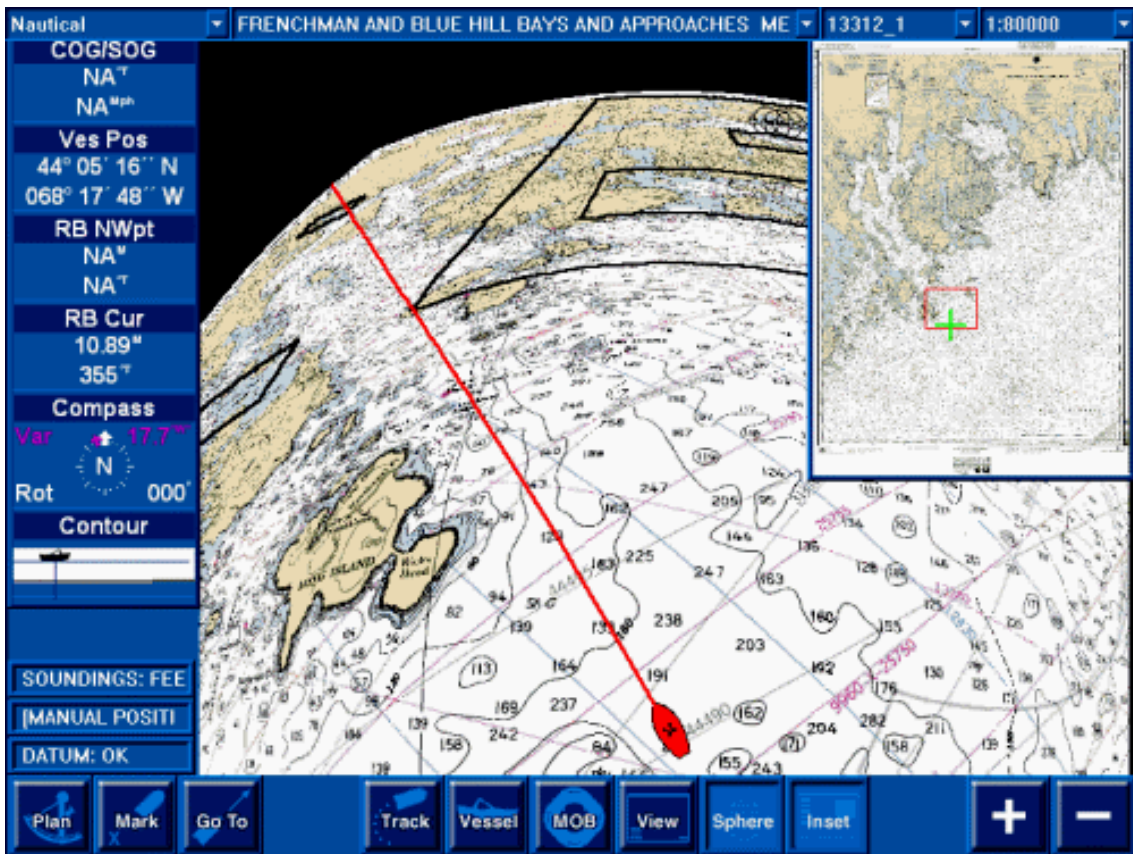
Spherical Horizon View, an option provided in On-Water Mode, presents each chart as a curved image, much like a globe. This chart view mode is designed for use when you're Following your vessel: when the chart view automatically follows your vessel as you move showing you where you are at all times.

Used during navigation, Spherical View offers a double advantage: it gives you a broad overview of the chart you're using, without compromising detail in your immediate area. The area in the "foreground" is shown in crisp focus, so you can read nearby depth marks, notes, and other chart details. The rest of the chart is visible in the distance, so you can see what lies ahead. (In the picture above, several chart outlines indicate areas where more detailed charts are available.) As your vessel moves across the chart, the chart scrolls towards you, so that your vessel location is always shown in clear detail.

To enter Spherical Horizon View, press the **Sphere** button. Press it again to toggle back to flat chart view.

Notes:

- In order to use Spherical Horizon View, your computer's Colors setting must be at least 16-bit ("High Color"). To adjust your color setting, right-click on your desktop and choose Properties, Settings.
- Spherical Horizon View works best on computers with at least 128 MB of RAM.

Setting Course

Creating a "Go To"

Press this button to create a *Go To* route straight to any location that you select on the chart. Just press the **Go To** button and then click on your destination. Offshore Navigator will place a waypoint (#1) at the location you click. When you create a Go To and specify your destination, you can also take advantage of the constantly updated information provided by the data windows, to guide you towards the location that you clicked.

Data Windows

Data Windows

COG/SOG

175^T

15.00^K

Ves Pos

44° 22´ 09´´ N

068° 05´ 48´´ W

RB Cur

0.36^{nM}

260^T

Cur Pos

44° 22´ 06´´ N

068° 06´ 17´´ W

Compass

Var   17.8$^{°W°}$

N

Rot   000°
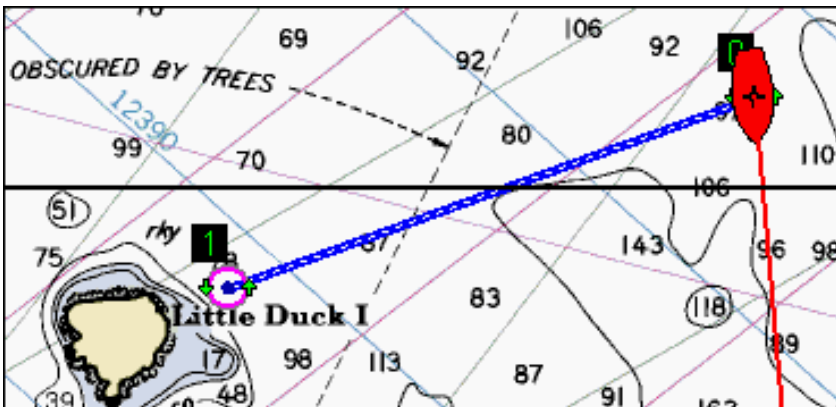
Just as in Plan Mode, Offshore Navigator can provide constantly updated data readings for your reference while you cruise. The data window panel may be dragged to any area of the screen.

In order for data windows to appear in On-Water Mode, they must first be turned on in Plan Mode (Offshore Navigator's standard operating mode). To activate data windows, check the **Data Windows** checkbox in the View menu.

To configure your data windows and choose what information to include, choose **Setup, Data Windows** from the Vessel/GPS menu. (Or, you can just click on any data window. Right-click if in Plan mode, left-click in On-Water Mode). See page 67 for a list of available data.

Contour Chart Control
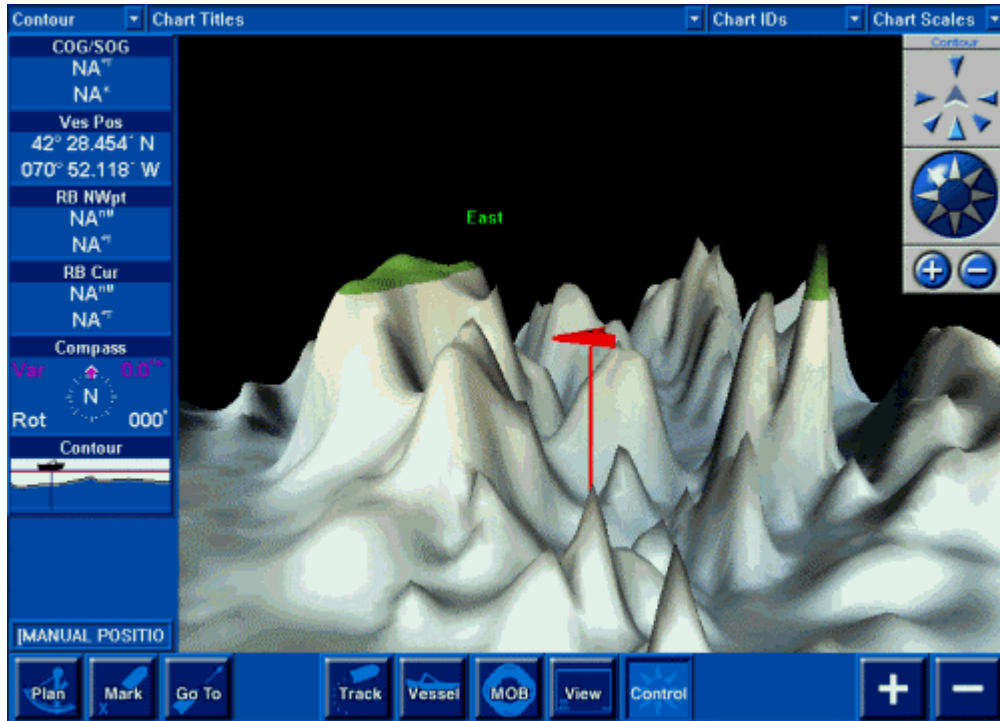
When viewing contour charts, an optional control may be used for more precise chart manipulation. The Contour Chart Control lets you rotate the chart to any angle, tilt it up or down for a better view, and zoom smoothly in and out.

To activate the Contour Chart Control when in On-Water Mode, press the **Control** button. The Contour Chart Control will appear in the upper right corner of your screen.

The top section of the control lets you make major viewing angle adjustments quickly and precisely. The chevron shape in the center represents your vessel, bow facing forward. Click any arrow to "look" in that direction: for example, to look at the contours to starboard, click the arrow pointing to the right; to look straight ahead, click the arrow that's pointing in the same direction as the vessel icon, etc.

The "spin" ball lets you make more minute adjustments. Click any point on the spin ball to rotate or tilt your viewing angle in that direction. To view the chart from higher up, click the up-arrow on the top of the spin ball. To move your viewpoint around to the left, click the left arrow, etc. To continue spinning, just hold the arrow down.

Finally, the plus and minus buttons let you zoom in (+) and out (-) on the chart. Hold either button down for a continuous zoom.

Removing the Contour Chart Control

In On-Water Mode, the Control button acts as a toggle, turning the Contour Chart Control on and off. Just press **Control** to activate, or remove, the Contour Chart Control.

On-the-Water Mode Shortcut Keys

Use your keyboard for shortcuts to several On-Water Mode features:

MOB (Man Overboard): F5
Starts Man Overboard tracking.

Tile Contour Chart Window: C
Opens Contour Chart coverage for the location you're viewing.

Locate Vessel: V
Centers the screen on your vessel location (opens a new chart if necessary).

Plan Mode/On-Water Mode: O (works as toggle)
Toggles between On-Water Mode and Plan Mode

Zoom In/Out: + (in), - (out)
If you have one, you can also use your Mouse Wheel: spin towards screen to zoom in, spin towards self to zoom out.

Moving Around the Chart: 4 Arrow Keys
--> to pan to the right, <-- to pan left, etc.

Maximize Active Window: X
Maximizes active chart window and also removes navigation panel/status lines from bottom of screen for maximum display area.

CHAPTER 6: ROUTES

What is a Route?

A route is a series of waypoints, connected in sequence along a path of travel. (Waypoints are individual latitude/longitude locations.)

In Offshore Navigator, routes are displayed as symbols and lines on the charts. You can adjust the characteristics of each route (symbol and line color, symbol shape, display of waypoint name and number, etc.).

The Route List
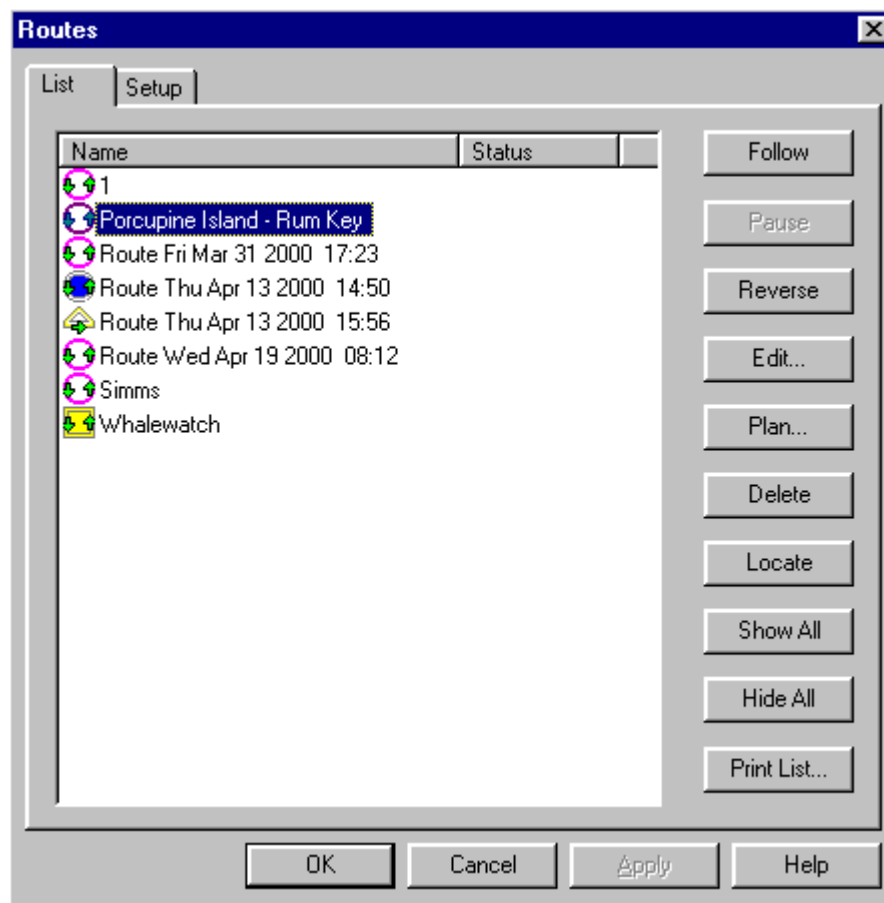
The Route List window shows all your routes. Click on a route name to highlight it. There are several options available from the Route List window:

- You can **edit** waypoint symbol, line color, etc. for the route you highlighted (press **Edit**);
- Select a route to follow with your vessel (press **Follow**);
- View a route's location on a chart (press **Locate**).
- Follow a route in **Reverse**

- **Show All** or **Hide All** routes on the screen
- Use the Route **Plan** window to see a breakdown of the trip, including estimated fuel consumption per route leg at various speeds, duration of each leg of the route, estimated arrival time, etc.
- **Delete** individual routes or **print a list** of all your routes.
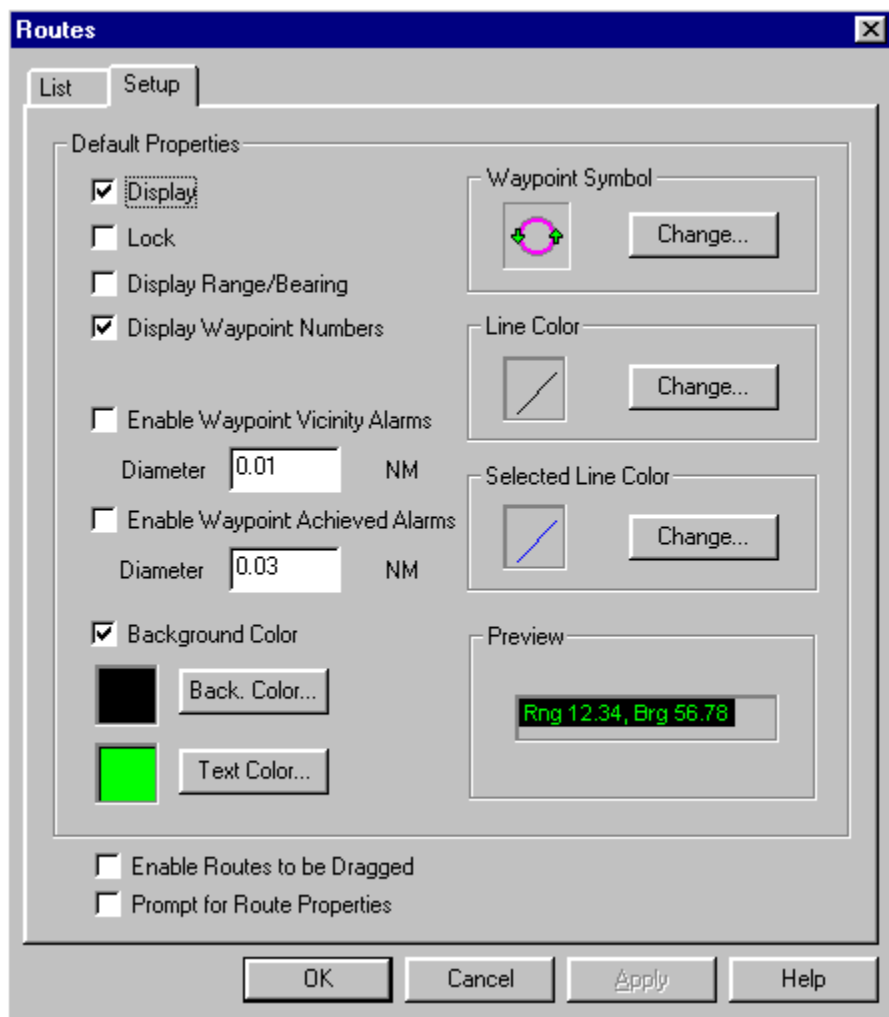
Route Setup

Choose **Routes** from the Route menu and press the Setup tab to set default properties for Offshore Navigator to use when you create routes.

The Route Setup options let you decide how your routes should look and act. Offshore Navigator will use these settings for new routes. These default settings can be changed at any time, and of course you can always edit routes individually if you need to make changes.

- **Display:** When this is checked, your routes will be included in the chart display. If you want your routes to be hidden from view, uncheck Display.
- **Lock:** Check Lock to prevent accidental movement of your routes and waypoints. When Lock is unchecked, you will be able to move routes by clicking-and-dragging.

- **Display Range/Bearing:** The range and bearing from each waypoint to the next will be included on the chart, alongside each route leg line.
- **Display Waypoint Numbers:** When this is checked, each waypoint will be identified on the chart by a number. Uncheck this option if you prefer to use unnumbered symbols instead.
- **Enable End Route Alarm:** When following a route, Offshore Navigator will notify you when you have reached the end of the route.
- **Enable Waypoint Vicinity Alarms:** For use during navigation. Offshore Navigator will notify you as you near each waypoint. The Diameter range controls the range at which Offshore Navigator will notify you: in this example, the alarm is triggered when the vessel comes within .01 NM (nautical miles) of the waypoint.
- **Enable Waypoint Achievement Alarms:** When your vessel has reached a waypoint, Offshore Navigator will notify you. The Diameter range tells Offshore Navigator how close the vessel must come to the waypoint before the alarm is triggered (adjust the diameter according to your personal preference).
- **Background Color; Preview:** The background and text color choices are for use with waypoint numbering and range/bearing data. The Preview pane lets you see how your choices will look. (Uncheck the Background Color checkbox if you prefer a transparent background.)
- **Waypoint Symbol:** Five waypoint symbols are available; press **Change** and then click on the symbol you want.
- **Line Color:** Pick a color to use for the lines that join the waypoints.
- **Color of Selected Line:** The lines of a route can change color when that route is selected (for example, when you click on a route or when you are following the route). Pick a line color that will signify when a route is selected.

- **Enable Routes to be Dragged:** You can move individual waypoints by clicking and dragging, but the Enable Routes to be Dragged option lets you move an entire route at once, by clicking on a line and dragging the route to another location.
- **Prompt for Route Properties:** When this is checked, Offshore Navigator will automatically prompt you to assign a new route's properties as soon as you finish creating the new route. The Route Properties window will automatically appear after you save the route.

Route Properties
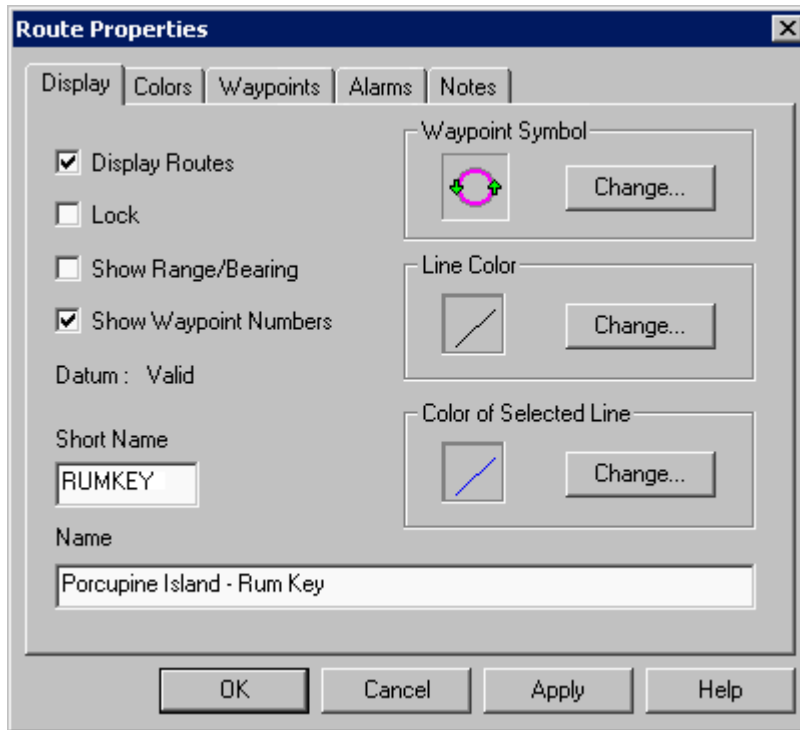
You can adjust a route's characteristics in the **Route Properties** window. To open the Route Properties window:

- Highlight the route's name in the Route List and press **Edit**: or
- Right-click on one of the route's waypoints and choose **Route Properties**.

The **Display** tab, shown above, lets you choose a waypoint symbol, line color, and other features that control how the route looks and acts. The **Waypoints** tab lets you edit waypoints' coordinates or insert new waypoints by assigning them coordinates. The **Alarms** tab lets you adjust the diameter for the Waypoint Vicinity and Arrival Alarms. For details on these alarms and other Properties options, see Route Setup on page 106.

Route Plan

The Route Plan window lets you modify a route. For example, you can assume different speeds for different legs of the route, or decide how much time you want to spend at each waypoint. Offshore Navigator takes your route plan and automatically calculates how long the trip will take, how much fuel you will use, etc. In this way, you can experiment with a route before you even get on the water.

The **Last Trip** tab lets you see route plans for previous cruises of this route.

The data columns in the lower portion of the window may be rearranged to your liking. Each row represents one route leg. Some of the columns are not visible in the image above; here is a complete list of available Route Plan data:

- Leg Number
- Starting Waypoint
- Start Lat/Lon
- Ending Waypoint
- Distance (traveled so far)
- Distance Summary (total trip distance)
- Bearing (of leg)
- Speed (of leg)
- Time (spent so far)
- Time Summary (total trip time)
- Completion (date and time)
- Pause (how much time spent in Pause mode after this leg)
- Fuel (consumed during this leg)
- Fuel Summary (total fuel consumption)

You don't need to use all the fields; you can choose the ones you want to include in the Route Plan by pressing the **Columns** button.

Route Templates

If there is a harbor, channel, or other area through which you travel frequently, you can create a route template for the course that you typically follow. You can use this route template as the basis for other routes that you create in the area.
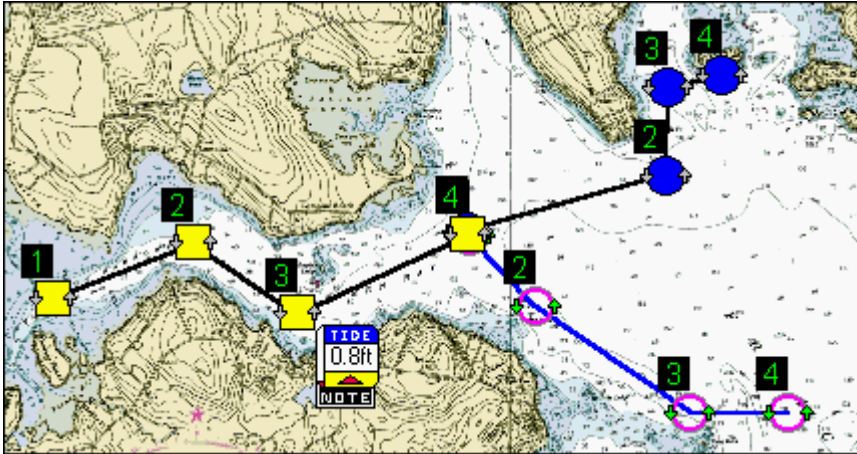
The route template shown above has square yellow waypoints. Two routes have been built onto this template.

Creating a Template

Use the Route Tool to create a route on the chart, then right-click and choose **Save as Template**. After you save the template, the Route tool is still active. If you want to immediately build a route from this template, continue to click and add waypoints. Otherwise, right-click again and choose **Save** to close the Route tool.

Converting a Template into a Route

From the Route menu, choose **Template List**. Select the template you want to use, and press **Convert to Route**. The template will appear on the screen, and the cursor will be in Route Tool mode, with a line attaching it to the final template point. Simply click wherever you want to add waypoints to the template, to form a new route. When you have finished, right-click and choose **Save**. The original template will remain as it was, and your new route will be overlaid on top of it, covering the entire planned course.

Note: If you just want to view a template, without building a route onto it, choose **Template List** from the Route menu, select a template, and press **Locate**. This will show you that template's chart location, without activating the Route tool.

Following a Route

Following a route in Offshore Navigator means that the vessel icon will move along the route overlay to represent your progress during a cruise. You can follow a route using your GPS during actual navigation on the water, or you can use the Simulator (useful for planning, when you're not actually moving).

Highlight a route and press **Follow**, then select a **Position From** option from the top of the Vessel/GPS menu. Offshore Navigator will move the vessel icon to represent your progress along the route.

- **Position from GPS:** If you are on the water and cruising, choose **Position from GPS** from the Vessel/GPS menu, and your position will be marked on the charts and updated every three seconds. Offshore Navigator receives position data from your GPS and places your vessel at the coordinates received. When Position from GPS is checked, you may also follow a route using your Autopilot (see page 112).
- **Position from Simulator:** This lets you simulate vessel movement to help you plan a cruise in advance- even before you get on the water. Your vessel icon is moved according to the speed and current set/drift conditions that you specify in Simulator Setup (see page 84).

When you're following a route, the Follow button is relabeled **Abandon**. If you decide to stop following the route, **Abandon** it either by pressing this Abandon button, or by right-clicking on the route and choosing **Abandon Route**. To temporarily pause vessel tracking progress, right-click on the route and choose **Pause Route**. This will let you make a temporary deviation, then pick up again where you left off. (Offshore Navigator will continue to move your vessel across the chart; it just won't compare your course to the planned route.)

Notes: To bring the route into view on the screen, **Route List** from the Route menu, highlight the route name, and press the **Locate** button.

Following a Route using the Simulator

(See page 84 for more information about the vessel movement Simulator.)
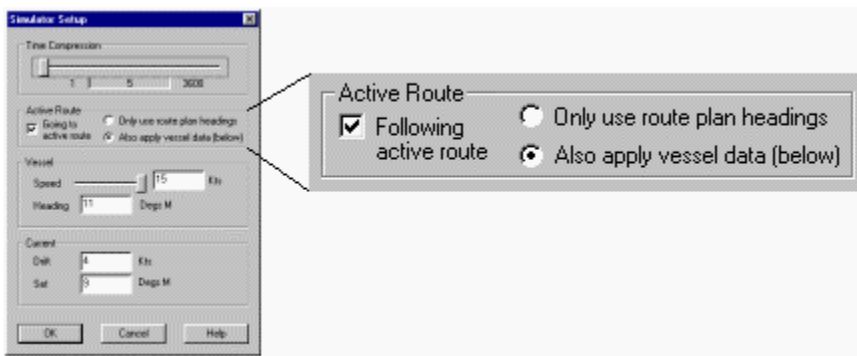
When you're following a route, you have two choices for how the Simulator should work. Under **Active Route**, check whether to **Only use route plan headings**, which lets you see what would happen if the vessel's course were NOT corrected for the effect of a current, or whether to **Also apply vessel data**. The latter allows you to make adjustments to your course as necessary, providing a hands-on means of determining what corrections would be required under different conditions.

Following active route: This is automatically checked if you're following a route. If you want to pause the route, just uncheck this box. Check it again to resume the route.

Step-by-Step Instructions
1. Locate the route that you want to follow, then right-click on it and choose **Follow**.
2. Next, place the vessel icon near the start of the route. (To do this, right-click near the start of the route and choose **Put Vessel Here**.)
3. If you want to record the vessel's progress, choose **Vessel/GPS, Tracks, Record**
4. Hold the cursor over the route. The cursor will change to a cross shape. Right-click, and choose **Follow**. A route line will join the vessel to the route's first waypoint.
5. From the Vessel/GPS menu, choose **Setup, Simulator**. Check the **Following active route** checkbox (if it isn't already checked).
6. To the right of the checkbox, there are two choices.
   - **Only use route plan headings** lets you see what would happen if the vessel's course were NOT

corrected for the effect of a current.
- **Also apply vessel data** lets you make heading adjustments as necessary to compensate for the effect of the current. This is a "hands-on" way to determine how much of a correction is needed under different conditions.

7. Under **Current**, specify **Set** (the direction of the current) and **Drift** (the current's speed).

8. Press **OK**. On the chart, the vessel will begin to move. Choose **Setup, Simulator** from the Vessel/GPS menu when you want to make changes to the Simulator settings. To pause the simulation, uncheck the **Position from Simulator** at the top of the Vessel/GPS menu. (A check next to this menu option indicates that the Simulator is in use. Uncheck it to pause simulation; recheck to restart.)

Following a route, relying solely on route plan headings, with a 3 MPH current at 165° True.
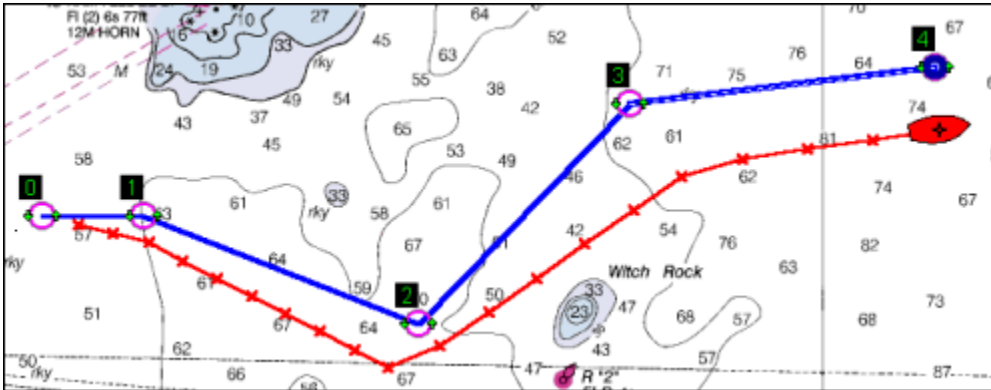
In the image above, the vessel's course is shown by the red track line. Without any course corrections, the vessel's location upon route completion is nearly a quarter mile south of the final waypoint. By looking at this result, you can gauge the amount of correction needed. Alternatively, you can run the simulation again, this time checking **Also apply vessel data**, and actually make corrections as the vessel icon moves.

Following a Route with Autopilot

Offshore Navigator can send route data, along with position data from your GPS, to your Autopilot device.

1. If you haven't yet set up your Autopilot, choose **Vessel/GPS, Setup, Autopilot** to configure settings for use with Offshore Navigator. (See page 59.)
2. Next, make sure your Autopilot device is turned on.
3. To start sending data to the Autopilot, check Send Data to Autopilot, found under the Vessel/GPS menu.

Important: This alone will not necessarily ensure that communication is established. You must verify that your Autopilot is receiving the data that Offshore Navigator is sending.
- As always when navigating with Autopilot, as you finish each leg of your route, your Autopilot will request that you confirm each waypoint as it is achieved, before setting course for the next waypoint.
- If you like, you may specify information you'd like to receive from your GPS and pass through Offshore Navigator without modification, directly to your Autopilot (see page 60).
- In the event that your GPS signal is lost, Offshore Navigator can send estimated course data to the Autopilot, using Dead Reckoning (see page 58).

CHAPTER 7: INFORMATION TO AID NAVIGATION

Tide Stations

Tide Station List

Maptech ChartKit CDs <u>edition 3.0 and higher</u> include tide graphs for several tide stations within each chart region. To browse a list of the tide stations and select one to view on the screen, choose **Tide Station** from the Locate menu.

```
Tide Stations                                                              [×]

                        ┌Search──────────────────────────────┐
                        │ For:  [bar                    ] [Prev.] │   [ Goto ]
                        │ Found: 4  Matching Tide Stations Found. [Next] │
                        └─────────────────────────────────────┘   [ Info... ]
 Tide Stations
 ┌────────┬────────────────────────────┬──────────────┬───────────────┬─────┐  [Print List...]
 │ #      │ Name                       │ Latitude     │ Longitude     │ M ▲ │
 │ 787    │ Back River                 │ 43° 57.000′ N │ 069° 41.000′ W │ 4.9 │   [ Close ]
 │ 8414612│ Bangor                     │ 44° 48.000′ N │ 068° 46.000′ W │ 7.2 │
 │ 8413320│ Bar Harbor                 │ 44° 24.000′ N │ 068° 12.000′ W │ 5.7 │   [ Help ]
 │ 1111   │ Barlows Landing, Pocasset Harbor │ 41° 41.000′ N │ 070° 38.000′ W │ 2.2 │
 │ 995    │ Barnstable Harbor, Beach Point │ 41° 43.000′ N │ 070° 17.000′ W │ 5.0 │
 │ 8413651│ Bass Harbor                │ 44° 14.000′ N │ 068° 21.000′ W │ 5.3 │
 │ 8417227│ Bath                       │ 43° 55.000′ N │ 069° 49.000′ W │ 3.4 │
 │ 8453999│ Beavertail Point           │ 41° 27.000′ N │ 071° 24.000′ W │ 1.9 │
 │ 8415191│ Belfast                    │ 44° 26.000′ N │ 069° 00.000′ W │ 5.5 │
 │ 8443751│ Belle Isle Inlet entrance  │ 42° 23.000′ N │ 071° 00.000′ W │ 5.0 │
 │ 1135   │ Belleville, Acushnet River │ 41° 40.000′ N │ 070° 55.000′ W │ 2.1 │
 │ 923    │ Beverly                    │ 42° 32.000′ N │ 070° 53.000′ W │ 4.8 │
 │ 8410875│ Birch Islands              │ 44° 52.000′ N │ 067° 09.000′ W │ 9.2 │
 │ 1123   │ Bird Island                │ 41° 40.000′ N │ 070° 43.000′ W │ 2.3 ▼│
 └────────┴────────────────────────────┴──────────────┴───────────────┴─────┘
                                                          300 Stations Total
```

The stations are represented by icons on the charts. Each icon is labeled with the present tidal height, and includes an arrow that indicates whether the tide is ebbing or flooding. (Offshore Navigator uses your computer's system clock to gauge the present tidal conditions, changing the icons' appearance accordingly.)
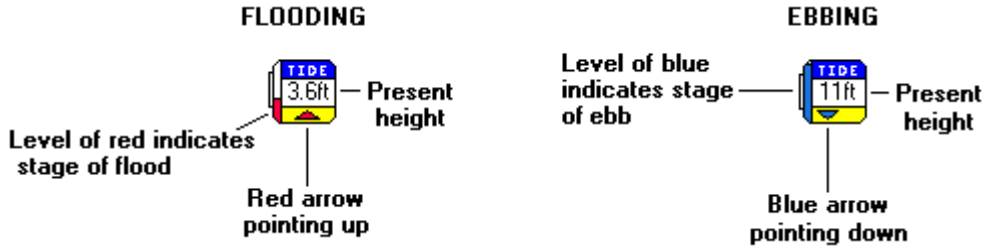
Right-click on an icon to read the station name, view the related tide graph, or get additional data about the station (Properties).
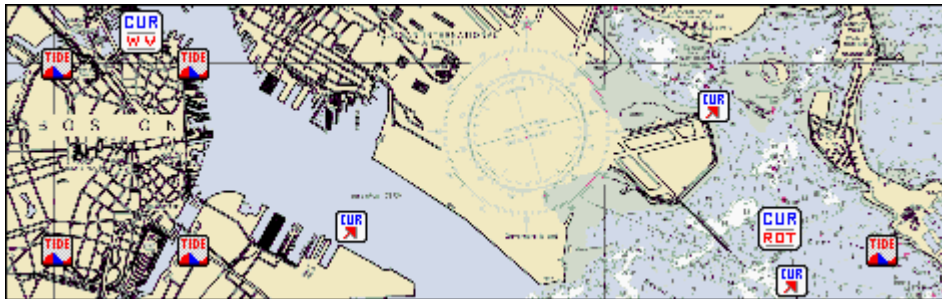
Tide Station Icons

Standard Icons
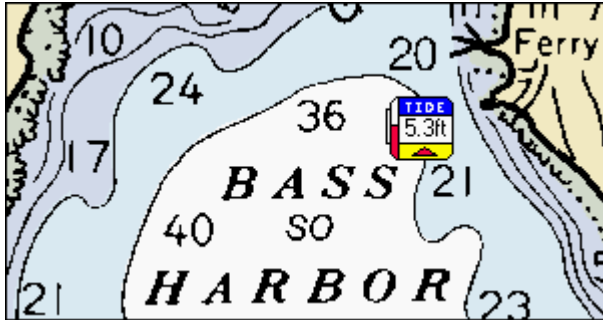
The icons that indicate the tide station locations also indicate the stage and height of the tide. The icons change in appearance to reflect the present conditions:


Note: Offshore Navigator uses your computer's system clock to get the time and date, in order to show present tidal conditions. Therefore, the accuracy of the tide readings depends on the accuracy of your system clock.

### Smaller Icons are Sometimes Used

 Sometimes the scale of a chart, or the high number of tide icons in one area, make it hard to use the standard tide icons to indicate each station accurately. In these cases, Offshore Navigator uses a smaller version of the tide icon (shown above). These smaller tide icons always look the same regardless of tidal conditions, so you will need refer to each station's tide graph for further information. Alternatively, you can zoom in or scale in until there is room for Offshore Navigator to display the standard tide icons.

Right-click on an icon to read the station name, view its tide graph, or get additional data about the station (Properties).
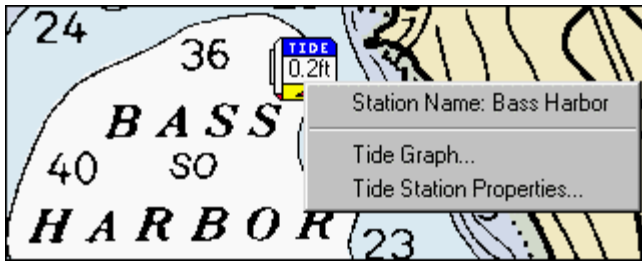
Tide Graph
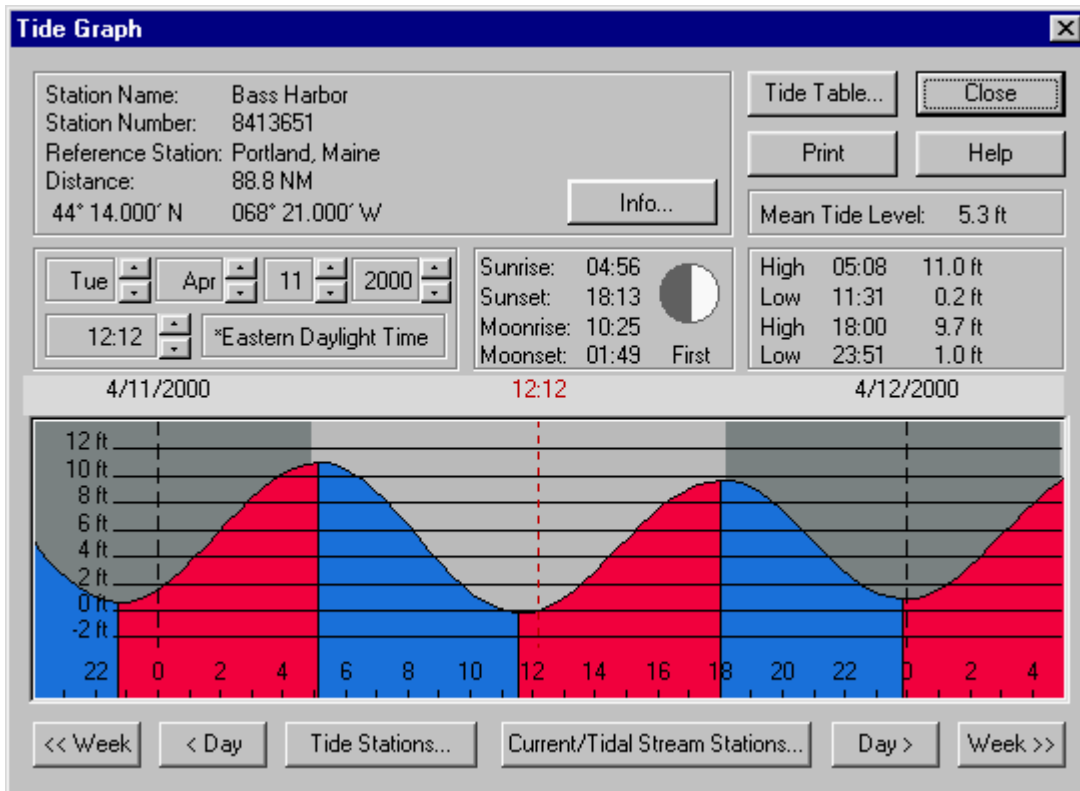
Maptech ChartKit CDs edition 3.0 and higher include tide graphs for several tide stations within each region. The stations are represented by icons on the charts. To view a tide graph, just right-click on a tide station icon and choose **Tide Table.** The graphs provide the time and estimated water height of predicted high and low tides.

Interpreting the Tide Graph

The tide graph shown above is the standard format for conveying tide fluctuations hour to hour. The vertical axis shows the height of the tide. Time progression moves from left to right, and is shown in hourly increments on a 24-hour scale, with afternoon and evening hours represented as 13 (1 PM) through 23 (11 PM). Zero is midnight.

In the tide graph, red indicates when the tide is flooding (rising); blue shows when the tide is ebbing. The dark and light gray shading above the line distinguishes day from night.

Checking Different Dates and Times

When you first open the tide graph, it shows the present conditions. (It gets the date and time from your computer's system clock). There are several ways to adjust the date and time being displayed. As you change the day or hour, the graph scrolls to represent tidal conditions at the specified time. All time and date readings are updated simultaneously (in other words, if you change the date, the day of the month will change too).

Tide Graphs from BA (British Admiralty) Charts

Tide graphs for stations on charts produced by the British Admiralty contain some additional data:

- **Datum of Soundings:** The point used as a base in determining tide height. Tidal datum is a local measurement., also known as Datum height, and is usually the level of low water at ordinary springs in this region, or sometimes mean low (or lower low) water. This figure is printed on most paper nautical charts.
- **Reference Place:** The location where this measurement was taken.
- **Show Means on Graph:** Check "Show Means on Graph" to include yellow lines through the graph at mean water levels.
- **MLWS: Mean Low Water Springs.** The yearly average low water height measured at spring tide. Spring tide is the period during the moon phase cycle when the range of tide is at its maximum (that is, when the difference between low tide and high tide is greatest).
- **MLWN: Mean Low Water Neaps.** The average low water height measured at neap tide. Neap tide is the period when the range of tide is at its minimum (when the difference between the levels of low tide and high tide is smallest).
- **MHWN: Mean High Water Neaps.** The average high water height measured at neap tide.
- **MHWS: Mean High Water Springs.** The average high water height measured at spring tide.

Tide Table

For most tide stations, the Tide Graph window includes a button labeled **Tide Table**, which leads to a text version of tide data for that station. Data is arranged in columns headed by tabs: Year, Month, Date, Day, time, Height, and whether the tide is ebbing or flooding. Predictions are given for each turn of the tide over a period of several years; use the scroll bar to find the date(s) you want.

Note on BA (British Admiralty) Charts: Due to a lack of consistent tabular data, tide tables are not available for tide stations on BA charts. Use the Tide Graph instead to research past and future conditions.

Tide Station Properties

The Properties window contains information about a particular tide station. This window appears when you right-click on a tide icon on a chart, and choose **Properties**.

- **Reference Station:** The station used as a reference to construct the tide graph for this station (relative to the reference station).
- **Distance from Reference Station:** Distance between this station and its reference station.
- **Mean Tide Range:** The difference between levels of mean high water and mean low water, at a given place.
- **Mean Tide Level:** The average water height at this location.
- **BSB Region:** The Maptech ChartKit CD region containing this station.
- **Spring Range:** During a full moon or a new moon, the tide's range is increased. The spring range is the difference between the average high waters and the corresponding average low waters during these periods of increased range, at this particular location.
- **Tidal Datum:** The point used as a base in determining tide height. Tidal datum is a local measurement., also known as Datum height, and is usually the level of low water at ordinary springs in this region, or sometimes mean low (or lower low) water. This figure is printed on most paper nautical charts.

Tide Station Properties for Stations on BA (British Admiralty) Charts

Tide Station Properties for stations on charts produced by the British Admiralty provides some additional data:

- **BA Region:** The Maptech chart CD region(s) containing this station.
- **MHWS: Mean High Water Springs.** The average high water height measured at spring tide.
- **MLWS: Mean Low Water Springs.** The yearly average low water height measured at spring tide. Spring tide is the period during the moon phase cycle when the range of tide is at its maximum (that is, when the difference between low tide and high tide is greatest).
- **MHWN: Mean High Water Neaps.** The average high water height measured at neap tide.
- **MLWN: Mean Low Water Neaps.** The average low water height measured at neap tide. Neap tide is the period when the range of tide is at its minimum (when the difference between the levels of low tide and high tide is smallest).
- **Approximate Center of Station Area:** This latitude/longitude roughly represents the center of the area covered by this tide station.

Current/Tidal Stream Stations

Current/Tidal Stream Station List

Maptech ChartKit CDs <u>edition 3.0 and higher</u> include data on various current stations within each region. To browse a list of the current stations and select one to view on the screen, choose **Current/Tidal Stream Stations** from the Locate menu. ("Tidal Stream" is the preferred term in British English, and stations on charts produced by the British Admiralty are known as *tidal stream stations*.)

The stations are represented by icons on the charts. Each icon is labeled with the present speed of the current, and includes an arrow that indicates whether the current is ebbing or flooding. (Offshore Navigator uses your computer's system clock to report the present conditions, changing the icons' appearance accordingly.)

Right-click on an icon to read the station name, view the related current graph, or get additional data about the station (Properties).

Current/Tidal Stream Station Icons

Current stations are marked by icons on the charts. There are several versions of the current icon.

Standard Current Station Icons
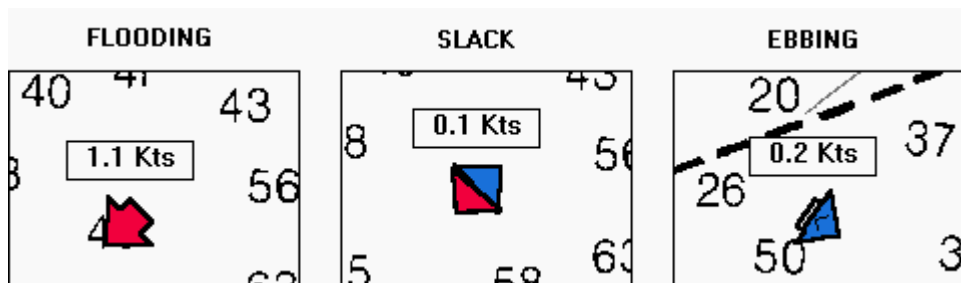
The picture above illustrates the different phases of the standard current icon. Each icon changes in appearance over the course of the day, to reflect the present conditions at that current station. Offshore Navigator uses your computer's system clock to make these calculations. The accuracy of these symbols depends on the accuracy of your computer's clock.

Amount of Color

You may also notice that some current icon arrows are longer than others. The longer icons represent currents with a greater range of speed (currents that can be quite fast). The outlines of these icons are not always completely filled in with color. They fill with color as the current builds up speed.

When the current is building up speed, the arrow outline is not yet completely filled with color. When the current is moving very quickly (at or near maximum speed), the arrow symbol will be completely filled in.
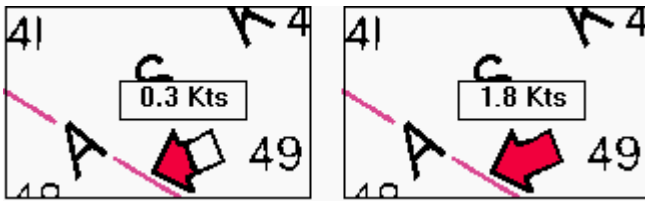

Caret Symbol in Icon
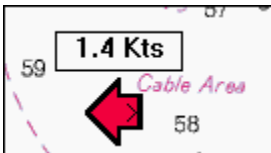
When a caret symbol (>) is visible within the current station icon, the current's speed is increasing. (When there is no caret, the speed is decreasing.)

Tidal Stream Icons on British Admiralty (BA) Charts

For European areas where chart coverage and tide/current data is provided by the British Admiralty, current stations are known as Tidal Stream Diamonds. "Tidal stream" is the preferred term (in place of "current") in British English, and the station locations are referred to as "diamonds" because they are indicated by diamond-shaped symbols on paper BA charts.
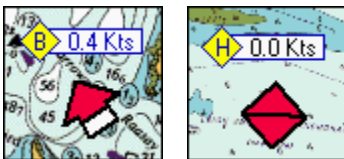
These tidal stream icons are based on the same arrow outline, but instead of varying between red and blue, the arrows are always red. This is because most of the tidal streams shown are rotary in nature. In rotary streams, there is no noticeable ebb or flood, as the water flow fluctuates more in direction than in speed. The arrow rotates to indicate the direction of water flow. When flow is negligible, the icon is shown as a double-sided arrow, or square.

The water speed label also includes a diamond symbol with the station letter, which differentiates secondary current stations in a given vicinity. Under this naming system, secondary stations are named for their primary reference station, the ID of the most detailed chart showing the station, and a letter. For example, Ullapool BA2209 Tidal Diamond B is based on the Ullapool primary station, may be seen on BA chart 2209, and is the second of two reference stations found on that chart--it is therefore assigned the letter "B."

No Data for Icon, but Consult Tide Graph/Tidal Stream Diagram for Information

For some stations, lack of consistent tabular data makes it impossible to display continually updated conditions on the icon itself. However, you may consult the station's Tide Graph or Tidal Stream Diagram for information.

Smaller Icons are Sometimes Used
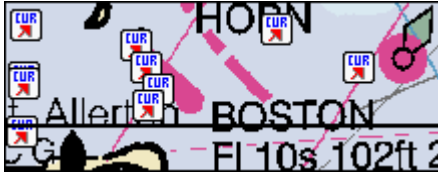
Sometimes the scale of a chart, or the high number of current icons in one area, make it hard to use the standard current icons to indicate each station accurately. In these cases, Offshore Navigator uses a smaller version of the current icon (shown above). These smaller icons always look the same regardless of current conditions, so you will need refer to each station's current graph for further information. Alternatively, you can zoom in or scale in until there is room for Offshore Navigator to display the standard current icons.

Current Stations for which No Current Graph is Available

There are a few types of currents that are not represented in current graph format. These current stations are marked by particular icons. Though no graph is available, the icon itself gives you some general information about the type of current at that location.

WV: Weak and Variable. A current is classified as "weak and variable" when its maximum velocity is below 0.3 knots per hour- in other words, too weak to provide a practical measurement. In such cases, the current graph and table will note the current's Weak and Variable classification, and will not provide speed data for flood or ebb.

The same current may at other times become strong enough to lose this "weak and variable" classification, in which case the current graph/table will provide current speed data for this station.

ROT: Rotary. A rotary current flows continuously, and its direction changes through all points of the compass during the tidal period. Typically, rotary currents are found offshore where there are no barriers to restrict the flow of the current. Except where affected by local conditions, the direction of change is clockwise in the northern hemisphere and counter-clockwise in the southern hemisphere.

NEG: Negligible. Although the current is detectable, its speed is too slight to provide a practical measurement.
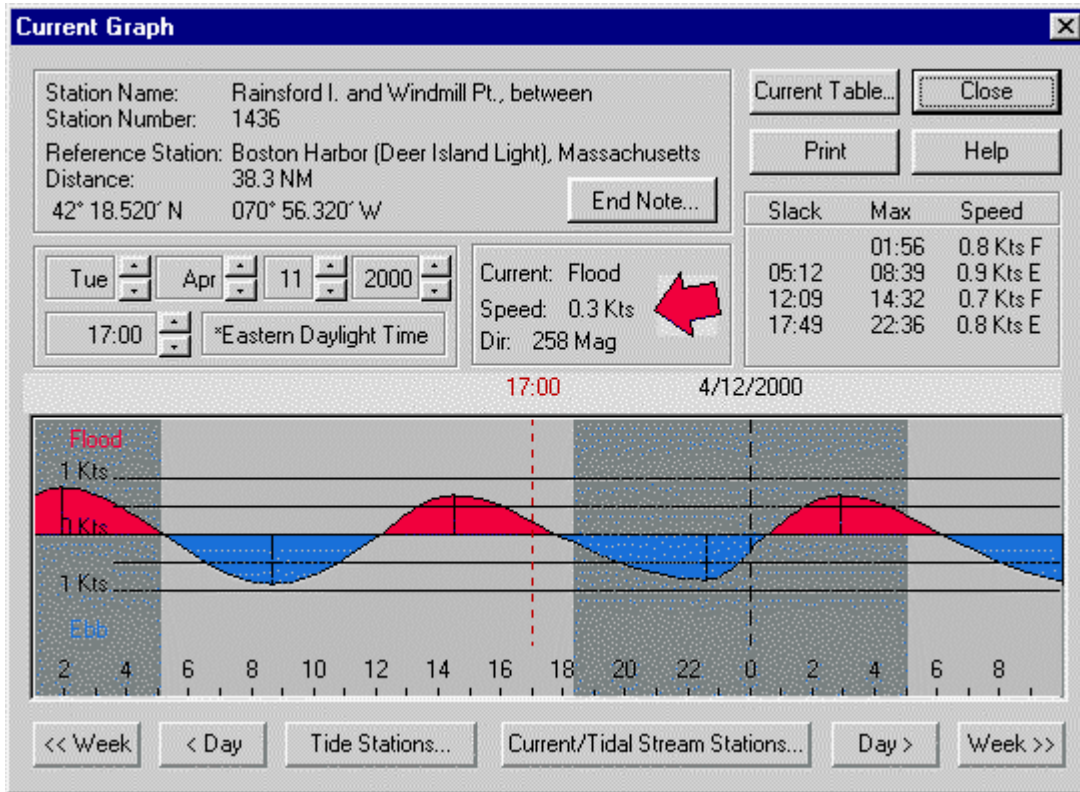
UNI: Unidirectional. Often occurring at rivers or during floods, unidirectional currents only flow in one direction.

IRR: Irregular.

Current Graph

Current Graphs provide data on the type, speed, and direction of the current at each current station. To view a station's graph, right-click on any current station icon and choose **Current/Tidal Stream Graph**.

Interpreting the Current Graph

Current graphs are very similar to tide graphs. The graphs show fluctuations in the current's speed and direction, hour to hour. The vertical axis shows the speed of the current. Time progression moves from left to right, and is shown in hourly increments on a 24-hour scale, with afternoon and evening hours represented as 13 (1 PM) through 23 (11 PM). (Zero is midnight.)

The horizontal line through the center of the graph indicates a speed of 0 knots (slack water). Where the line peaks above the center line (dark shading), the current is flooding. The valleys (lighter shading) between the peaks show when the current is ebbing.

Checking Different Dates and Times

When you first open the current graph, it shows the present conditions. (It gets the date and time from your computer's system clock). All 24 hours for today's date are shown, and a vertical dotted line indicates what time it is now.

There are several controls you can use to adjust the date and time being displayed. As you change the day or hour, the graph scrolls to represent tidal conditions at the specified time. All time and date readings are updated simultaneously. (In other words, if you change the date, the day of the month will change too).

Tidal Stream Diagram (BA Charts)
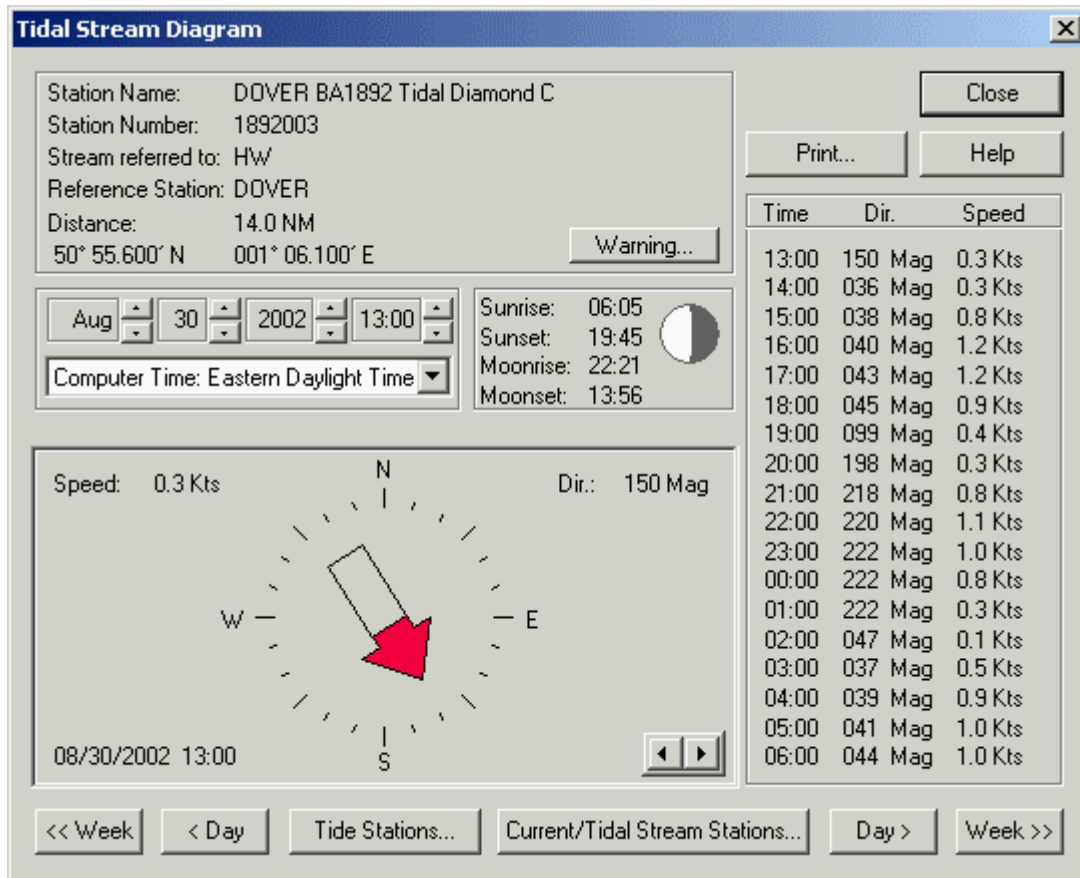
For charts produced by the British Admiralty, current data is shown in a Tidal Stream Diagram. ("Tidal stream" is the preferred term in British English.) This tidal stream data is obtained from the British Admiralty.

The direction and *drift* ("speed") of water flow are measured and monitored at specific tidal stream stations.   Since most of these stations are located offshore in water over five fathoms deep, nearly all indicate a *rotary* stream.

Rotary Stream

Closer to shore, water typically flows in a predictable cycle ranging between two extremes of drift: flood (highest speed) and ebb (lowest speed). For the most part, the flow is bi-directional, reversing at ebb. But in a rotary stream, the stream drift does not fluctuate as greatly, while the direction of flow may shift through all points of the compass. To better portray these directional changes, rotary tidal stream data is shown not in a graph, but in a diagram.

Interpreting the Diagram
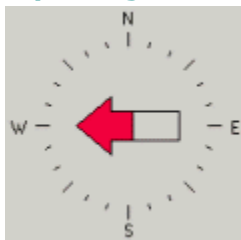
The tidal stream diagram shows the direction of stream. The arrow points in the direction in which the water is flowing. The level of red color in the arrow outline indicates drift: the more red, the faster the stream.

Times when drift is negligible or nonexistent are known as slack water. Since the water flow is so slight, no clear direction is perceptible. At such times, the arrow will change to a double-pointed graphic.

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Predicting Conditions

The column on the right side of the window provides hourly stream direction and drift readings. To find stream predictions for a specific date/time, use the date/time controls above the diagram.

The pair of left- and right-facing arrows below the diagram let you cycle quickly through recent conditions and upcoming changes: clicking either arrow will adjust the diagram by a five-minute increment. Hold either arrow down to view changes in progression.

Current Table

The current graph window includes a button labeled **Current Table,** which leads to a text version of current readings for that station.

Data is arranged in columns headed by tabs: Year, Month, Date, Day, Time, Speed, and whether the current is ebbing, flooding, or at slack water. Predictions are given for each turn of the tide over a period of several years; use the scroll bar to find the date(s) you want.

Tidal Stream Table (BA Charts)

For current (tidal stream) stations on British Admiralty charts, this table provides **Direction** of flow instead of **Status**.

Current Station Properties

The Properties window contains information about a particular current station. This window appears when you right-click on a current station icon on a chart, and choose **Properties**.

- **Reference Station:** The station used as a reference to construct the tide graph for this station (relative to the reference station).
- **Distance from Reference Station:** Distance between this station and its reference station.
- **BSB Region:** The Maptech ChartKit CD region containing this station.
- **Flood Direction:** The bearing of the current when flooding.
- **Max Flood:** Maximum speed attained by the current when flooding.
- **Ebb Direction:** Bearing of current at ebb.
- **Max Ebb:** Maximum speed attained by current at ebb.

Tidal Stream Station Properties (BA Charts)

For current (tidal stream) stations on British Admiralty charts, no Ebb or Flood information is provided, since most such stations represent a *rotary* stream, for which no definite ebb or flood is apparent.

Place Name Search

```
Locate Place                                                    ☒

 List    Setup

                              ┌─ Search ─────────────────────┐  ┌──────┐
                              │ For:  │eliot            │    │  │ Prev.│
   Region:  REG2              │ Found: 9  Matching Geo. Marks Found. │ Next │
                              └──────────────────────────────┘  └──────┘
                                                                  ┌──────┐
                                                                  │ Help │
                                                                  └──────┘

  ┌─ Name ──────────────────────── Feature ── Lat ────────── Lon ──────── ▲
  │ Eliot                          ppl        43° 09.183′ N   070° 48.033′ W
  │ Eliot Bridge                   bridge     43° 11.433′ N   070° 49.600′ W │
  │ Eliot High School              school     43° 07.417′ N   070° 47.300′ W
  │ Eliot Mountain                 summit     44° 18.233′ N   068° 16.433′ W
  │ Eliot, Town of                 civil      43° 08.817′ N   070° 47.367′ W
  │ Elisha Ledge                   bar        41° 26.617′ N   071° 09.517′ W
  │ Elisha Ledge                   bench      41° 26.667′ N   071° 09.533′ W
  │ Elishas Pond                   lake       41° 41.667′ N   070° 13.750′ W
  │ Elizabeth Hastings Junior High School  school  41° 38.867′ N  070° 53.933′ W
  │ Elizabeth Islands              island     41° 28.750′ N   070° 48.750′ W
  │ Elizabeth Park                 ppl        43° 35.633′ N   070° 14.150′ W
  │ Elizabeth, Cape                cape       43° 33.900′ N   070° 11.900′ W
  │ Elizabeth, Lake                lake       41° 38.333′ N   070° 20.000′ W
  │ Ellingwood Rock                island     43° 43.000′ N   069° 45.633′ W
  │ Elliot Street Shopping Plaza   locale     42° 33.383′ N   070° 53.533′ W  ▼

                                                          Total:  19288

                              ┌──────┐  ┌────────┐  ┌───────┐
                              │  OK  │  │ Cancel │  │ Apply │
                              └──────┘  └────────┘  └───────┘
```

Most Digital ChartKit Regions are equipped with an extensive database of U.S. place names, through which you can search for areas of interest. These places and categories are taken from the Geographic Names Information System (GNIS) developed by the US Geological Survey (USGS).

To search for a name, choose **Place Names** from the Locate menu, then type a word (or portion of a word) in the Search window. You can also scroll through the Place Names list, or rearrange the order of Place Names by double-clicking on any of the headings (Name, Feature type, Lat, Lon).

If your Place Names window is blank, you need to set up your Place Names.

Setting Up the Place Names Database
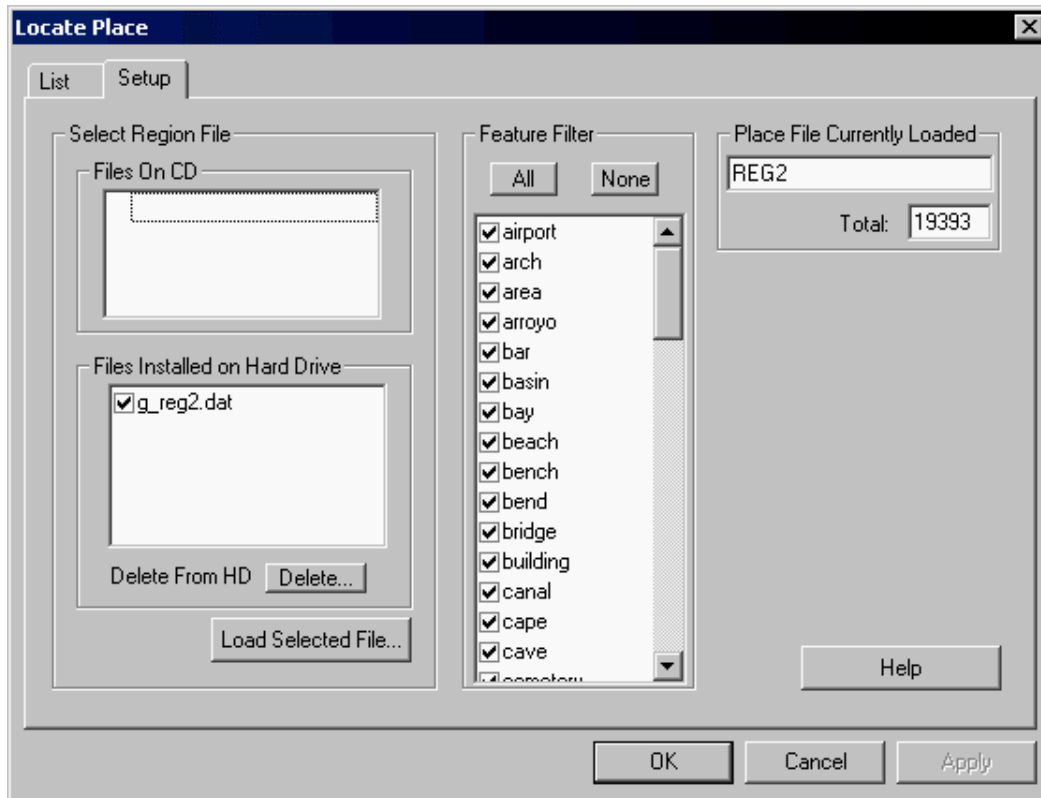
Before you can use Offshore Navigator's extensive Place Names database, you need to set it up. (Setup is also required if you have more than one ChartKit CD, and you want to search a different region.) Choose **Place Names** from the Locate menu, and select the Setup tab.

Check and Highlight the Region File That You Want to Use

Each CD's Place Names data is stored in a file named for the region covered. (For example, the filename "g_reg2.dat" indicates Place Names data for ChartKit Region 2.) The Place Names Setup window lists all available data files, both Files on CD and Files Installed on Hard Drive. From one of these lists, check and highlight the file that you want to use. Make sure that the file is not only checked, but also highlighted in blue.

(If you select a file from the Files On CD list, that file will be copied to your hard drive, for easy access in future use. This ensures that any Place Name data that you ever use will be on hand when you need it again.)

Feature Filter

A list of all categories of landscape features lets you narrow down the search possibilities. If you are only interested in certain categories, you can select particular categories and exclude the ones you don't need right now.

Press "Load Selected File" to Load the Place Names Data

Once you have made your selections and are ready to load the database, press **Load Selected File**. (Answer Yes to the confirmation message.) The file that you selected will be ready for your use.

Note: The Place Names data will remain available until you specify a different Place Names data file, or until you start Offshore Navigator with a different CD in your drive. (When a CD is present at Offshore Navigator startup, its Place Names data is automatically loaded for your use. If you have more than one CD drive, remember that Place Names data will only be automatically loaded from the drive that was specified as the default drive, during program installation.)

Place Name Properties
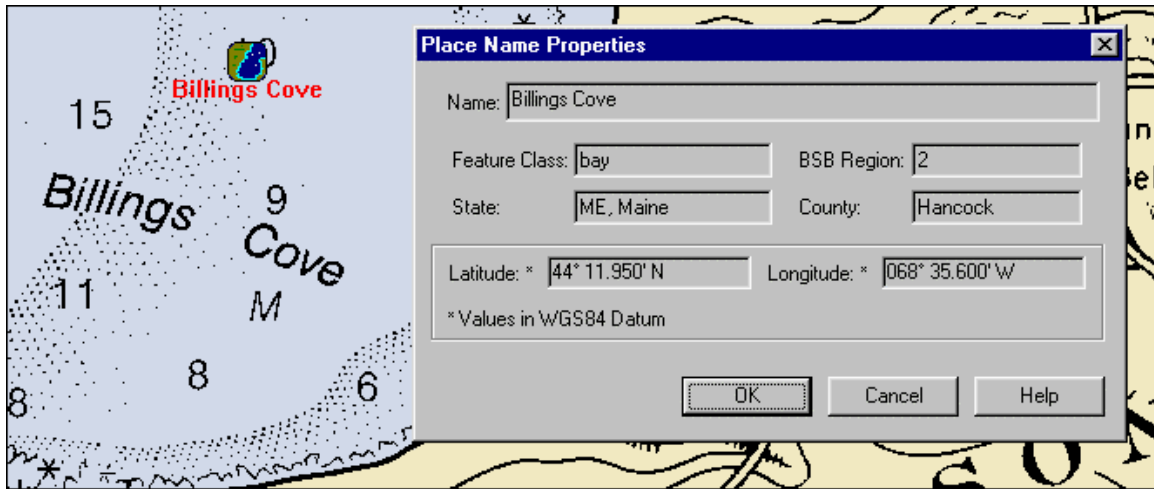
You can right-click on a Place Names icon and choose **Properties** for additional data about the location it marks.
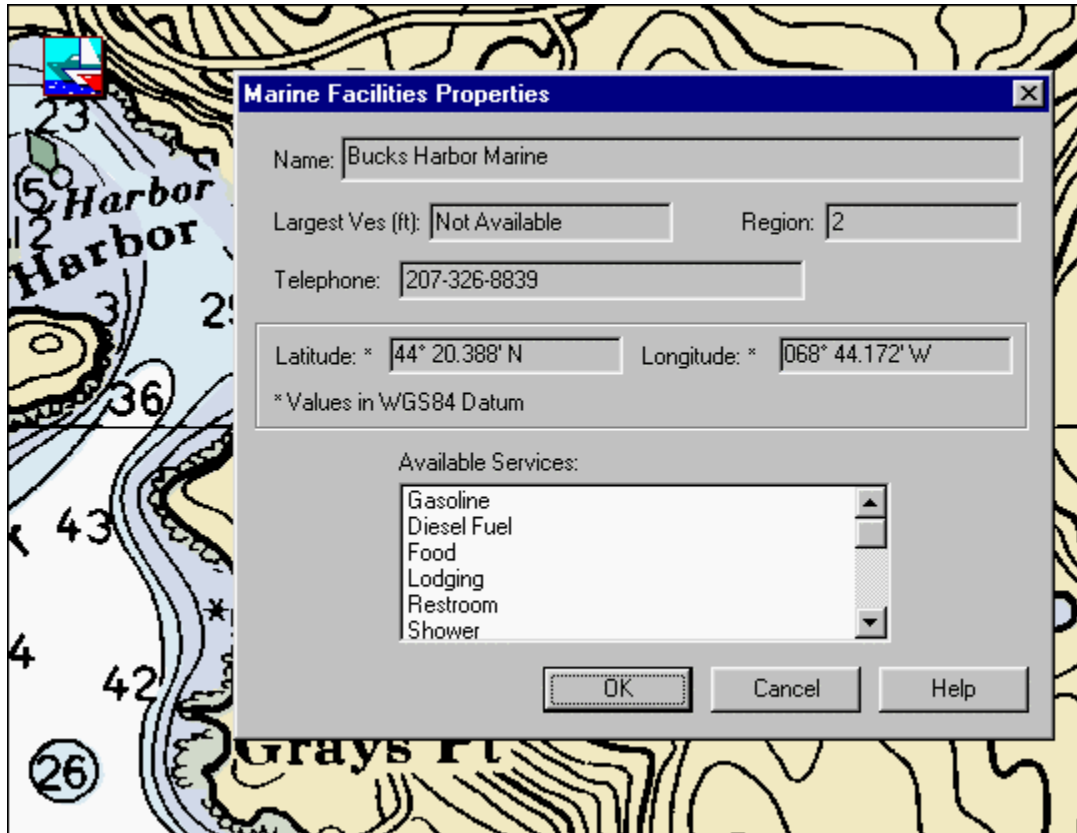
Marine Facilities Search
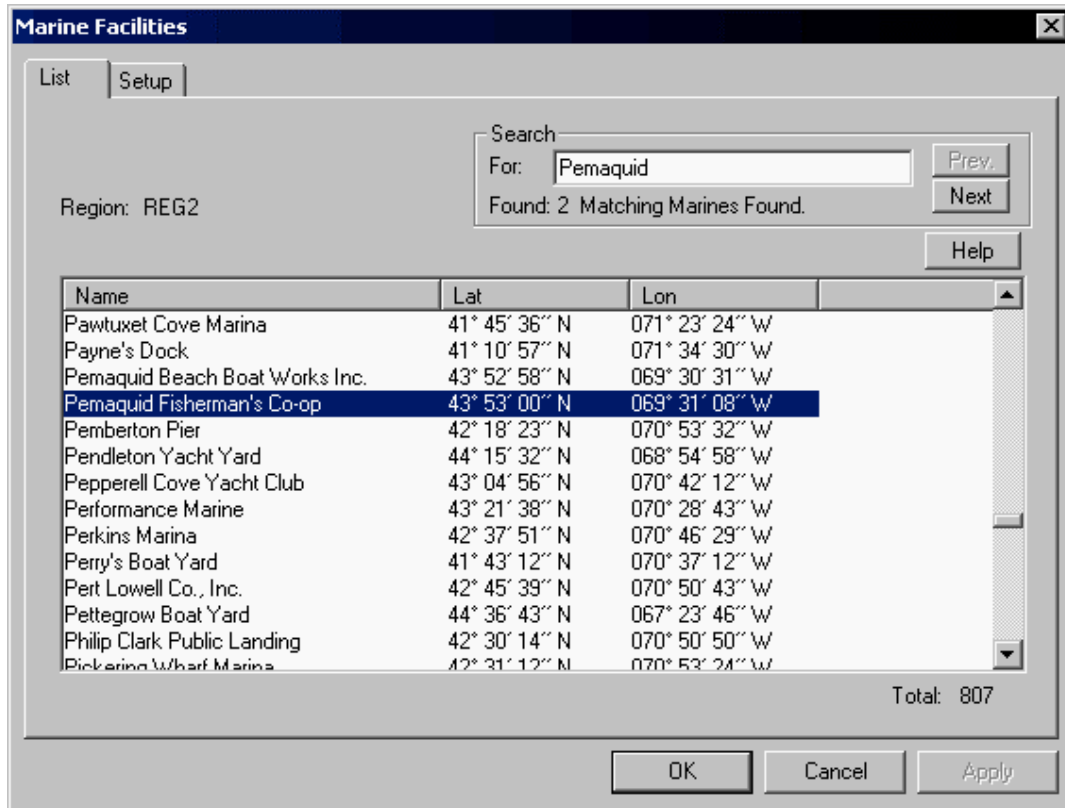
Most Digital ChartKit Regions feature a searchable list of marine facilities for U.S. regions. Search for a marina or service station by name or keyword, or view the list in order of name, latitude or longitude. To go directly to a marine facility's chart location, double-click its name in this list.
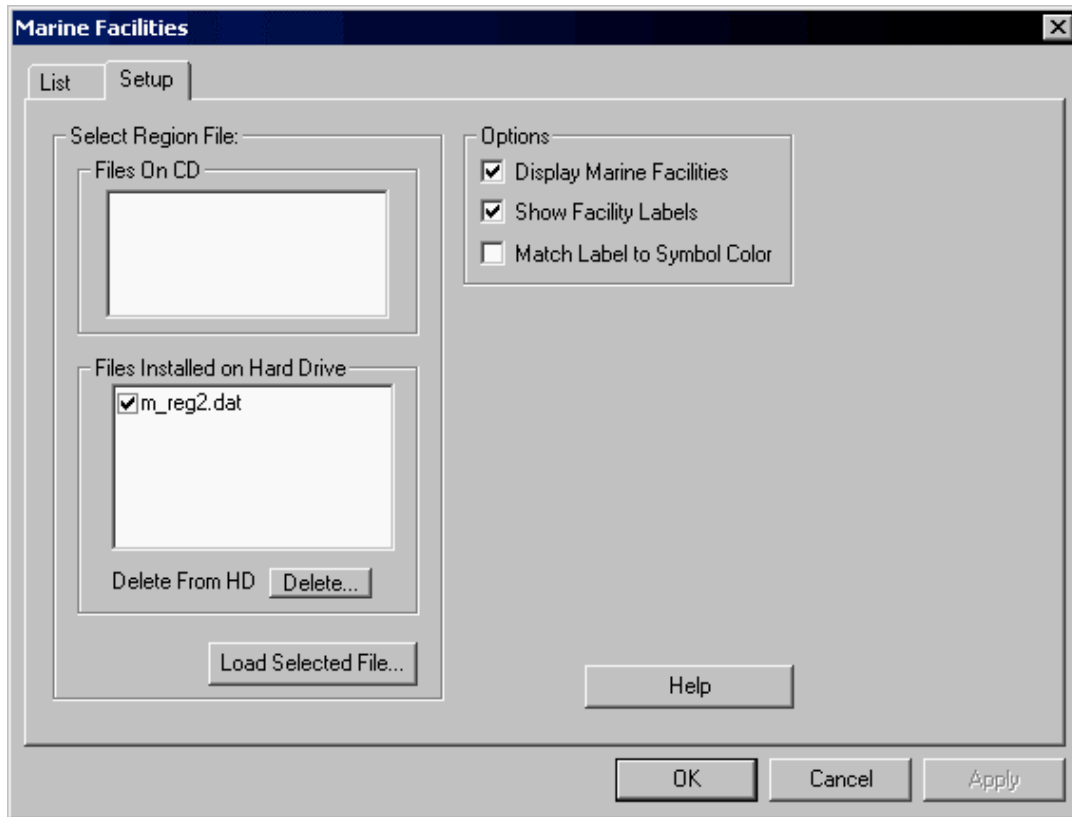
If your Marine Facilities list is empty, you need to set up your Marine Facilities. See page 130.

Marine Facility Properties

Right-click on a Marine Facilities icon and choose **Properties** for additional information, including telephone number and a list of available services.

Setting Up the Marine Facilities Database

In most cases, your Marine Facilities data is automatically copied to your hard drive. This lets you do a Marine Facilities search in a ChartKit region even if the CD is not inserted in your CD drive.

If you have more than one ChartKit CD, and you want to search for Marine Facilities in a CD region other than the region that you are currently searching, you must tell Offshore Navigator to switch to the other CD's Marine Facilities data. To do this, choose **Locate, Marine Facilities**, and press the **Setup** tab.

Check and Highlight the Region File That You Want to Use

Each CD's Marine Facilities data is stored in a file named for the region covered. (For example, the filename "m_reg2.dat" indicates Marine Facilities data for ChartKit Region 2.) The Marine Facilities Setup window lists all available data files, both Files on CD and Files Installed on Hard Drive. From one of these lists, check and highlight the file that you want to use. Make sure that the file is not only checked, but also highlighted in blue.

(If you select a file from the Files On CD list, that file will be copied to your hard drive, for easy access in future use. This ensures that any Marine Facilities data that you ever use will be on hand when you need it again.)

Select Display Options

The Marine Facilities in this list may be marked by symbols on the charts.
Display Marine Facilities: Check here to show marine facilities as symbols on the charts.
**Show Facility Labels:** The name of each facility will be shown next to its icon on the chart.
Match Label to Symbol Color: The name of the facility will appear in the same color as its symbol.

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Press "Load Selected File" to Load the Marine Facilities Data

Once you have made your selections and are ready to load the database, press **Load Selected File**. (Answer Yes to the confirmation message.) The file that you selected will be ready for your use.

Note: This Marine Facilities data will remain available until you specify a different Marine Facilities data file, or until you start Offshore Navigator with a different CD in your drive. (When a CD is present at Offshore Navigator startup, its Marine Facilities data is automatically loaded for your use. If you have more than one CD drive, remember that Marine Facilities data will only be automatically loaded from the drive that was specified as the default drive, during Offshore Navigator installation.)

Pictures (Aerial Photographs)
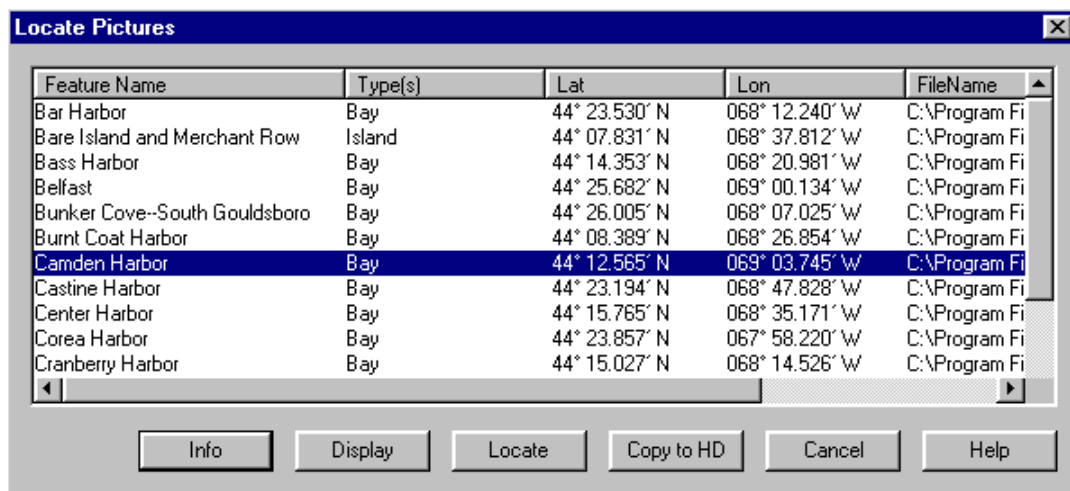
If you own a Maptech Coastal Navigation Photo CD, you can view a list the pictures it contains by choosing **Pictures** from the Locate menu. Highlight a photo name and press the **Display** button to view the photograph.

To see where the picture was taken, press **Locate**. The location where the photo was taken will be marked by a picture icon. Whenever you see a camera icon on a chart, you can view a picture by right-clicking on the icon and choosing **Display**.

To enlarge the picture, right-click on it and choose **Enlarge**.

The picture list may be sorted by Feature Name, Type, Lat/Lon, etc.- simply double-click the heading above a column to rearrange the items in the list. For details about the photo, press **Info**. To copy the photograph to your hard drive, press the **Copy to HD** button.

A picture icon and its corresponding photograph.
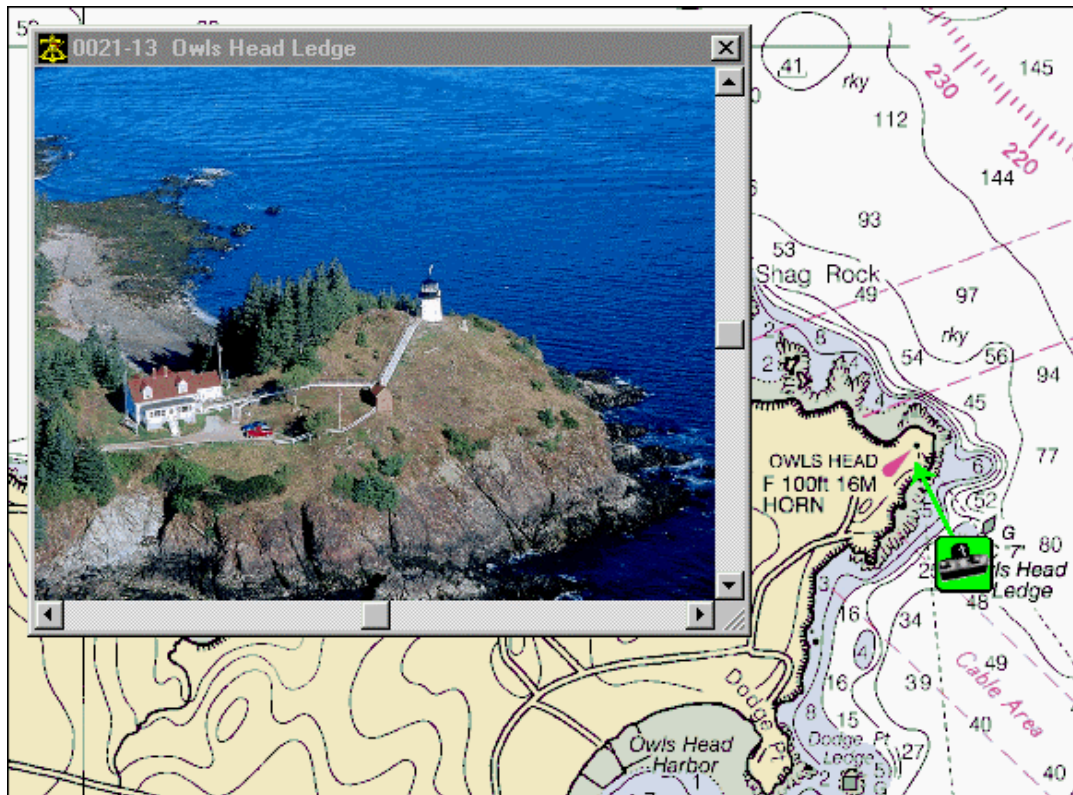
Coastal Navigation Photo CDs are available in Maptech's Digital ChartKit package. For more information, please contact Maptech at (888) 839-5551 or visit www.maptech.com.

Connecting to the Internet
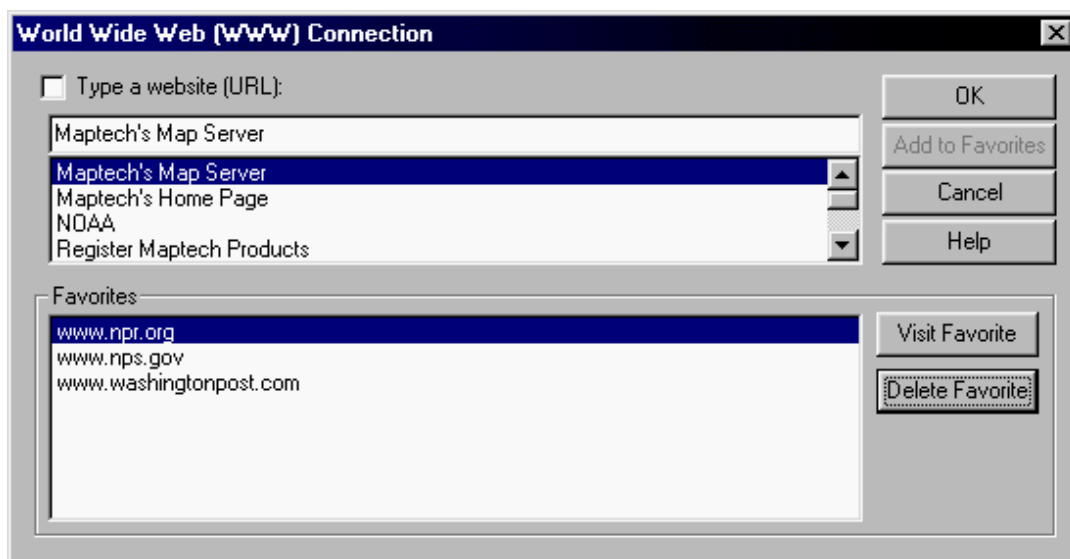
This feature allows you to view web pages within Offshore Navigator. Microsoft Internet Explorer is used as the browser during Offshore Navigator operation.

To connect to a website, choose **WWW Connection** from the File menu, or press the Web button on the toolbar. In the window that appears, select from a list of preset websites, or check **Type a website (URL)** to type the URL of any website that you want to visit.

You can add websites to your Favorites list. To open a favorite website, highlight it and press **Visit Favorite**. To remove a website from your Favorites list, highlight it and press **Delete Favorite**.


Help Menu

To open the electronic Help document to the Table of Contents page, choose **Contents** from the Help menu, or press the Help toolbar button (yellow question mark). Choose **Search** from the Help menu to open the Help to the Search tab, so you can type in the word or phrase you're looking for.

Other items available on Maptech ChartKit CDs *edition 3.0 and higher* include a guide to **Chart Symbols** commonly found on NOAA nautical charts; the **Coast Pilot** publication, which includes information not found on charts (bridge clearances, ice conditions, traffic separation schemes, etc.); **Tide** and **Current Stations** and data sheets; **Lights** lists, and Help documentation for **Contour Professional** software. (See www.maptech.com for further information on Contour Professional.)

CHAPTER 8: ANNOTATION/MEASUREMENT TOOLS

Marks

Offshore Navigator lets you add symbols on the charts to indicate points of interest. These symbols are called **Marks**. Several symbols are available for you to choose from, and you can label your marks with names.
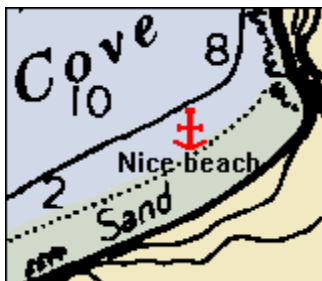
Creating Marks

Press the Mark toolbar button, or choose **Create Mark** from the Tools menu, and then click on the chart at the point you'd like to mark.

### Position Marks (FULL VERSION ONLY)

Position Marks are marks you place at your current vessel location. The position mark stays behind on the chart after the vessel icon moves away. Position marks are handy for recording things you notice while you cruise, and for when you want to make a quick note of where you were at a given time. In the Mark List, Position Marks are indicated by an asterisk (*).

To place a mark symbol on the chart at your vessel location, press the Position Mark toolbar button (or choose **Create Position Mark** from the Tools menu).

Marks Setup

The options in the Marks Setup window help you decide how you want your marks to look. Choose **Marks, Mark List** from the Tools menu. The Marks Setup window appears, with options for adjusting marks' appearance and on-screen display.
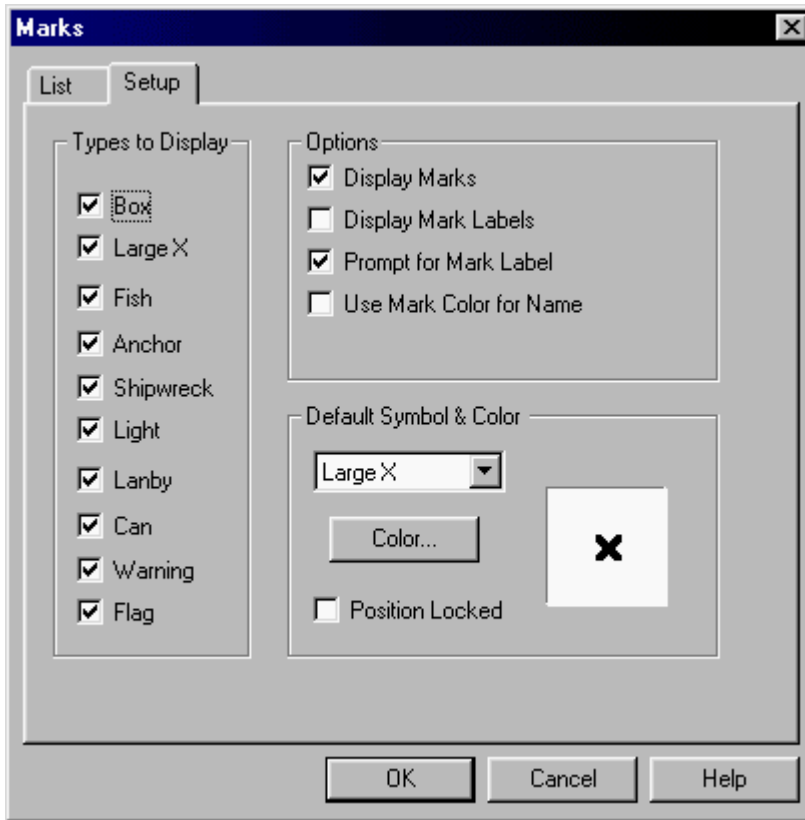
Symbols
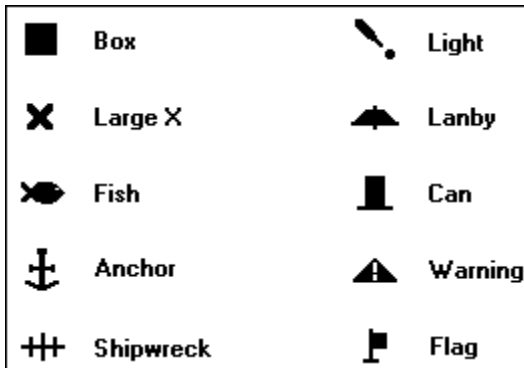
You can choose from several different symbols for your marks. Pick a default symbol to use automatically each time you create a mark. You can edit your marks any time, and specify different symbols for individual marks.

Color

A wide range of colors is available, to ensure that your marks are visible against various chart backgrounds. The color you choose is applied to the mark symbol. If you want, this color can also be used for the text of the mark name (handy if you have chosen to show mark names on the charts).

Locating Marks
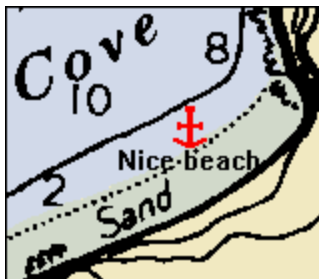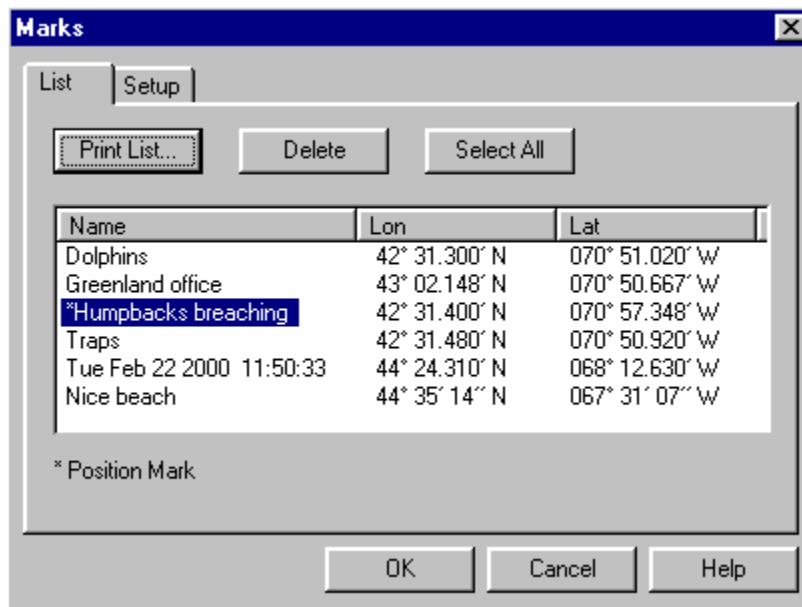
Choose **Mark** from the Locate menu or the Tools menu, for a list of all your marks. Click on a mark in the list to go straight to its location on the chart.

You can also use this List window to delete marks from your mark list. Highlight the mark you want to delete, then press the **Delete** button. This will remove the mark from Offshore Navigator. (To highlight all marks for deletion, press **Select All**.)

Annotations

Offshore Navigator lets you add short notes (annotations) to the chart image. To add an annotation:

- Select the Annotation tool from the toolbar, or
- Choose **Create Annotation** from the Tools menu, or
- Right-click on the chart and choose **Create Annotation**.

The cursor will change to the annotation tool symbol (looks like a pen). Click on the chart where you'd like to add your annotation, and type your note in the window that appears.

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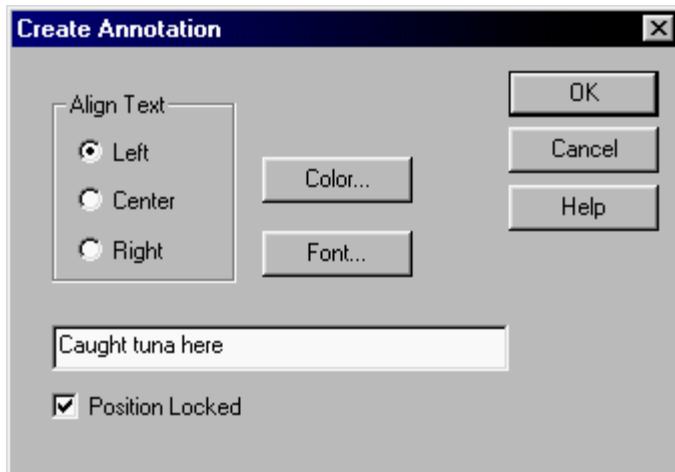
Deleting Annotations

To delete an annotation, right-click on it and choose **Delete Annotation**.

A2Bs
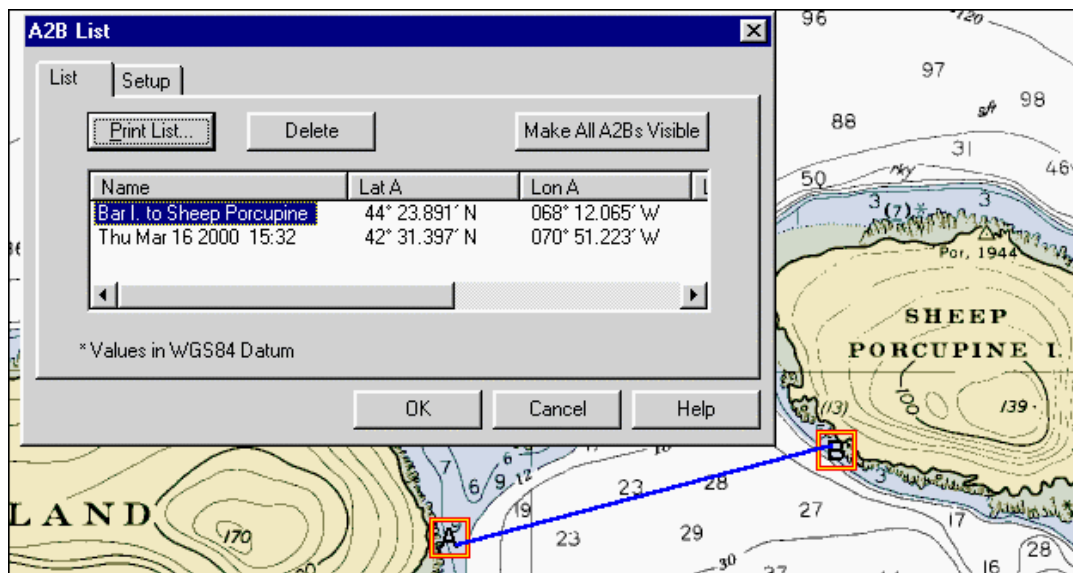
What is an A2B?

Offshore Navigator includes an A2B feature, letting you make quick measurements of the range and bearing between any two points. Use the A2B tool to click on the chart and set Point A and Point B. The measurement data stays on the chart until you hide or delete it. (See page 137 for more on A2Bs.)

A2Bs Setup

The A2Bs Setup window lets you control how the A2B tool works and looks. Choose **A2Bs** from the Tools menu, and select the Setup tab.

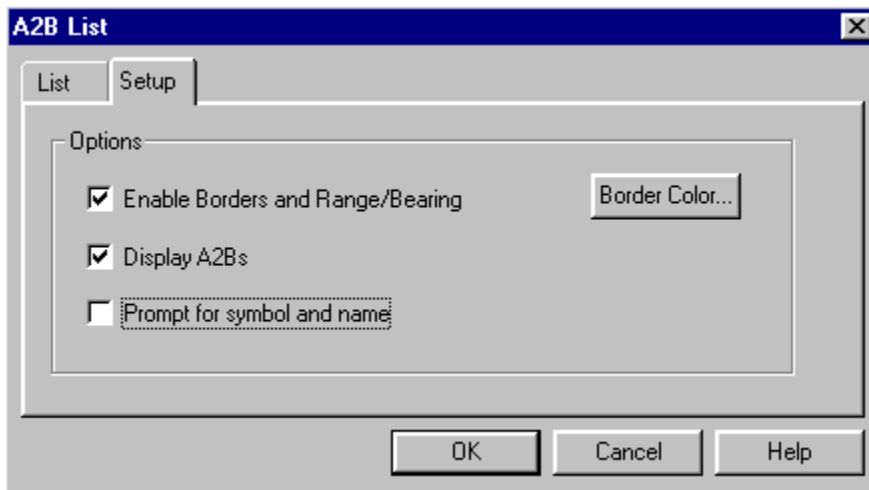- **Enable Borders and Range/Bearing:** A border will enclose the A2B line in a rectangle; a note along the border line tells you the A2B's bearing.   Checking "Enable Borders and Range/Bearing" makes this feature available for individual A2Bs that you select. To use this feature for a particular A2B, right-click on the A2B and choose Properties, then check Show Border and/or Show Range/Bearing.
- **Display A2Bs:** When this is checked, your A2Bs will show on the charts. Uncheck this option to temporarily remove your A2Bs from display.
- **Prompt for Symbol and Name:** Each time you create an A2B, Offshore Navigator will bring up a small window in which you can type a name for your A2B, and choose from three available symbols for the A and B points:
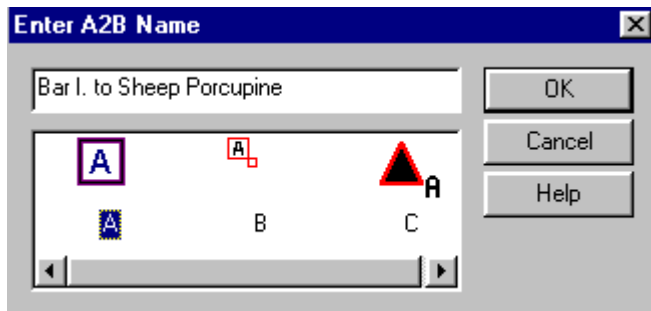
Locating A2Bs

Choose **A2B** from the Locate menu (or the Tools menu) to see a list of your A2B measurements, and choose one to view on the screen. You can also use this window to **delete A2Bs** from your list.

Range/Bearing Lines (RBLs)

What is an RBL?

A range/bearing line, or "RBL" for short, is a straight line between the vessel and another point on the chart. The line is labeled with the range (distance) and bearing from the vessel to the line's endpoint. You can create range/bearing lines between the vessel and any location.
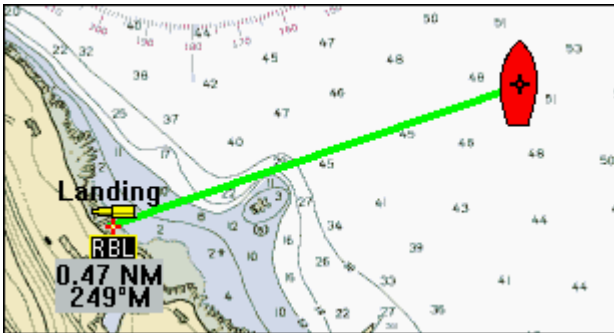
Creating an RBL

To create an RBL, simply right-click on the chart at the location to which you'd like to know the range and bearing, and choose **Add RBL**. A line will appear on the chart, connecting your vessel to the point where you clicked. The range and bearing are shown at the end of the line. A window will appear, so you can give the RBL a name, write a short note about it, and adjust other properties:

To view the properties (note, line color, etc.) of an RBL, right-click on the RBL's endpoint and choose **Properties.**

RBL Setup
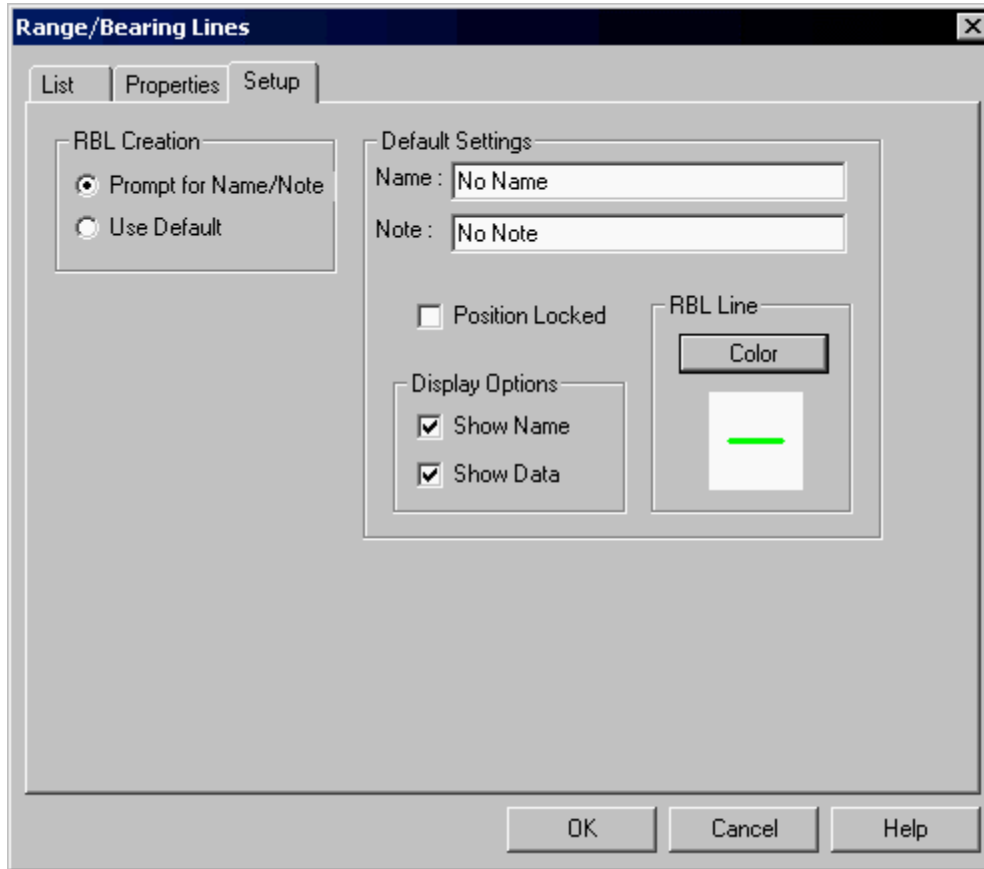
The RBL Setup window lets you tell Offshore Navigator how you want your RBLs to look and function.

Choose **RBLs** from the Tools menu and click the Setup tab in the resulting RBL window. The "default RBL" section lets you set options for Offshore Navigator to apply automatically to your new RBLs. The "New RBL" section lets you choose whether you want Offshore Navigator to use these default settings each time you create an RBL, or if you want to be prompted to assign properties to each RBL individually when you create it.

Moving RBLs

As the vessel moves, the RBL will stay connected to the vessel, and the range and bearing numbers will automatically update themselves.

You can also click-and-drag an RBL's endpoint (the end opposite the vessel) to different locations- for example, to find range and bearing to various points on shore.

Deleting RBLs

To delete an RBL, right-click on its endpoint and choose **Delete RBL.** Alternatively, you can choose **RBLs, RBLs** from the Tools menu, and select the **Manage RBLs** tab.

Finding RBLs
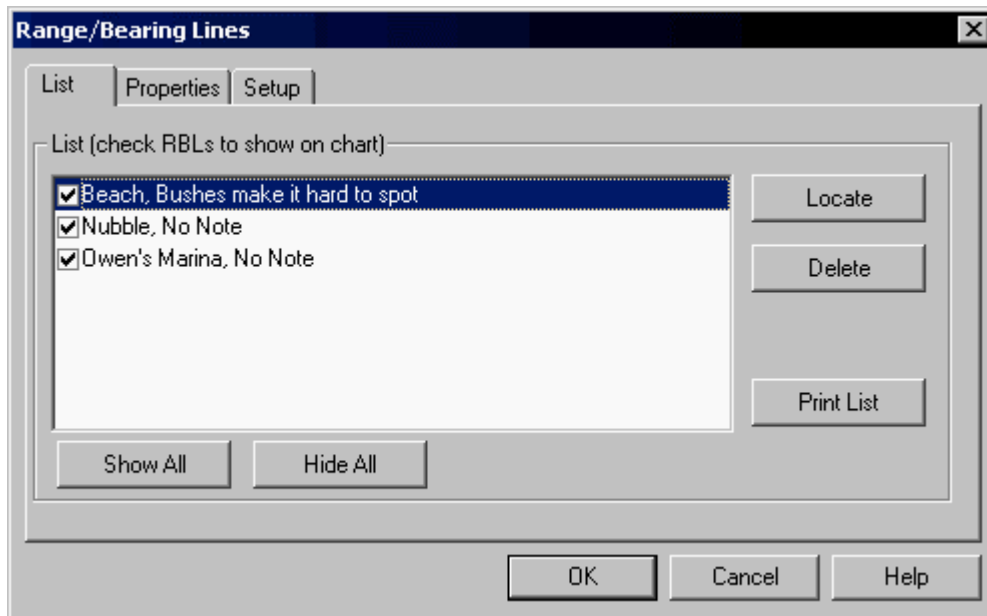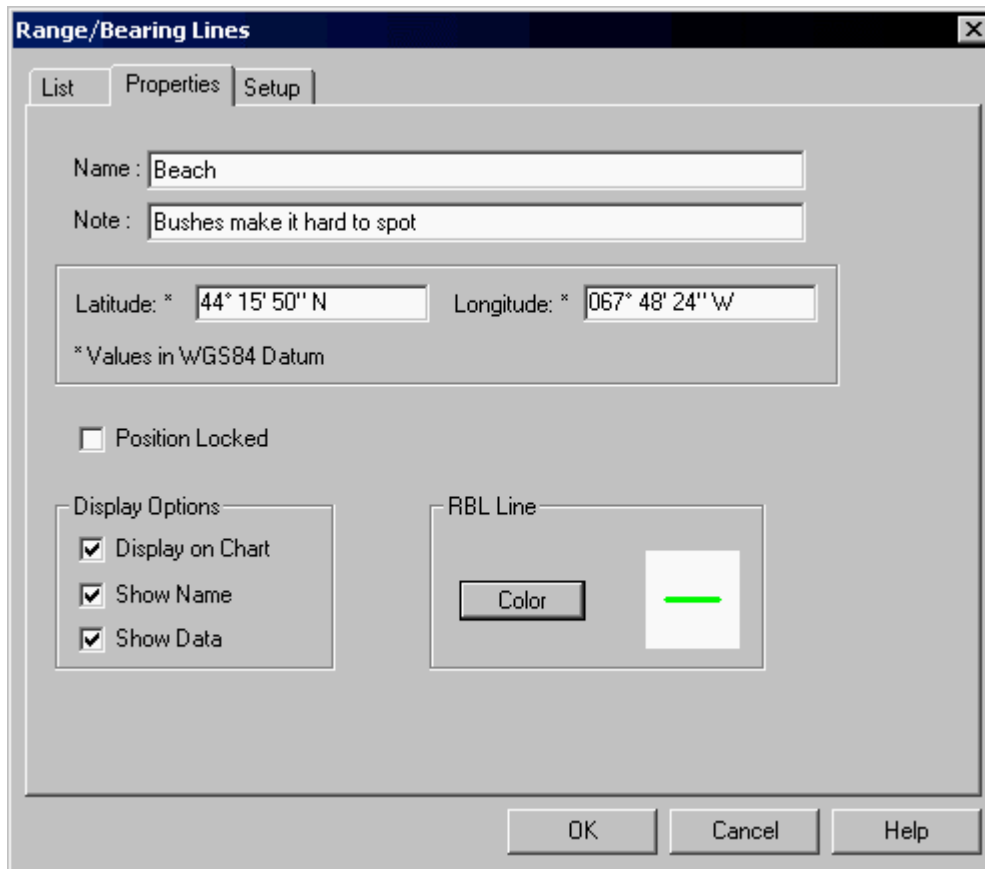
Choose **RBLs** from the Locate menu and the RBL window appears, opened to the List tab. This window lists all your RBLs (Range/Bearing Lines).

Each RBL has a checkbox next to it—when checked, the RBL is visible on the chart. To temporarily remove an RBL from view, uncheck this box. (To temporarily remove ALL RBLs from view, press the **Hide All** button. To restore them all to the chart display, press **Show All**.)

To find a specific RBL on the chart, highlight it and press the **Locate** button.

To delete an RBL, highlight it and press **Delete**.

RBL Properties

The RBL Properties window lets you adjust an RBL's settings, or read any notes you may have recorded. For access to the RBL Properties window, right-click on an RBL endpoint and choose **Properties**, or choose **RBLs** from the Tools menu and select the **RBL Properties** tab.

Named Waypoints (FULL VERSION ONLY)

What is a Named Waypoint?
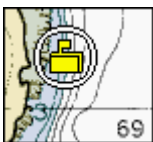
A Named Waypoint is a waypoint that can be used in multiple routes. Named Waypoints are handy for marking locations that you visit often.

Creating a Named Waypoint

To add a Named Waypoint to the chart, right-click and choose **Create Named Waypoint**. The cursor will change to a crosshair symbol. Position the cursor at the location where you want to place the Named Waypoint, and click. A Named Waypoint symbol will be added to the chart, and a window will appear on the screen, prompting you to

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enter a name, short name, and notes. (If this window does not appear automatically, you can simply right-click on the Named Waypoint and choose **Properties** to assign this information.)

Using a Named Waypoint in a Route

When you're creating a route and you want to use a Named Waypoint as the next point in your route, right-click and choose **Add Named Waypoint**. This will bring up a window listing all your Named Waypoints; choose the one you want and press **OK**. Your route will automatically connect to that Named Waypoint, and you can continue adding regular waypoints after the Named Waypoint. (The Named Waypoint is distinguished by a circle.)
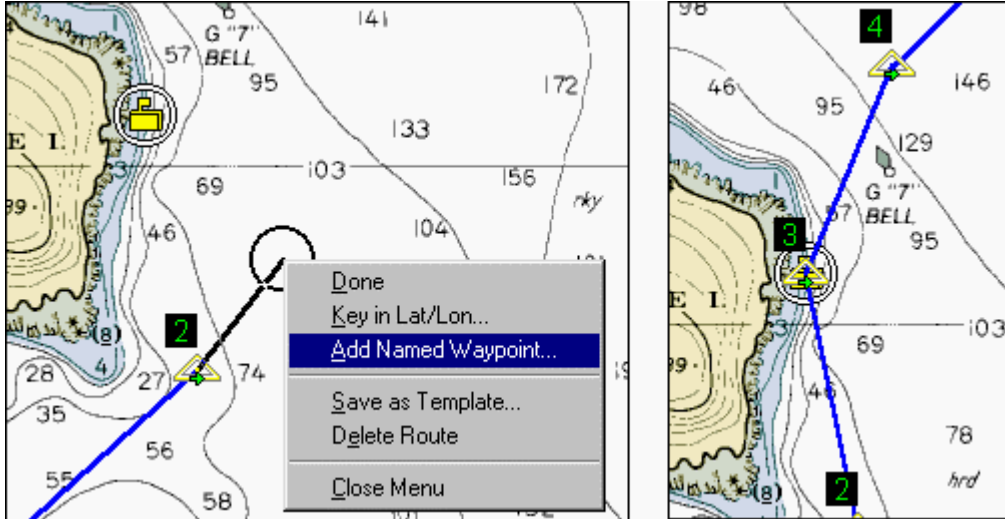
Locating Named Waypoints

Choose **Named Waypoints** from the Locate menu or the Tools menu to view a list of your Named Waypoints. To view a Named Waypoint on the screen, highlight one from the list, and press the **Locate** button to go straight to its location on the chart.

The **Visible** column indicates whether each Named Waypoint is included in on-screen display, or whether it has been temporarily removed from view. (To restore a Named Waypoint to view, highlight its title in this list, press **Edit**, and check the **Display** option.)
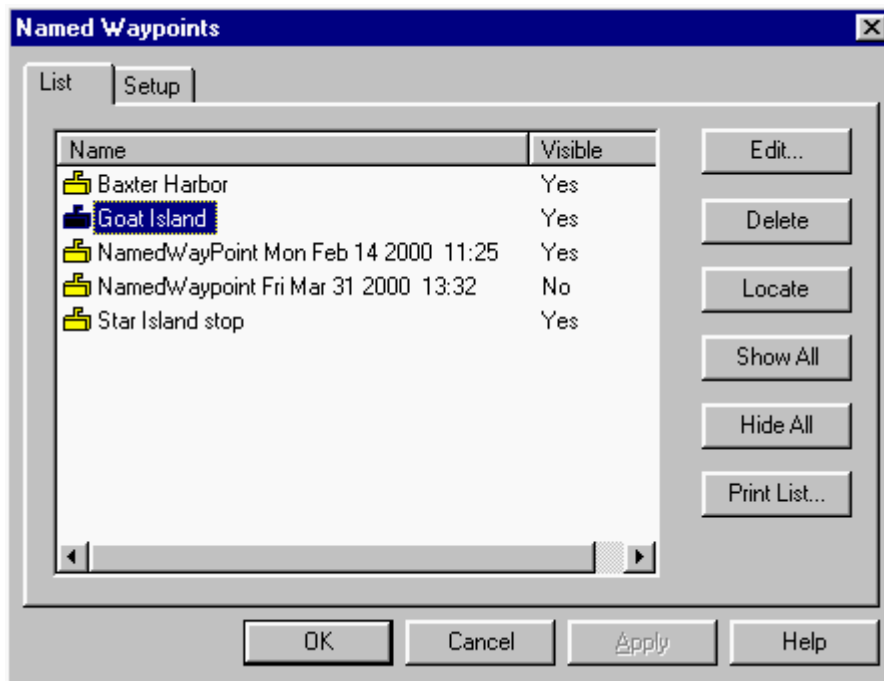
Additional options provided:

- **Edit:** Highlight a Named Waypoint, then press **Edit** to change its name, short name, icon, coordinate location, or notes.
- **Delete:** Deletes the highlighted Named Waypoint.
- **Show All:** Ensures that ALL Named Waypoints are visible on the screen.
- **Hide All:** Removes ALL Named Waypoints from display. (This does NOT delete them. To restore them to view, simply press **Show All**.)
- **Print List:** As you might expect, this will provide a printed list of all your Named Waypoints.

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Named Waypoints Setup
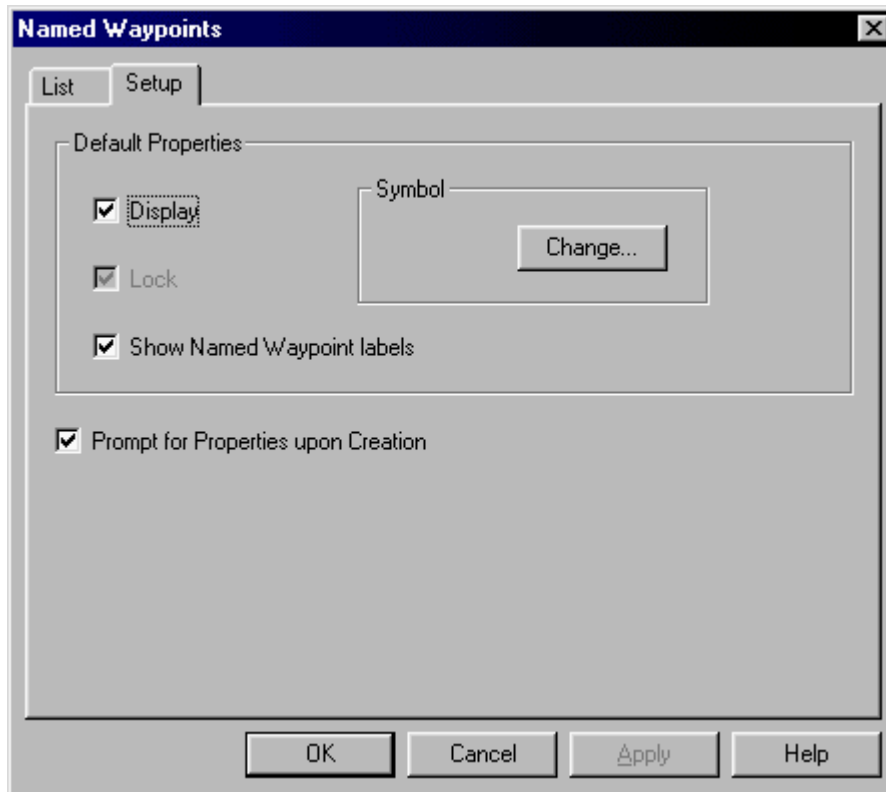
The Setup tab lets you specify Properties settings to be used for any new Named Waypoints that you create. **Prompt for Named Waypoints Properties,** when checked, means that the Properties window will automatically appear each time you create a new Named Waypoint, so that you can immediately assign it a name, note, etc. Uncheck this option if you do not want the Properties window to appear automatically upon Named Waypoint creation.

- **Display:** When Display is checked, ALL the Named Waypoints that you create will be included in the chart display.
- **Lock:** Locks the Named Waypoint into its location, so that it cannot be moved. Since Named Waypoints are designed to indicate specific locations and are not designed to be moved, the Lock option is always checked and grayed out (unavailable for modification).
- **Symbol:** The Named Waypoints symbol is available in three colors; select the one that you would like Offshore Navigator to use when you create Named Waypoints.

Named Waypoint Properties
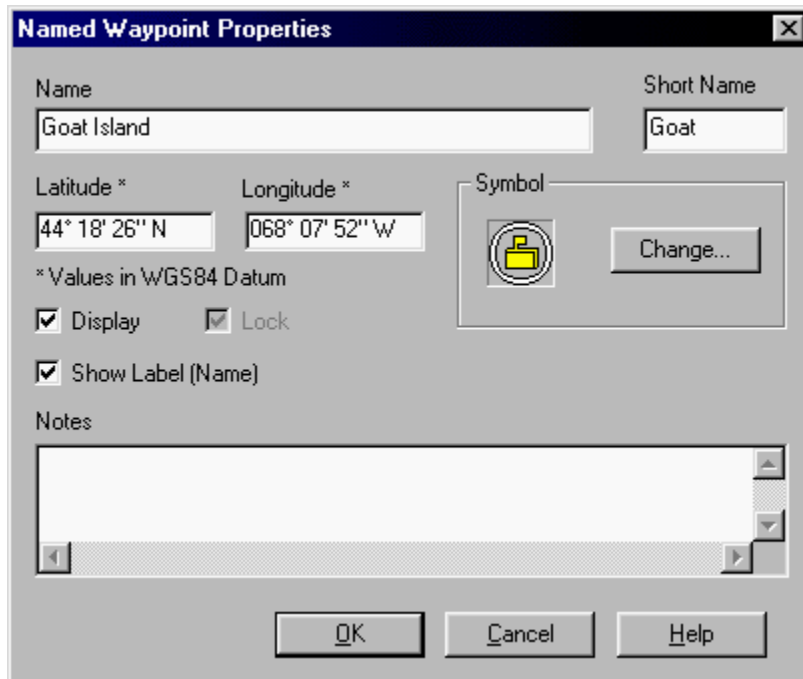
To view a Named Waypoint's Properties, right-click on it and choose **Properties**. The Properties window lets you assign (or view) the **name**, **short name** (for GPS use), and **lat/lon**. You can also choose a different-colored **symbol** to use as this Named Waypoint's symbol. Checking **Display** ensures that your Named Waypoint will be visible on the chart. Checking **Lock** prevents accidental clicking-and-dragging of the Named Waypoint. Finally, the **Notes** space lets you record comments about the point.

PNTMs (Personal Notices-to-Mariners)

What is a PNTM?

Offshore Navigator's PNTM (Personal Notices-to-Mariners) feature is modeled after the Notice to Mariners publication distributed by NOAA (National Oceanic and Atmospheric Agency) each month. If you own a Maptech ChartKit Professional CD, your subscription to Maptech's Chart Update Service will let you automatically update your electronic charts with all the latest NTM chart corrections. If you aren't a ChartKit Professional user, you can instead use PNTMs to mark chart features that have changed since the chart image was created, or any features of personal importance to you in navigating.

Creating a PNTM
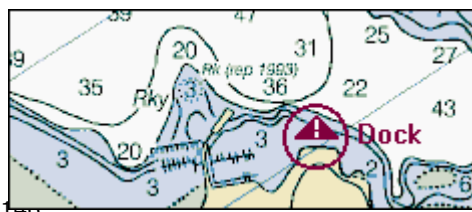
To create a PNTM, right-click on the chart at the location where you'd like to create the PNTM, and choose **Create PNTM**. You will be asked to assign a title to the PNTM. To adjust other PNTM properties, right-click on the PNTM symbol and choose **Properties**.

PNTM Properties

- **PNTM Name, Comments:** You can assign a name to your PNTM, or use the default (the date of creation). A space is provided for you to record comments, if you wish.
- **Action:** Use this to classify the chart changes made by your PNTMs. What action does your PNTM change take? Does it Add, Delete, Relocate, or Change the chart feature?
- **Agency:** In NOAA's Notice-to-Mariners publication, each chart correction includes the agency responsible for initiating the chart change. Here, for a Personal Notice to Mariners, the Agency is set to User (you), but this data field is available for your use if you want to change it.
- **Chart ID, Edition:** The ID and edition number of the chart that contains this PNTM.
- **Text Location:** Choose whether the text of the PNTM title should appear above, below, to the right, or to the left of the PNTM icon.
- **Symbol/Color:** Several symbols and colors are available; preview your selections in the display area provided in the Properties window.
- **Position Locked:** When Position Locked is checked, the PNTM symbol cannot be moved on the chart. When unlocked, the PNTM may be dragged with the mouse.
- **Latitude/Longitude:** The coordinates of this PNTM. If you want to change the PNTM location by typing new coordinates here, first uncheck Position Locked.

PNTM List/Locating PNTMs

Personal Notices to Mariners

| Setup | List |

Delete   Print List...

Title	Lat	Lon
Buoy 11	43° 07.643′ N	070° 51.300′ W
Buoy 14	43° 07.325′ N	070° 49.245′ W
Dock	43° 06.995′ N	070° 50.014′ W
Downed tree	43° 07.343′ N	070° 51.668′ W

*Values in WGS84 Datum

OK   Cancel   Help
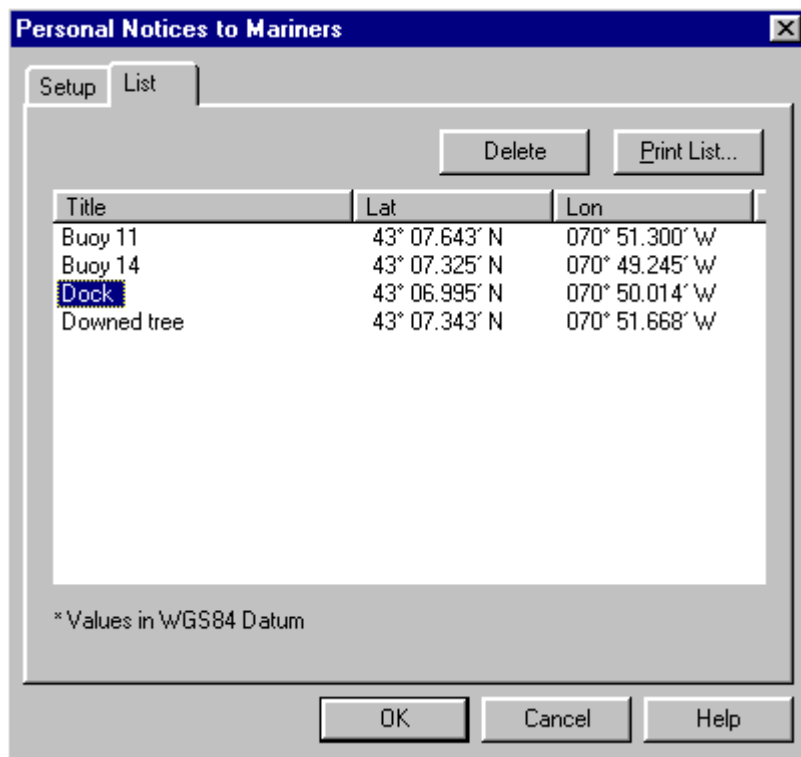
To go directly to a PNTM's location on the chart, double-click its title. You can also use this PNTM List window to delete selected PNTMs or print the entire list for reference.

The Setup tab lets you specify the settings you want Offshore Navigator to automatically use each time you create a PNTM. (See PNTM Properties for information on available settings.)

Chapter 9: POCKET CONTOUR

System Requirements

Pocket Contour software comes bundled with Offshore Navigator. It is designed to let you view contour charts (see page 46) on a Pocket PC handheld computer while navigating. If you own a Pocket PC, you can install Maptech's Pocket Contour software on any PDA equipped with the Microsoft Pocket PC operating system and an ARM SA1110 processor. (See www.pocketpc.com for more information.)

Your Pocket PC must be connected to a GPS unit in order to perform realtime tracking. The GPS unit must be able to provide position data in NMEA 0183 format. (Nearly all GPS units work with NMEA 0183; consult your GPS manual or contact your GPS manufacturer for details if you are unsure about your receiver's specifications.)

Some GPS manufacturers, such as NAVMAN, produce sleeve-style GPS receivers that fit over the Pocket PC and snap in place, connecting via the Pocket PC's COM port. Standard handheld GPS receivers may be connected to a Pocket PC via a serial patch cable, available from Maptech. For more information on the NAVMAN sleeve-style GPS, or the connecting serial cable for use with standard handheld GPS units, visit www.maptech.com.

Installing Software and Charts

Installing Pocket Contour on Your Pocket PC

To install the program, connect your Pocket PC to your desktop computer, then from Offshore Navigator's View menu, choose **Options, Contour Charts** and press the **Install Pocket Contour** button.

Installing Charts on Your Pocket PC

1. Connect your Pocket PC to your desktop and start Offshore Navigator.
2. In Offshore Navigator, open the contour chart that you'd like to copy to your Pocket PC. (Requires first opening a nautical chart for the area, then choosing **Link to Contour Chart** from the Charts menu.)
3. Click on the contour chart window's title bar, to highlight the window (making it the active window).
4. From Offshore Navigator's Charts menu, choose **Send Contour Chart to PDA**. Follow the instructions on the screen.
5. Once the transfer is complete, the chart will be available for use in Pocket Contour on your Pocket PC. (You may need to restart Pocket Contour in order to see the newly copied chart.)

Removing Charts from Your Pocket PC

In your Pocket PC, tap **Start, Programs, File Explorer**. Use the down arrow to highlight **My Device**. Tap the **Program Files** folder, then the **Contour** folder, then the **3DCharts** folder. This is where your contour chart files are stored. Hold the stylus against the files you want to remove, and choose **Delete**.

Toggling Between Pages

Press the **Page** button to toggle between the three screens, or *Pages*, of Pocket Contour.

The Contour Chart Page

Charts and Vessel
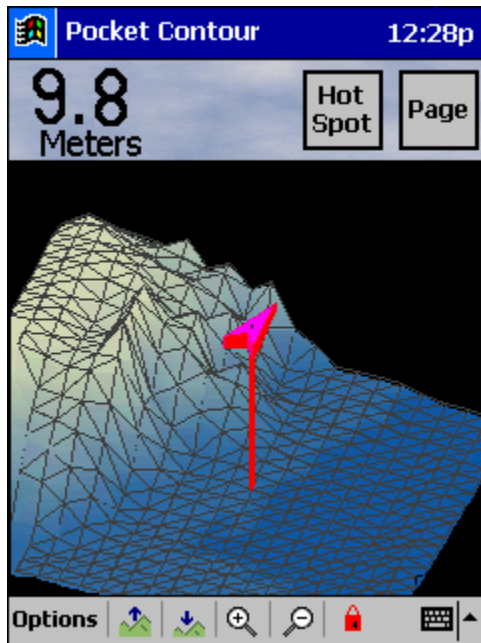
The Contour Chart Page shows your vessel position in relation to the surrounding underwater contours and land formations. The darker the color, the deeper the water. Land is shown as light tan.

If no chart coverage is available for the location indicated by your GPS signal, OR if your GPS has not yet established your position, the screen will read "No Chart Coverage."

Your vessel is represented by a red arrow-shaped icon. The point of the arrow represents the bow of your vessel. The approximate depth at your location is noted at the top left corner of the screen. (To change the units of depth measurement, tap Options, Units, Depth.) The line extending downward from the vessel helps you visualize your location in relation to the contours.

Viewing Angle

You can adjust the angle at which you're viewing the contour chart. Press the Lock button to lock the chart into a different viewing angle. You can choose between three views: over the right shoulder, over the left shoulder, and straight ahead. (Pressing the Lock button toggles between these three angles.)

In addition, you can temporarily adjust the chart angle by dragging your stylus across the chart image. Think of this as taking hold of the foreground of the chart, and rotating/tilting the chart to your liking. When you stop moving the stylus, the chart will remain for several seconds in the position that you have chosen, so you can look around. After this delay, the chart will automatically return to the Locked viewing angle.

Moving In and Out (Contour Page)

Tap the Plus button to move in for a closer view of the contour chart.

Tap the Minus button for a wider view of the area.

Vertical Exaggeration

Sometimes it is helpful to adjust the vertical exaggeration. For example, in a relatively flat area, you may wish to increase exaggeration to emphasize the rises and dips of the terrain. Or, in an area with many peaks and valleys

close together, you may find it easier to "flatten" the terrain and view your vessel against a more moderate backdrop.

 To increase the vertical exaggeration (making hills taller and valleys deeper), press the button that shows a tall mountain and an Up arrow.

 To decrease exaggeration (flattening the landscape), press the button with the shorter mountains and a Down arrow.

Creating Hotspots (Contour Page)
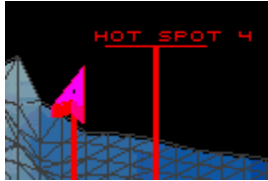
 You can mark points of interest by adding hotspots to the chart. A hotspot is shown as a red dot, with a depth line extending downward to the bottom.

Hot Spot When you come across something you want to mark, press the Hotspot button to place a hotspot on the chart at the location of your vessel. The hotspot symbol will remain on the contour chart to represent your point of interest.

To rename, delete, or set course for a hotspot, press the **Page** button until you reach the Map Page.

The Map Page

Vessel Orientation
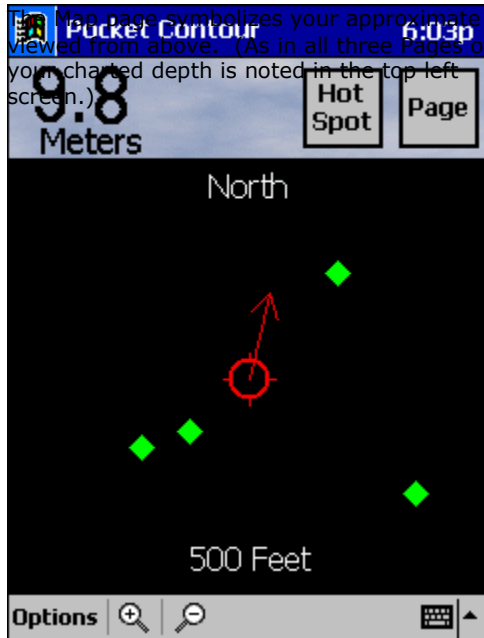
 The map dot symbolizes your approximate location as though viewed from above. (As in all three Pages of Pocket Contour, your charted depth is noted in the top left corner of the screen.)

 Your vessel is represented by a red circle/crosshair symbol, with an arrow pointing in the direction you're traveling.

To adjust vessel orientation, tap **Options, Orientation**:

- North Up: In this mode, north is represented by the top of your Pocket PC screen. As your direction changes, the vessel arrow will likewise rotate on the screen. For example, if you are headed east, the vessel arrow will be pointed to the right. (When you first start using Pocket Contour, your vessel is shown in North Up orientation.)

- Course Up: Your vessel arrow will always point towards the top of the screen, regardless of your direction of travel. This mode mirrors your actual surrounding: For example, if you're headed west, the top of the screen represents west (mirroring your view from the helm). If there are hotspots south of your location, they will be shown on the left side of the Pocket PC screen. Because it corresponds spatially to your actual surroundings, Course Up mode may help you visualize your location in relation to any hotspots you may have created.

Zooming In and Out (Map Page)

To zoom in for a closer view, press the Plus button.

To zoom out for a wider view of the area, press the Minus button.

The number at the bottom of the screen tells you the width of the area being shown on the screen. If you zoom in, this number will get smaller, since less area will be shown. If you zoom out, the number will get bigger since you're looking at more area. (Tip: If you don't see your hotspots on the Map Page, try zooming out.)

Creating Hotspots (Map Page)

You can mark points of interest by adding hotspots, or symbols, to the chart. When you press the Hotspot button, a symbol is placed on the screen at your vessel location. As your vessel moves away from this location, the hotspot stays in place, marking your point of interest.

You can create hotspots when you're viewing the Map Page OR the Contour Chart Page. On the Map Page, your hotspots are shown as green squares. On the Contour Page, they are shown as red labels.

To get details about any hotspot on the Map Page, just tap the green hotspot symbol with your stylus. A popup window will appear, with the hotspot's name, the bearing and distance from your vessel to the hotspot, and GOTO option.

Goto Hotspot

Tap a hotspot and select **Goto!**, and Pocket Contour will guide you to that hotspot's location.

In this example, 337° is the bearing to the hotspot, 36° steer L is the number of degrees to steer to correct is the distance to the hotspot, and 3.2 knots is the vessel's present speed. These figures will be updated as you move.

The Goto figures will remain ... at the top of the screen even if you toggle to a different Page. When you ... reach the hotspot—or if you decide to abandon course for it—you can remove these ... figures from view by tapping the Hotspot button, which is relabeled **Quit Goto**.

Deleting Hotspots

To delete a hotspot, tap it and choose **Delete**. To delete ALL your hotspots and start with a "clean slate," tap **Options, Clear All Hotspots**. ALL of your hotspots will be permanently deleted.

The GPS Page

Position Data

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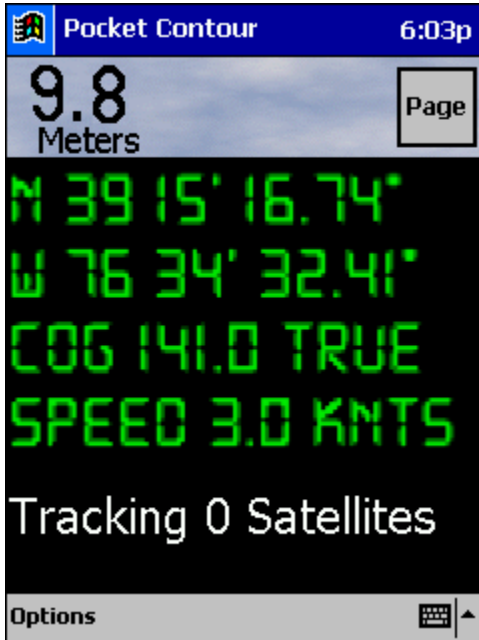
The GPS Page tells you your latitude and longitude, along with your COG (Course Over Ground) and your SOG (Speed Over Ground). When your GPS is receiving a valid satellite signal and providing accurate position data, this data is shown in green type. When red type is shown, this indicates invalid data or loss of signal (you may also see a message, like "Waiting for GPS"). Once a valid signal is received, the data will change back to green type. The GPS Page also tells you how many satellites your GPS unit is tracking at any given time.

GPS Setup
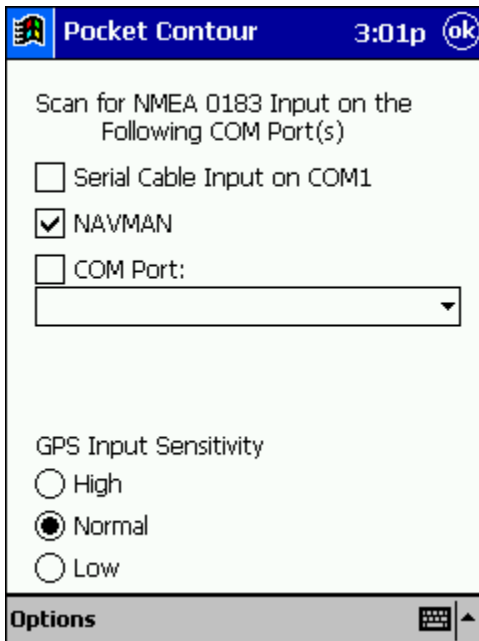
On the GPS Page, tap **Options, GPS Setup**. In the resulting window, select the **Port** where your GPS is connected to your Pocket PC. (If you aren't sure which port you're using, check your Pocket PC's User Manual.)

Signal strength, position accuracy, and data update frequency differ between GPS units. In order for Pocket Contour to track your movements as efficiently as possible, you should adjust your GPS Input Sensitivity. This controls the precision of your latitude/longitude data, and therefore the accuracy and speed at which your vessel icon is placed on the screen. You should base your **GPS Sensitivity** setting on your activity level:

- Use **High** when you're anchored, so that Pocket Contour will recognize subtle movements while drifting.
- Use **Low** when you're moving at high speed, when extreme precision is unnecessary (and might slow down vessel display update time).
- Leave this setting at **Normal** the rest of the time.

At Normal sensitivity, your vessel icon will generally be placed within 3-5 feet of your actual location. Anything more precise is unnecessary during high speed travel. By contrast, you can benefit from greater accuracy at anchor, when it is important to monitor smaller movements.

Units of Measurement

Tap **Options, Units** to adjust units of measurement for the following:

- **Position:** This setting affects the display of your vessel's latitude and longitude coordinates. Choose Decimal Degrees (DDD.DDDDDD), Degrees/Minutes/Seconds (DDD MM SS), or Degrees and Decimal Minutes (DDD MM.MM).

- **COG:** Choose whether your Course Over Ground should be measured from **True North** or **Magnetic North**.

- **SOG:** Your Speed Over Ground may be reported in Statute Miles, Kilometers, or Knots.

- Depth: Depth may be shown in Fathoms, Meters, or Feet. This setting affects the depth display at top left of the Pocket Contour screen.

Chapter 10: QUESTIONS AND ANSWERS

Routes

I want to follow a route, but the vessel isn't moving.

It sounds like you've already chosen the route and given the Follow command (right-click on a waypoint and choose **Follow**). The vessel isn't moving because you haven't chosen a Position Source. From the Vessel/GPS menu, choose either **Position from GPS**, or **Position from Simulator**.

If you're using Simulator mode, and vessel still isn't moving (or is moving in the wrong direction), choose **Setup, Simulator** from the Vessel/GPS menu. Assign a different vessel heading (if the Heading field is grayed out, check **Also apply vessel data**, which will allow you to edit the Vessel Speed and Heading fields.)

How do I include a Named Waypoint in a route?

You can add a Named Waypoint while you're creating a route: just right-click and choose **Add Named Waypoint**, then select the Waypoint from the resulting list and press **OK**. The Named Waypoint will be inserted into the route.

If you have already created the route, you can still add a Named Waypoint to it. Right-click on the route and choose **Insert Waypoint** (In Line, At Beginning, or At End), then right-click again and choose **Add Named Waypoint**. Select the Named Waypoint from the resulting list, and press **OK**.

Can I move waypoints in the route that I'm following?

Yes. Just hold the cursor over the waypoint, and click-and-drag to move it to a new location. (If you aren't able to "grab" the waypoint, it means the waypoint's position is locked. To unlock it, right-click on the route and choose **Route Properties**, then under the Display tab, uncheck **Lock**. You will now be able to drag the waypoint.)

How do I add waypoints to a route I've already created?

Insert Waypoint at Beginning:
1. Right-click anywhere on the route and choose **Insert Point at Beginning**. The cursor will change to the Route tool, ready to set a waypoint. A line stretches from the route's first waypoint and follows the cursor as you move.
2. Left-click to set new waypoints.
3. When finished, right-click and choose **Done**.

Insert Waypoint at End:
1. Right-click anywhere on a route and select **Insert Point at End**. The cursor will change to the Route tool, ready to set a waypoint. A line stretches from the route's last waypoint and follows the cursor as you move.
2. Left-click to set new waypoints.
3. When finished, right-click and choose **Done**.

Insert Waypoint in Middle:
1. Right-click at the place where you want to add the waypoint, and select **Insert Waypoint in Line**.
2. The waypoint will appear where you clicked. You can use the mouse to drag the waypoint if you need to move it (or any other waypoint).

How can I change a waypoint's symbol?

Single Waypoint:

1. Right-click on the waypoint and choose Route Waypoint Properties.
2. The Waypoint Properties window appears, with the symbol, color, name, etc. for this waypoint. Press Change and select a different symbol, then press OK when you have made your changes.
3. The new symbol is present on the chart.

All Waypoints in a Route:

1. Right-click anywhere on the route and choose Route Properties.
2. Under the Display tab, press the Change button next to the waypoint Icon. Select a different symbol, and press OK to close the window(s).
3. The new symbol is used for each waypoint of the route.

How do I delete a waypoint from a route?

Single Waypoint:

Right-click on the waypoint and choose Delete this Point.

Several Waypoints:

1. Right-click on the route and choose Route Properties, or choose Routes from the Routes menu and double-click the name of the route. (Either will open the Route Properties window.)
2. Select the Points tab.
3. Highlight a waypoint and press Delete. Continue until you have deleted all that you want to.
4. Press OK and close the Route Properties window. The waypoints have been removed from the route.

Vessel

I'm using the Simulator to follow a route. Is there any way to speed up the vessel?

Yes. From the Vessel/GPS menu, choose **Setup, Simulator**, and use the **Time Compression** lever to adjust the speed of the simulation. This won't affect your cruising speed or maximum speed settings, but it will decrease the time that it takes to simulate movement on the chart. (Think of it like watching a videotape in fast-forward.) **Note:** Try a low setting at first.

How do I place the vessel at a specific location?

Just right-click where you want the vessel to be, and from the resulting menu, choose **Put Vessel Here** (near bottom of menu).

I lost track of the vessel icon; how can I get it back again?

If you want to find the vessel, press the **Locate Vessel** button (on the left side of the toolbar), or choose **Vessel** from the Locate menu.

If you want to put the vessel in a particular location, right-click on the chart and choose **Put Vessel Here.**

To keep your vessel in view on the screen, check the **Follow Vessel** checkbox at the bottom of the chart window.

How can I keep the vessel icon on the screen during navigation?

To keep the vessel from straying out of sight, check the **Follow Vessel** option in the Navigation Panel at the bottom of your screen. This way, Offshore Navigator will follow the vessel as it moves along its course. (See page 23 for details on the three vessel-to-chart orientation options.)

For some leeway to scroll away from the vessel and explore surrounding areas, choose **View, Options, General** and check **Allow Temporarily Scrolling away from Vessel**. This will let you scroll away from the vessel location for a few seconds at a time, before Offshore Navigator automatically restores the vessel view. This is handy for scouting out the area ahead, without breaking the Follow Vessel command.

GPS Connection

What hardware do I need for the GPS connection?

Successful communication with a GPS unit requires a variety of hardware and software connections. Therefore, the first step is to ensure that you have the proper equipment. There are three pieces of equipment required to connect a GPS unit to your computer. These are:

1. A compatible GPS unit.
2. A data cable (available from your GPS manufacturer).
3. An available COM port.

Where do I get a GPS cable?

GPS-to-computer cables are only available from your GPS manufacturer. Typically, cables can also be bundled with software provided by the GPS manufacturer. (Although it is not required for communication with Offshore Navigator, that GPS manufacturer-supplied software can be useful in diagnosing problems connecting to your GPS unit.)

What's a COM port?

A serial communications (or COM) port is a connector in the back of a computer that enables serial devices (like a mouse or an external modem) to communicate with the computer.

Most computers provide at least two external COM ports, COM 1 and COM 2. (Your mouse may be connected to one of these.) Consult your computer's documentation to determine if you have an available COM port.

My COM Port is 25-pin but my GPS cable has a 9-pin connector. Can I get an adaptor?

Yes. Computer supply stores should carry an adaptor.

My Computer does not have a 9-pin COM Port, but does have a USB serial port. Can I get an adaptor?

Yes. Computer supply stores should carry an adaptor. Be sure to also install the driver software that accompanies the adaptor, otherwise it will not be recognized by your computer's operating system.

I have set up my GPS unit, but I get an error message when I try to connect.

First, try running the GPS Setup Wizard (click **Vessel/GPS, Setup, GPS Setup Wizard**). The Wizard will likely detect the problem and suggest a solution. If you still get an error when you give a GPS command, the next step is to verify that your connection is physically sound and that your equipment (computer, GPS, and data cable) is working properly. You can use a standard Windows accessory called HyperTerminal to check this.

Using HyperTerminal to Check your Equipment Connection

First, close Offshore Navigator. Next, set your GPS unit to NMEA output. (Garmin users: choose NMEA/NMEA from the GPS's Setup Menu. Magellan users: choose NMEA 0183 2.0 from the NMEA menu. Refer to your GPS unit's manual for instructions if necessary.)

Next, start HyperTerminal. From the Windows Start button, choose Programs, Accessories, Communications, and HyperTerminal (the application, not the group/folder). (If you do not have HyperTerminal installed, see below for installation instructions.) If a window comes up asking if you want to configure a modem now, answer No or Cancel.

The Connection Description window should now appear. Type in "Test" for the connection's Name and press OK.

The next window is the Phone Number window. For Connect Using, select Direct to COM1 and press OK. In COM1 Properties, change the Bits per Second from 2400 to 4800 (since the NMEA 0183 standard specifies 4800 baud rate) and press OK.

At this point, one of three things can happen:

1. I get an error message.
This means that the COM port you have selected is either unavailable, or is not functioning properly. You may have inadvertently specified the wrong COM port name. Close HyperTerminal and repeat the procedure, trying a different COM port this time. If you are sure that you are selecting the proper COM port and calling it by its correct name, that COM port may be defective. Contact your computer manufacturer for further troubleshooting tips.

2. I get a blank screen with a flashing cursor.
This means that the COM port you have chosen is not receiving NMEA data.   Close the HyperTerminal data window and repeat the process, trying a different COM port.   If you are certain that you are selecting the proper COM port, there is something wrong with either your COM port, your data cable, or your GPS unit. Since the problem lies outside of Offshore Navigator, you should contact your computer or GPS manufacturer for further troubleshooting tips.

3. I get a screen with text scrolling upward.
You are successfully connected to your GPS unit! The data that you see scrolling by are the NMEA sentences coming from your GPS. Note the COM port that you used for this successful test, and exit HyperTerminal. (When asked if you want to disconnect now, answer Yes. When asked if you want to save session "Test," answer No.)

Now that you have determined the correct COM port, start Offshore Navigator. Leave your GPS unit in NMEA mode for a moment. In Offshore Navigator's GPS Setup window, choose NMEA - Generic for Manufacturer, choose NMEA 0183 2.1 for Unit, choose the correct COM port, and press OK. Check GPS On. Close the GPS Setup window, and you should find a checkmark next to the GPS On option in the GPS menu. The checkmark indicates that communication has been established between Offshore Navigator and your GPS. You should now be able to change your GPS You should now be able to set your GPS back to its native mode (i.e., from NMEA to GRMN/GRMN for most Garmin users), change the GPS Setup settings to match your unit, and choose GPS On again. Everything should now be working properly.

I can't get HyperTerminal to display any data (NMEA sentences).

If you have followed the connection procedure explained in the last section, and if you have tried each COM port, then there is something wrong with either your COM port, your data cable, or your GPS unit. Since the problem is outside Offshore Navigator, you should contact your computer or GPS manufacturer for further troubleshooting tips.

I can't find HyperTerminal. How do I install it on my machine?

HyperTerminal is a standard Windows application that is included with all modern versions of Windows. If it is not installed on your computer, open the Windows Control Panel, choose Add/Remove Programs, select the Windows Setup tab, click on Communications and press Details. Turn on the check box for HyperTerminal and press OK, then OK again. (You may need your Windows CD to complete the installation.)

I believe my COM port is working properly, but I still can't connect.

If you have already used HyperTerminal to verify your connection, and you believe the COM port connection is sound, but you're still unable to connect to Offshore Navigator, here are a few more suggestions for you to try.

1. Ensure that your GPS unit has the latest manufacturer's "software."

Your GPS unit is actually a miniature computer, containing built-in software that controls all of the unit's functions - including communication. Contact your GPS manufacturer to ensure that you are using the latest version of their software. (Software updates are often available from the GPS manufacturer's website.)

2. Try getting a satellite lock.

Sometimes, a GPS unit will not communicate properly until it has a good position fix. Try operating the GPS unit near a window or initializing it outdoors before attempting to transfer data.

3. Try other GPS software.

If you own other GPS-enabled software (or if you received software from the manufacturer when you purchased your GPS cable), try connecting to your computer with that software. If you are unable to connect using any available software, the problem is most likely equipment-related (COM port, data cable, or GPS unit).

4. Check your cable.

Defective cables can also be the source of trouble. If you made your cable yourself, ensure that the proper pins are being used and the soldering is sound. The wires should be spliced together as follows:

GPS	COMPUTER
Data Out (Send)	Data In (Pin 2, Receive)
Data In (Receive)	Data Out (Pin 3, Send)
Ground	Ground (Pin 5, Ground)

If you can connect when NMEA - Generic is selected under Manufacturer (in Offshore Navigator's GPS Setup window), but not when you select your particular GPS make and model, your cable may be transmitting data from the GPS unit but not receiving data from the computer. Check your cable and COM port for problems.

Charts

When scrolling to the edge of a chart, is there a quick way to open a chart for the adjacent area?

Yes- hold the cursor at the very edge of the chart until it turns into an arrow symbol, then double-click open the adjacent chart. (The chart you were previously viewing will close).

Is it possible to adjust the chart scrolling speed?

Yes. Choose **View, Options, Chart Display**, and slide the Chart Scrolling Speed lever to adjust the scrolling speed.

Note: Another way to increase scrolling speed is to try switching to 16-bit color (decreasing color resolution from 32-bit to 16-bit). Use the Windows Control Panel to adjust this Display setting (from the Start menu, choose Settings, Control Panel, Display, Settings, Colors). You may also try 256 Colors if necessary.

Datum

What is datum?

Simply put, datum is a model used for calculating the location of the Earth's center. This center calculation is used as a reference point in establishing coordinate locations, like latitude/longitude, on the Earth's surface.

Why does it matter?

There are many different datums. A coordinate location calculated using one datum may differ by several hundred feet from the same coordinates calculated from another datum. Therefore, before relying on coordinate location information, it is important to know what datum was used in establishing those coordinates.

Toolbar, Menus and Control Panels

Can I rearrange the toolbar and/or control panels?

Temporarily Removing Control Panels

The top portion of the View menu contains several items with checkboxes.   These are components of Offshore Navigator's main window. You may temporarily hide components from view in order to create more screen space for chart display. Simply uncheck an item to remove it from view. Use the View menu again to restore that item to view. In this way, you can show or hide the Navigation Panel, Tool Bar, Status Bar, Chart View Status Bar, Overview Window and/or Data Windows.

Moving the Toolbar

The toolbar, which usually runs across the top of the screen, may be moved to another location within the Offshore Navigator window.   Simply place the cursor in a gray area between toolbar buttons, and drag in the direction you'd like to move the toolbar.   A rectangular outline will follow your cursor, representing the toolbar.

If you hold the cursor up against the side of the window for a moment, the rectangle will become vertical. Release the mouse button, and the toolbar will be aligned vertically on the side of the chart window.

If you release the mouse button in the middle of the chart window, the toolbar will "float" in its own window.

(You can use this same drag-and-drop method to return the toolbar to its original place.)

How come my toolbar looks different than the images in the Help pages?

Your toolbar is probably set to show smaller buttons. For full display of all available buttons, choose **View, Options General**, and check the **Large Toolbar Buttons** option.

Another possibility is that Offshore Navigator is in On-Water Mode, which uses a simplified toolbar for efficient navigation (see page 96). Press **Plan** to return to Plan Mode (Offshore Navigator's standard operating mode).

Printing

I want the chart to print sideways (so the printout is wider than it is tall).

This requires setting the Paper Orientation to "Landscape.**"** There are two ways you can do this:

- Choose **Print Setup** from the File menu, and set Paper Orientation to **Landscape**. This will affect the next print job you send from Offshore Navigator, but you will need to reset the Paper Orientation again each time you want another Landscape printout.
- To avoid having to specify Landscape each time you want to print, you can instead adjust the paper orientation setting in the **Windows Control Panel**. This will affect everything you print with that particular printer. From the Start menu, choose Settings, Printers. Right-click on the printer you're using, and choose Properties. You can then set Paper Orientation to Landscape.

I want to print a chart without any routes, marks, or other overlays showing.

If it isn't showing on-screen, it won't show in a printout, so the thing to do is remove the overlays from display. To temporarily remove ALL overlays of a certain type, choose **Options** from the View menu, select the **Overlays** tab, and under **Show**, uncheck Routes, Marks, etc.

To temporarily hide individual overlays on the chart, right-click on the overlay itself and choose **Properties**, then uncheck the Display checkbox. (Or use the Routes List, Marks List, etc., to single out the overlays that you want to remove.)

To restore your overlays to view, just re-check their Display option(s).

I want to make a printout that only shows what I'm looking at on the screen.

Choose **Print** from the File menu for a one-page printout of the chart area you're viewing, plus some additional coverage as necessary to fill the paper. (To print more of the chart, choose **Print Chart Packet** and select the area(s) you want.)

Alarms (FULL VERSION ONLY)

Can I change the sound used for Auditory Alarms?

The alarm sound can be modified in the Windows Control Panel. Click Start on your Windows taskbar, and choose Settings/Control Panel. In the Control Panel, double-click the Sounds icon. The Auditory Alarm sound is the same sound set for Exclamation. You can sample different sounds here and pick one that you like.

The Anchor Alarm keeps sounding; how can I deactivate it?

If the Anchor Alarm is sounding at times when you don't need it to, you can delete it. Choose **Alarms** from the Tools menu, highlight the Anchor Alarm in the list, and press Delete. (Remember to create a new Anchor Alarm when you do set anchor.)

A2Bs

I would like to include range/bearing data on my A2B lines, but that option is always grayed out.

If you would like to be able to include range/bearing data (or borders around your A2Bs), choose A2Bs from the Tools menu and check the option to **Enable Borders and Range/Bearing**.

Can I create an A2B measurement across multiple charts?

The A2B tool will work across charts, and is a handy way of finding straight-line distance ("as the crow flies"). Select the A2B tool from either the toolbar or the Tools menu, then click to set point A. Open the chart containing point B, and click again. Right-click on the A2B and choose **Properties** to read the range and bearing data.

Miscellaneous

What are the minimum system requirements for running Offshore Navigator?

The Minimum System Requirements for running Offshore Navigator are:

- Windows 98, ME, NT, 2000 or XP operating system
- Pentium-class CPU
- 32 MB memory
- 256 Color Palette
- 800 x 600 Desktop Area
- 100 MB free Disk Space
- Internet Explorer 4.0

What chart formats does Offshore Navigator support?

Offshore Navigator is compatible with the following chart/map formats:

- Maptech/BSB (editions 2.x, 3.x, 4.x, and 5.x)
- Maptech/PCX
- Resolution Mapping RML
- Maptech Navigation Photos
- Maptech Topographic Maps/Terrain Navigator
- Maptech AeroPacks (Aeronautical Charts)
- Maptech Contour Professional (Edition 4.0)
- Fugawi/BSB (Edition 1)
- NDI/BSB (Edition 2.1 or later)

How to Contact Maptech

If you have a question and you haven't found the answer here in the Help pages, Maptech's technical support staff will be happy to assist you. Support is available from 8:30AM to 5PM Eastern Time, Monday through Friday:

E-mail: support@maptech.com
Fax: (978) 792-1095
Internet: http://www.maptech.com/support

Maptech's support site includes an interactive question-and-answer wizard, as well as an online technical support discussion forum, where Maptech software users and technical support staff can share information, suggestions and comments.