

# MAESTRO<sup>TM</sup>

## User's Manual



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# Introduction

Welcome to Maestro Navigator.

## *In this Manual*

This Owner's Manual guides you through all of Maestro Navigator's features and capabilities. An electronic version of this manual is built into the Maestro Navigator system for easy access on board your vessel. To open the electronic manual, touch the Help button in the Navigation Menu and choose Maestro Navigator Help. Touch any topic heading for more information.

Faria's Maestro Navigator displays Nautical Charts, Contour Charts and Navigation Photos. It provides tools to plot your vessel's location on those charts using your GPS signal and provides data to help you plan, measure and monitor your progress.



## *The Touch Screen*

Maestro Navigator's touch screen brings a new level of convenience to navigating your vessel. With a touch screen, you use your fingertip to move the cursor instead of dragging it with a mouse. Instead of clicking on buttons and menus, you touch them directly on the screen.

- **“Press”** or **“Touch”** means you should tap the screen with your finger. This is equivalent to clicking with the left mouse button on a desktop computer.
- **“Double-Touch”** means you should tap the screen twice, the same as double-clicking with the left mouse button. Two successive taps are recognized as a double-touch if the taps occur within a certain amount of time. You can set this time using the Touch Screen button on the NavPanel (see below).
- **“Drag”** means you should touch the screen, with your finger remaining in contact with the screen, move your fingertip to the desired location, and then lift your finger from the screen.



## ***Monitor Buttons***

In addition to the buttons displayed on the Navigation computer screen, there are 3 buttons on the monitor, 2 are for adjusting screen brightness and the one is the power button.

### **Screen Brightness**

To adjust the monitor's brightness, use the buttons on the side of the screen display. The screen brightens (+) or darkens (-) a shade each time you press. Press multiple times if necessary to reach the desired brightness. Models without these buttons use the **Screen Ctrl** button described below.

You can also adjust the screen colors for better visibility as lighting conditions change using the Setup menu options.

### **Power Button**

You should not use the Power button located on the monitor as the standard method for shutting down Maestro Navigator. This method does not complete the close out and save procedures before shutting down; it just ends processes wherever there are.

## ***The NavPanel***

Once the navigation computer is powered up, the NavPanel is displayed on the screen. The NavPanel acts as your onboard computer's "desktop" and provides access to all features, information and options for configuring how the system looks and operates.



The six large buttons in the center of the NavPanel serve as links to the various components of the Maestro Navigator system. These buttons vary depending on the model of your vessel and optional components.

Press any button for access to the related information or application as described below:

**Navigation** - Starts the Maestro Navigator chart plotter

**Cameras** - Displays video from security cameras

**Weather\*** - Starts the weather information system

**Engines\*** - Provides access to the engine monitoring options

**Internet Explorer** - Provides access to the internet

**Help\*** - Opens the electronic version of this manual

\*Can also be accessed from the Navigator Menu.

There is a row of smaller buttons along the bottom of the NavPanel. Press the buttons for the functions described below:

**Set Time** - Press on this button to set the system date and time. This time setting is used in tracking and predicting your progress. The accuracy of your system time affects the accuracy of several data readings, so be sure to enter the time and date correctly.

**Touch Screen** - Follow the on-screen prompts to calibrate your touch screen. Set the size and location of “touchable” areas, double-touch speed, etc.

**Day/Night** - Adjusts the screen colors for better visibility as lighting conditions change. Press this button to toggle between day and night color palettes. The day color palette is designed to reproduce accurately the colors found on printed charts. Night uses a darker color palette based on shades of gray and red. This darker color scheme helps preserve your night vision by keeping the display just bright enough for nighttime use.

**Screen Ctrl** (Screen Control) - Touch here to adjust the brightness and contrast of Maestro Navigator's touch screen (may not be available on all models)

**Conn. Mgr.** - Touch this button to configure your internet connection settings

**Shut Off** - Turns off the navigation computer

If you have a dual station network, the NavPanel displays two buttons in addition to the ones described above:

**Backup** - Backs up all data from your primary navigation computer to your auxiliary station

**Restore** - Transfers data from the auxiliary station to the primary station

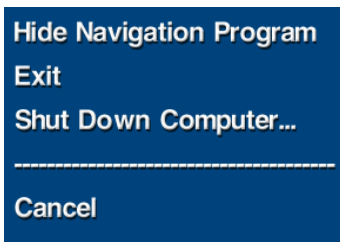
### *Shut Down*

The two recommended options for shutting down the computer are from the display screen as described below:

**NavPanel:** Touch the **Shut Off** button



**Navigator Menu:** Touch **Exit**, then select **Shut Down Computer...** from the pop up menu



### **Computer Screen Freezes**

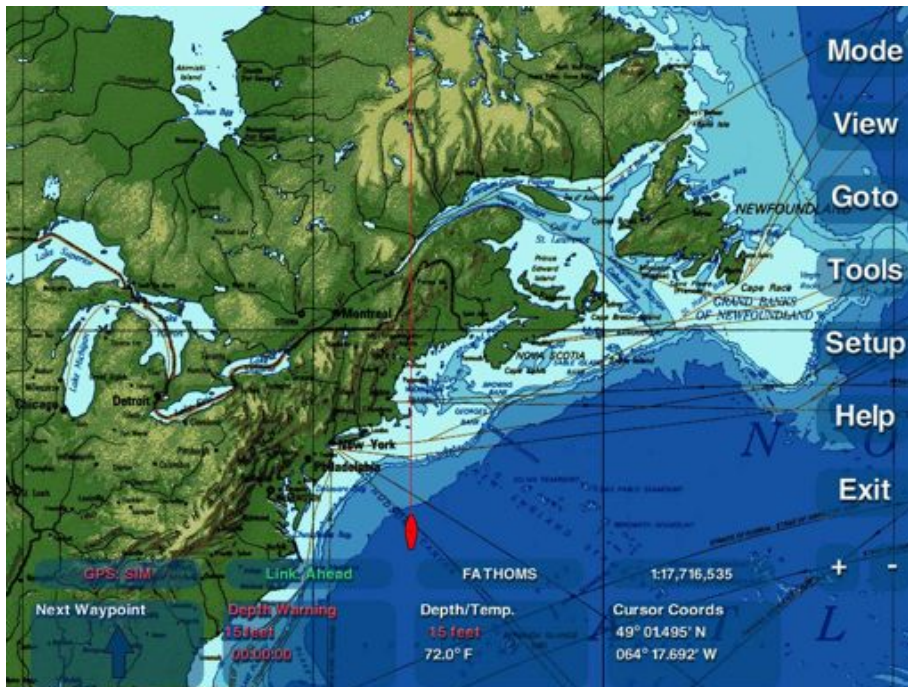
If the Navigator “freezes” and does not respond to proper shutdown commands, press and hold the Power button on the Navigator computer until it powers down and turns itself off. This method should only be used when necessary. Overuse of this shutdown method may interfere with the computer’s operating system.





## Navigator Menu

The first time you start up the Maestro Navigator or Chart Plotter window, the World Chart is displayed by default.



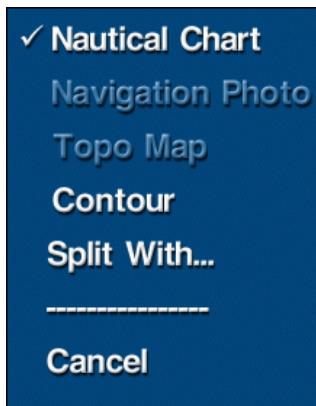
The Navigator menu buttons are displayed down the right side of the screen and there are 8 user-defined Data Windows along the bottom. Use these buttons as described below and throughout this manual to access the various features and tools Maestro Navigator has to offer.

- **Mode** - Choose between navigation chart maps, contour view and split screen options
- **View** - Access to details and lists such as Charts, Marks, Tides and Currents, etc.
- **Go To** - The first step in plotting a route. The **Go To** option is only available when there is no active Route
- **Route** - Access to details and functions for the “active” Route. The **Route** option is only available when there is an active Route
- **Tools** - Access to the various Maestro Navigator tools and features, such as Mark, Distance and Tracking tools
- **Setup** - Access to the tools for customizing Maestro display screens. Details are described in the “Setup Chart Plotter” section of this manual.
- **Help** - Provides access to additional Faria supplied features, such as Chart Symbols, Tides, Lights, etc
- **Exit** - To hide the Chart Plotter window and access other screens on the computer, to exit from the Navigator software or shut down the computer
- **Plus/Minus** - The plus and minus buttons at the lower right of the Maestro Navigator window let you go in for a closer view, or move back to see a larger area of the Chart.

## Mode Menu

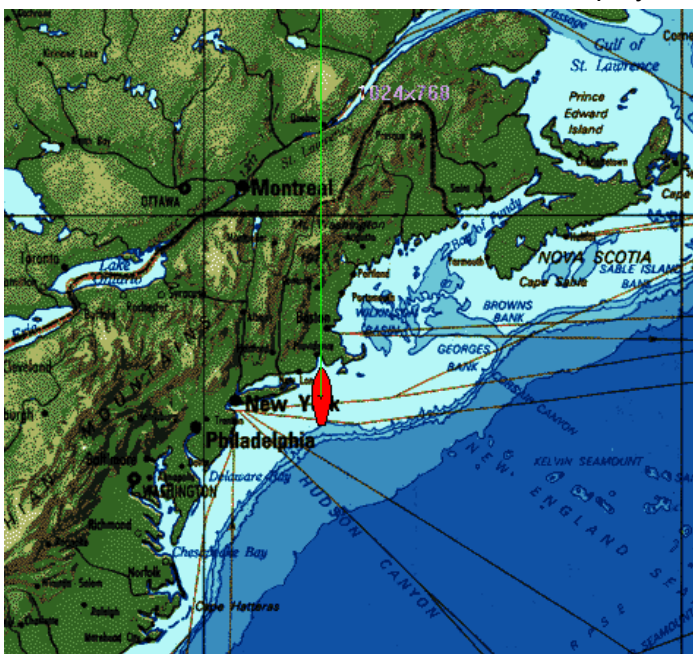
Maestro Navigator provides views using various types of charts such as nautical charts, contour charts, topographic maps of coastal areas, and navigation photos (available in selected coastal areas).

Use the **Mode** button to switch between these different types of charts.



## Nautical Chart

Nautical Chart is the default mode used to display charts.



In the chart list, Nautical Charts are indicated with a blue icon



## Navigation Photo

Navigation photos are created from satellite or aerial images, and are available for many coastal areas.

Navigation photos provide some inland coverage, showing buildings, roadways, etc. in greater detail than nautical charts. Bodies of water are sometimes darkened or otherwise edited to remove glare, making it easy to see your vessel icon.



To open a navigation photo, you must first be viewing a nautical chart. To switch to a navigation photo for the area you're viewing, touch **Mode, Navigation Photo**.

When no navigation photo is available for the area, the "Navigation Photo" menu option is displayed with darkened print and cannot be selected, as pictured above.

In the chart list, Navigation Photo Charts are indicated with a camera icon .

## Topo Map

Some of Faria's digital chart packages include USGS topographic maps covering up to five miles inshore from coastal areas. If you have installed these Topo Maps, you can use them to get a more detailed look at coastal terrain.



When you are cruising close to shore in an area where you have Topo Map coverage, touch **Mode, Topo Map** to open a map of your area.

You can also select Topo Map titles directly from the chart list, which can be handy if you're planning a visit to a specific harbor or town: press **View, Chart** and select a Topo Map title.

In the chart list, Topo Maps are indicated with a green map icon.

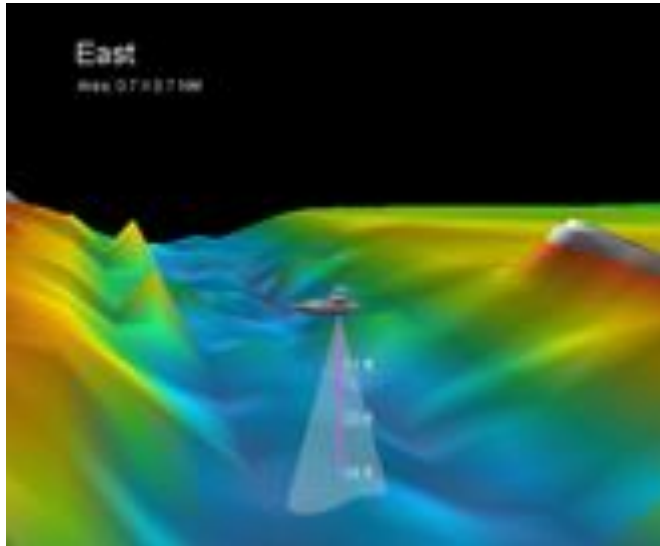




## Contour

*All Contour and Fish Finder images reproduced by permission from NSI, inc © 2007*

Maestro Navigator can show your vessel location on contour charts. Contour Charts are 3-D renderings of the underwater terrain.



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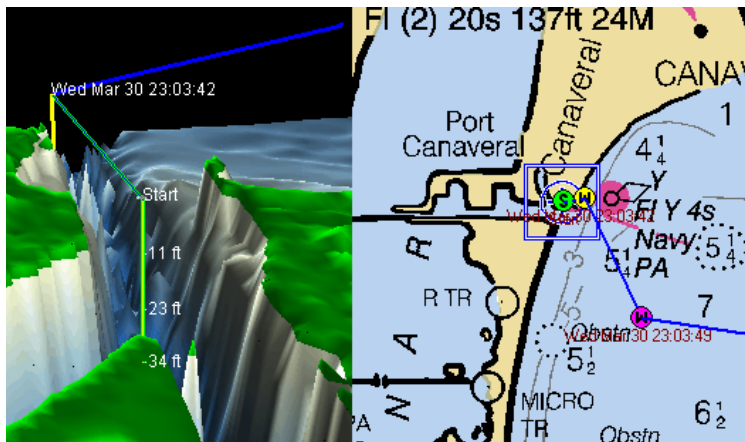
Your location is represented by a vessel icon positioned above the terrain, atop a vertical line indicating the water depth.

To view your vessel location on a Contour Chart, touch **Mode, Contour Chart**. This changes the chart you are currently viewing to a Contour Chart for your location. To view contour coverage for an area that does NOT contain your vessel location, you must first open a nautical chart for the desired area, then switch to Contour Chart coverage.

Touch **View, Chart** and select a nautical chart title. When the map is displayed then touch **Mode, Contour Chart** to switch to and see a contour chart view of that area.

## Split-Screen

To open two types of charts simultaneously, touch **Mode, Split With...**, and then choose another chart type. Both charts will be displayed side by side. Refer to the Contour Charts section of this help guide for more details.



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## View Menu

This section provides a quick overview of the View Menu option functions.

<p><b>Vessel</b></p> <p><b>Waypoint/Mark...</b></p> <p><b>Chart...</b></p> <p><b>Lat/Lon...</b></p> <p><b>Track...</b></p> <p><b>Marine Facility...</b></p> <p><b>Tide Station...</b></p> <p><b>Current Station...</b></p> <p><b>Range/Bearing Line...</b></p> <p>-----</p> <p><b>Chart Overview</b></p> <p>-----</p> <p><b>Cancel</b></p>	<ul style="list-style-type: none"> <li>• <b>Vessel</b> - Adjusts the view of the current Chart to include the location of your vessel</li> <li>• <b>Waypoint/Mark</b> - Displays a list of Waypoints and Marks in the active route, touch a name to refresh the screen and center the display on that Waypoint or Mark</li> <li>• <b>Chart</b> - Displays a list of available Charts, touch one to change the display and show that Chart</li> <li>• <b>Lat/Lon</b> - Displays a on screen keypad for entering Latitude and Longitude coordinates, touch OK to refresh the screen and center the display on the coordinates entered</li> <li>• <b>Track</b> - Displays a list of saved Tracks, touch one to display it</li> <li>• <b>Marine Facility</b> - Displays a list of Marine Facilities, you can change the display sorting order. Select a name to refresh the screen and view the chart where the facility is located. Touch the mark on the chart to see a pop up display of facility information.</li> <li>• <b>Tide Station</b> - Displays a list of available Tide Station Charts, you can change the sorting order. Select the name then touch <b>Station Information</b> to</li> </ul>
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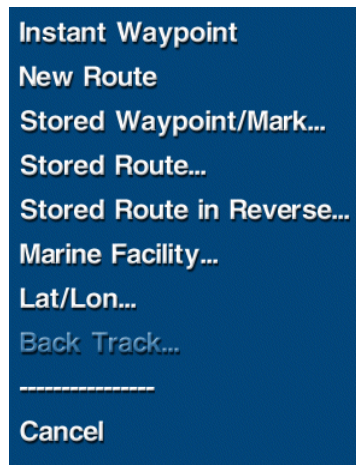
view that graph

- **Current Station** - Displays a list of available Current Station Charts, you can change the sorting order. Select the name then touch **Station Information** to view that graph
- **Range/Bearing Line** - Displays a list of saved Range Bearing Lines (RBLs). Select a name to center the display on that RBL for 12 seconds
- **Chart Overview** - Displays a thumbnail sized image of the chart you're viewing in a pop up window in the top left corner of the screen

Refer to the corresponding sections in the following chapters of this manual for more details.

## Go To Menu

For detailed information on how to use the Go To menu options, refer to the Plotting and Storing Routes section of this Manual. The Go To option is not available when there is an active Route.

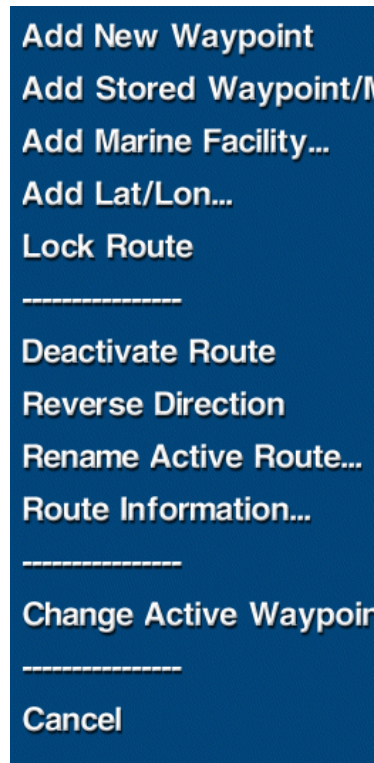




## Route Menu

This section provides a quick overview on the features of the Route Menu. For detailed information on how to plot Routes and using the navigation features refer to the Plotting and Storing Routes section of this Manual.

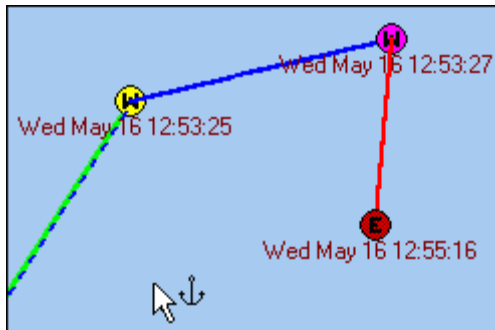
The Route option is only available when there is an active route.



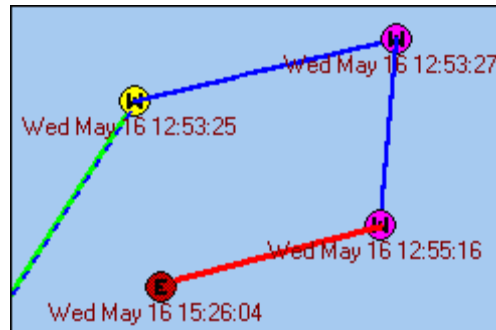
- **Add New Waypoint:** Create another Waypoint and add it to your route. Touch the Route button, choose Add New Waypoint, and then touch the chart location where you would like to place the new Waypoint. When you touch any area outside the Route, the new Waypoint is attached to the end of the route.
- **Add Stored Waypoint/Mark:** Select a Mark from the list of Marks that you have created and insert it as a Waypoint at the end of your route.
- **Add Marine Facility:** Choose a Marine Facility and add it to the end of your route.
- **Add Lat/Lon:** Extend your route by adding a Waypoint at the coordinates you assign.
- **Lock Route:** Lock all the Waypoints in the selected Route to prevent them from being moved accidentally. When a Route is not locked, you can use your finger to drag Waypoints to locations on the chart. Text label changes to **Unlock Route**.
- **Deactivate Route:** Tells Navigator that you are abandoning this route.
- **Reverse Direction:** For returning to the beginning of the route (reverses the sequence of Waypoints).
- **Rename Active Route:** When you create a route, it is automatically assigned a name consisting of the date and time of the route's creation. The **Rename** option lets you change the name of the route.
- **Route Information:** Provides distance and bearing to next Waypoint, time per upcoming route segment, and ETA at next Waypoint.
- **Change Active Waypoint:** The active Waypoint, represented by a yellow symbol, is the Waypoint to which your vessel is headed next. Whenever you activate a Route, its first Waypoint is automatically selected as the active Waypoint, because Maestro Navigator assumes you will be starting that Route from the beginning. If you want to pick up the Route at a different Waypoint, touch the **Route** button and choose **Change Active Waypoint**. Maestro Navigator shows you a list of all Waypoints in the active Route; touch the name of the next Waypoint.
- **Cancel:** If you don't need any of these options, choose **Cancel** to close the menu.

## New Waypoint Tips

While you're following a Route, you can create and add new Waypoints. Touch the **Route** button and choose **Add New Waypoint**, then touch the chart location where you would like to place the new Waypoint. When you touch any area outside the route, the new Waypoint is attached to the end of the route.

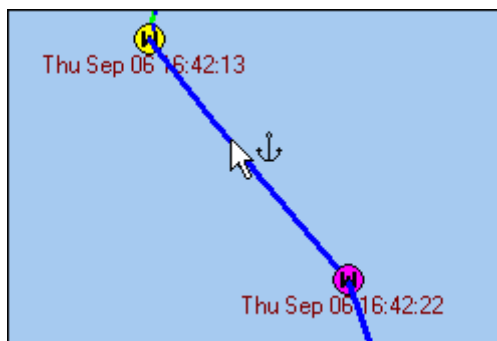


before

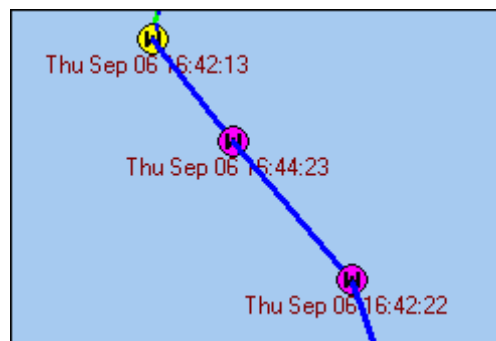


after

To insert the new Waypoint between other Waypoints within the route, touch the route line at the new location.

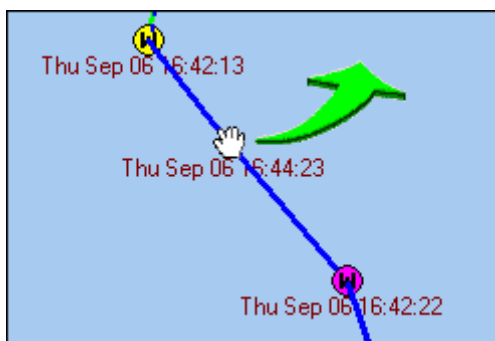


before



after

Remember, you can move Waypoints by touching and dragging them to the new location.



## Route Information

While you are following a Route, touch the **Route** button and choose **Route Information** for data on your progress. The Route Information window shows your range and bearing to the next Waypoint, time required for each upcoming leg of the route, and the ETA for the next Waypoint.

Information on the active Waypoint - the one you're headed for - is highlighted in green.

From	To	Dist	Bearing	Time	Tot Dist	ETA
Start	Vessel	297 ft	278° M	...	...	...
Vessel	start	17.1 NM	278° M	01:08:34	17.1 NM	09:32:10
start	fish2	34.5 NM	296° M	02:17:50	51.6 NM	11:50:00
fish2	chann...	27.1 NM	026° M	01:48:21	78.7 NM	01:38:22
chann...	harbo...	36.6 NM	079° M	02:26:29	115 NM	04:04:51
harbo...	Wpt5	17.6 NM	058° M	01:10:35	132 NM	05:15:27

Close

As you continue along the Route, your vessel's location relative to the Waypoints is indicated by the word "Vessel" in the From column. As you move along the route, the "Vessel" moves down in the list, until the trip is complete. Your heading and ETA readings are updated as you change course or speed.

Touch **Close** to remove the window from view (just touch **Route**, **Route Information** again any time you want to take another look at updated data).

## Tools Menu

This is a quick overview on what options are available in the **Tools Menu**. For detailed information on how to further use the options available for each Tool, refer to the Charts or Plot and Store Routes sections of this manual.

Mark Tool	• <b>Mark Tool</b> - Create and Name preset locations on charts
✓ Drag/Pan Tool	• <b>Drag/Pan Tool</b> - Default tool, touch and drag your finger to move the display area of the current chart
Distance Tool	• <b>Distance Tool</b> - Measure the distance between two points on a chart
Range/Bearing Line Tool	• <b>Range/Bearing Line Tool</b> - Create and Name preset destination locations for Range Bearing Lines (RBLs)
Vessel Placement Tool	• <b>Vessel Placement Tool</b> - Change the location of where the vessel is located on the chart. This tool cannot be used when there is an active Route.
-----	
Locate Vessel	• <b>Locate Vessel</b> - Change the chart display to center on your vessel's location
Insert Mark at Vessel	• <b>Insert Mark at Vessel</b> - Create and Name a Mark at the vessel's location
-----	
Tracking...	• <b>Tracking</b> - Create a name and start recording your progress as a Track on the Chart
-----	
Cancel	

## Setup Menu

This is a quick overview of what is available in the Setup menu. For detailed information on the functions of each Setup menu option, click on the link to be immediately connected to that section of the help guide.

- **Charts:** Check Available Disk Space, copy charts from a Faria CD/DVD to your hard drive or Delete existing Charts
- **Contour:** Manage how Contour Charts are displayed, adjust chart color schemes to help you see contour chart details under different lighting conditions, Show or Hide Obstructions and adjust the Depth Line: a visual aid for use with contour charts
- **Depth:** Adjust settings for Depth Alarm: sounds a beep upon approaching shallow water and the Depth Offset: compensates for height of transducer on hull
- **Display Quality:** Adjust the quality of the screen display, change from High to Low to improve program performance in some circumstances
- **Marks:** Rename or delete existing Marks, set course for a Mark and create new Marks
- **Overlays:** Show or Hide icons on the chart - Photo, Tide/Current
- **Range Rings:** Set the distance between the Range Rings that are drawn around the vessel to help gauge distance
- **Range/Bearing Lines:** A Range/Bearing Line (RBL), is a straight line between your vessel and another point on the chart
- **Routes:** Displays a list of all Routes with options to rename or delete existing routes, or create new ones
- **Day/Night:** Adjust the colors used on the touch screen for Daytime or Nighttime viewing
- **Chart Colors:** Adjust the colors used on the Charts from Normal to High Contrast to improve the readability of charts in certain lighting conditions
- **Scroll Speed:** Adjust the speed at which the chart image scrolls, or disable the Scrolling feature
- **Tracks:** Rename or delete existing Tracks or convert a Track into a Route
- **Units:** Set preferences for Units of Measurement for Compass, Coordinates, Distance, Depth, Time, Temperature (for example: Nautical, Statute or Metric) on screen displays and calculations
- **Upgrade:** To install a software upgrade manually

Charts...  
 Contour...  
 Depth...  
 Display Quality...  
 Marks...  
 Overlays...  
 Range Rings...  
 Range/Bearing Lines...  
 Routes...  
 Day/Night...  
 Chart Colors...  
 Scroll Speed...  
 Tracks...  
 Units...  
 Upgrade...  
 Vessel...  
 Waypoints...  
 Zoom Buttons...  
 -----  
 Cancel

- **Vessel:** To enter Simulator Speed, Vessel Name and Owner's Name using the on-screen keypad.
- **Waypoints:** Set Waypoint Alarms, specify the distance at which to sound the Waypoint arrival alarm, or to disable the alarm
- **Zoom Buttons:** Control the behavior of the + and – buttons in the lower right corner of the Maestro Navigator screen.

For more detail on any of these options, refer to the following sections.

## Help

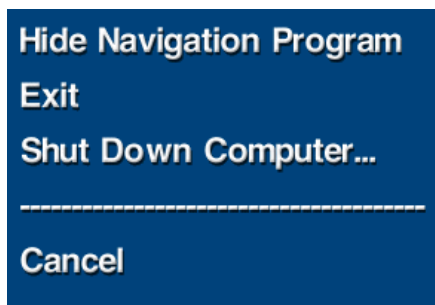
In addition to top-quality digital charts, Maestro Navigator also provides information to help you plan your cruises. Press the Help button to access to the information described below:

- **Help:** The online version of the Maestro Navigator help file
- **Tides:** Tide tables and other data for various tide stations
- **Currents:** Data on current speed and direction, at various current stations throughout the area
- **Coast Pilot:** Published by NOAA as a supplement to nautical charts, Coast Pilot contains channel descriptions, bridge and cable clearances, ice conditions, traffic separation schemes, and other information not found on the printed charts.
- **Light List:** Descriptions and locations of lights, buoys etc
- **Chart Symbols:** A key to the symbols and abbreviations commonly used on NOAA nautical charts
- **About :** Tells you the version number and serial number of your Maestro Navigator software
- **License:** Maestro Navigator's License Agreement

## Exit

When you are using the Maestro Navigator features, you can temporarily hide its window and later return without interrupting your activities.

To do this, press **Exit** in the Navigator Menu and choose **Hide Navigation Program** from the pop up menu that opens.



The Navigator window is removed from view and focus changes back to the computer desktop display.

Even though you can't see it, the Navigator is still running behind the scenes.



To return to the Maestro Navigator, use the **Navigation** icon in the desktop tool bar or NavPanel.



The **Exit** option closes down the Maestro Navigation software without turning off the computer.

The **Shut Down Computer...** button closes down all Maestro Navigator processes down and powers off the computer

## Plus and Minus Buttons

The plus and minus buttons at the lower right of the Maestro Navigator window let you go in for a closer view, or move back to see a larger area of the Chart.



Each press of the plus (+) button, zooms in closer by a factor of approximately 50% (roughly twice as close).

Press the minus (-) button to move farther out from the chart, also by a factor of approximately 50% to see more area on the screen.

In each case, the point at the center of the screen remains the same.

### Limit of Plus (+) button

For areas where you do not have detailed chart coverage, Navigator zooms in to the maximum usable zoom level on the most detailed chart available.

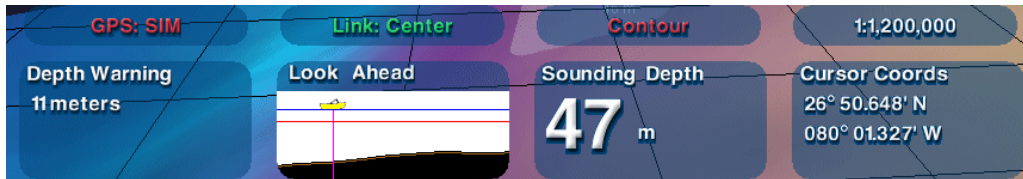
When the plus button is grayed out, this indicates that you have already attained the closest view available for that area.





## Data Windows

There are two sets of windows available for user-defined displays of additional data along the bottom of the viewing area. These Data Windows are always visible showing data about the vessel location, course, speed and ETA. The current time and lat/lon can also be displayed. To customize the display on your screen, touch the window title and open its pop up menu.



Touch one of the smaller data windows for display set up options as described below:

- **GPS** - for GPS display options
- **Link** - for Linking and Chart Orientation options
- **Fathoms/Contour** - for Chart information and SONAR and RADAR display options
- **Scale** - to switch the chart display between different scales

Refer to the corresponding sections of this guide for details on setting up and using these display options.

Touch one of the larger data windows to see a pop up menu. Select one of the options to setup that data window to display and monitor progress in that window as described below:

- **Vessel Lat/Lon:** The latitude and longitude of your present position
- **Vessel SOG/COG:** Speed Over Ground and Course Over Ground
- **Vessel SMG/CMG:** Speed Made Good and Course Made Good
- **Cursor Lat/Lon:** The latitude and longitude of the cursor, changes as you move around the chart
- **Cursor Rng/Brng:** Range and bearing from the vessel to the cursor position.
- **Waypoint Rng/Brng:** Range and bearing from the vessel to the active Waypoint.
- **Waypoint ETA:** Estimated time of arrival at the active Waypoint.
- **Time to Waypoint:** Estimate of how long it will take, in hours and minutes, to arrival at the active Waypoint.
- **Waypoint Pointer:** Arrow indicating vessel's heading relative to the bearing of the active Waypoint.
- **Cross-Track Error:** When the vessel strays from the course line between the previous Waypoint and the active Waypoint, cross-track error tells how far it has strayed, and in what direction. (Autopilots use this figure to adjust course while following a route.)
- **Trip Speed:** The average speed and the maximum speed achieved during this trip.
- **Trip Time/Distance:** A timer that tracks the duration of your trip and an odometer to tell you how far you have traveled.
- **Time:** Displays the time of day

- **Depth:** If your vessel is equipped with a depth transducer or Fish Finder, you can use this data window to display the depth at your vessel location. *Note: Be sure to specify your Depth Offset before relying on data from your transducer.*
- **Depth/Temperature:** Maestro Navigator displays the water temperature along with the depth.
- **Depth Warning\*:** When this option is activated, Maestro Navigator monitors the depth of your upcoming route. If your present course appears to be taking you into dangerously shallow water, a warning window will appear on the screen.
- **Look Ahead\*:** A multi-colored cross-section representation of your vessel's course, showing the relative depth of the area ahead. Different colors indicate clear areas, places where you should use caution, and points of probable collision.

*\*Note: The Depth Warning and Look Ahead features use charted data, not actual depth sounder readings. It is designed to serve as an aid to navigation, to be used in conjunction with actual depth readings and charted position.*

Further explanation of these options is listed below.

### *Vessel Lat/Lon*

Select the Vessel Lat/Lon option to change the data window and display Vessel Coordinates as pictured below.



### *Vessel SMG/CMG*



Select the Vessel SMG/CMG option to change the data window and display speed made good (using the selected units of measure) and course made good (indicating True or Magnetic North) as pictured above.

**Speed Made Good (SMG)** is the rate at which your vessel is actually getting closer to the next Waypoint.

This figure takes into account your speed over ground, and your heading. For example, you might be traveling at 10 knots, but instead of heading directly for the next Waypoint, you might circle the Waypoint before you actually reach it. Any time you take an indirect path like this, your vessel speed is higher than the rate at which you're actually gaining on the Waypoint. Therefore, your speed over ground might be 10 knots, but your speed made good would be lower - say, seven knots. (In other words, you would reach the Waypoint in the same amount of time that it would have taken if you had followed a direct course at seven knots.)

**Course Made Good** is the bearing from the previous Waypoint to your vessel location.

### Waypoint Pointer

Select the Waypoint Pointer option to change the data window and display a visual guide for maintaining a true course to the next Waypoint in your route. It is designed to tell you at a glance what correction you need to make by indicating the location of the next Waypoint in comparison to your vessel location.

When on course, the pointer arrow points straight up. If the bearing to the next Waypoint changes, the arrow tilts, showing you the direction that you need to steer to in order to correct your course. If you need to turn to starboard, the arrow leans to the right; if you need to turn to port, it leans to the left.

In the first image, the arrow pointer is leaning to the right, indicating that the next Waypoint is starboard. After steering to the right and once the vessel is aimed in the direction of the next Waypoint, the arrow points straight up.

This is **Chart Up** chart orientation. The Chart remains the same and the vessel icon rotates to stay on course.

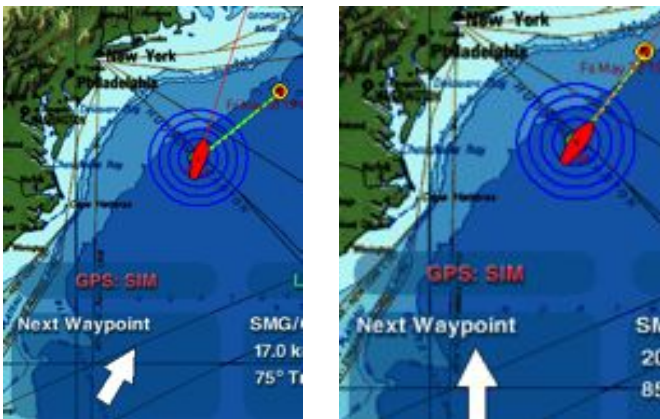
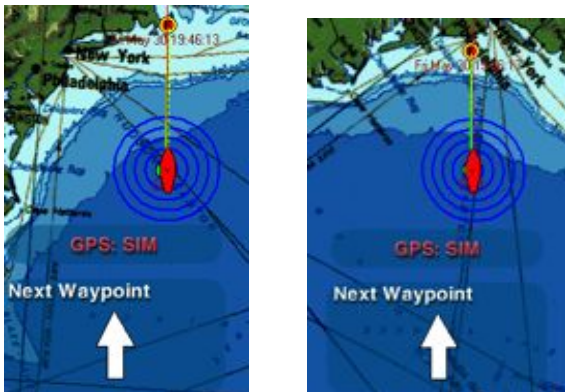


Chart Up orientation is especially handy when you're using the Waypoint Pointer, because straight up for the pointer indicates that the Waypoint is straight ahead of your vessel. When the Waypoint Pointer is tilted, it is a quick visual indication that you need to turn to get back on course.

Notice that in the examples shown below, the chart itself rotates, while the vessel icon remains pointed towards the top of the screen. This is **Course Up** chart orientation.



In **Course Up** orientation, the chart is rotated and the vessel is always headed straight up on the screen.

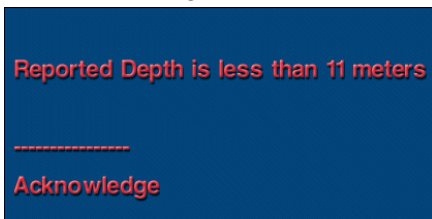
To specify Chart Orientation, touch **Tools, Linking**.

## *Depth Warning Data Window*

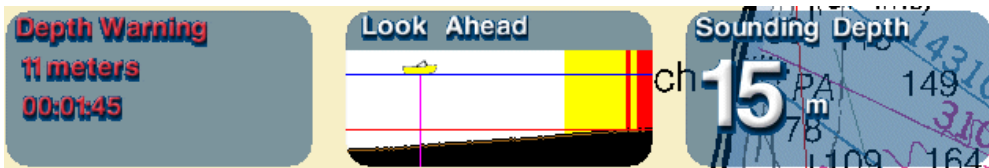
The Depth Warning data window displays a message on the screen to notify you if your present course appears to be taking you into an area shallow enough to ground your vessel. The data window tells you approximately how much time you have before you reach the area of possible collision. With this advance warning, you can then adjust your course as necessary.



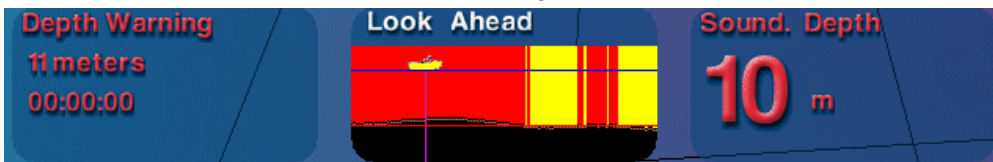
A warning message pops up on the screen when you reach the depth indicated in the Depth Warning setup screen, touch **Acknowledge** to close it.



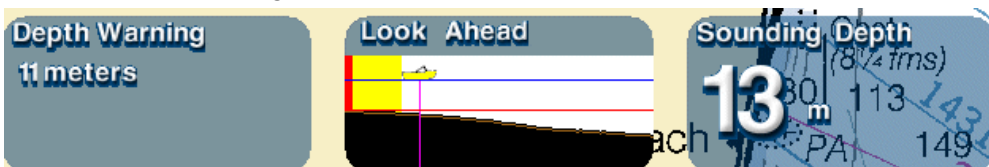
You can configure the Data Windows to visualize the Depth Warning in action. When the Data Window is set to display the Look Ahead graphic, you can see the upcoming impact zone represented by the red in the cross-section display. If you want to monitor depth changes as you cruise, and you're planning to keep an eye on the screen as you go, the Look Ahead option is a handy reference. If you aren't concerned about minor depth changes but you want something to get your attention in case of dangerous shallows, use the depth warning.



The Depth Warning Data Window shows that the vessel is approaching dangerously shallow waters and the length of time until impact. The remaining time is displayed in this countdown clock until course is changed.



When the emergency is over, the countdown clock vanishes and the red lettering in the depth windows changes back to standard white.



### Activate Depth Warning window

Maestro Navigator uses data from your Contour Chart setups to portray the upcoming  $\frac{3}{4}$  mile of your present course. Therefore, the Depth Warning feature may only be used in areas for which you have contour coverage. However, it is not necessary to be viewing a Contour Chart in order to use the depth warning.

Like all other depth-related program features, the Depth Warning requires that you first set a Depth Alarm. Setting the Depth Alarm indicates to Maestro Navigator the depth at which you want to be warned.

First, specify the depth at which you'd like to be warned. Touch **Setup, Depth Alarm** to specify this depth.

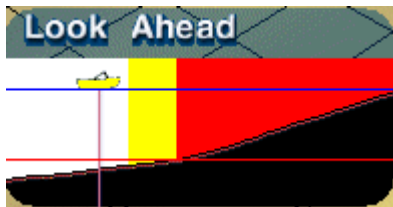
Then touch any of the four Data Windows, and choose **Depth Warning**.

#### **Caution!**

- The Depth Warning data window is intended for use as a navigational aid, and should not be solely relied upon for safety during navigation. Refer to up-to-date official NOAA navigational charts for controlling depths.
- The Depth Alarm setting, which is used by the Depth Warning data window, is not corrected for the effects of tides, currents or depth sounding datum.
- In anticipating relative depths along your upcoming course, the Depth Warning window uses charted depth data from Contour Charts. Therefore, use of the depth warning requires the presence of contour coverage.

### *Look Ahead Data Window*

The Look Ahead data window shows a one-mile cross-section of your vessel's present course, and uses different colors to indicate areas of possible obstruction. This window can be used in conjunction with the "Link Ahead" setting that is used for chart display position.



As the vessel moves in this example picture, its upcoming course is predicted and portrayed in the Look Ahead window. The vessel's progress is represented from left to right. The left portion of the window represents the area approximately  $\frac{1}{4}$  mile astern. The area to the right of the vessel symbol represents the upcoming  $\frac{3}{4}$  mile. The vessel symbol remains stationary in the Look Ahead window, while the cross-section changes to depict your progress.

The various depths are represented by different colors in the Look Ahead window:

**White:** No obstructions detected.

**Yellow:** Within 3 feet of the alarm depth that you set. Possible obstruction; use caution.

**Red:** Alarm depth or shallower. Collision imminent. Divert course.

### Activate Look Ahead window

The Look Ahead feature uses depth data from your contour charts. Therefore, you must have installed contour coverage in order to use this program feature. However, it is not necessary that a contour chart be displayed.

First, specify the depth at which you'd like to be warned. Touch **Setup, Depth Alarm** to specify this depth. Then touch any of the four data windows, and choose **Look Ahead**.

**Caution!**

- *The Look Ahead window is intended for use as a navigational aid, and should not be solely relied upon for safety during navigation. Even when the Look Ahead window shows white, indicating that no obstructions are detected, obstructions may still be present.*
- The depth alarm setting, which is used by the Look Ahead data window, is not corrected for the effects of tides, currents or depth sounding datum.
- In anticipating relative depths along your upcoming course, the Look Ahead window uses charted depth data from contour charts. However, you do not need to be viewing a contour chart in order to use the Look Ahead window.



## Set Up Chart Plotter

There are multiple options for customizing the display of the Maestro Navigator. In the Setup Menu, options are provided to set preferences for chart scrolling speed, screen colors, units of distance measurement, lat/long format, etc. It also provides options for copying charts to your hard drive and deleting unwanted routes.

### Chart Setup

Chart refers to the display used for navigation by the Maestro Navigator software. Charts cover different geographical areas, come in different scales and use various types of graphics. Many different charts come with the Maestro Navigator and your system may already have been set up with chart coverage for the entire US. Check with the dealer to confirm exactly what coverage has been included.

Even though charts have been pre-installed on the Maestro Navigator system, CD/DVDs containing all of the chart data are provided so you can install the charts on your home computer for use with the Home Planning Edition. This way, in the unlikely event that charts are deleted from your navigation computer, you can also use the CD/DVD to restore them.

Maestro Navigator recognizes Maptech (NOAA)/BSB format Nautical Charts, Faria Coastal Navigation Photos, Faria Coastal Topographic Maps, Faria Aerial Pictures and Faria Contour (3D) Charts. All of these are included in each Maestro Navigator Chart package, when available.

### Purchase Additional Charts

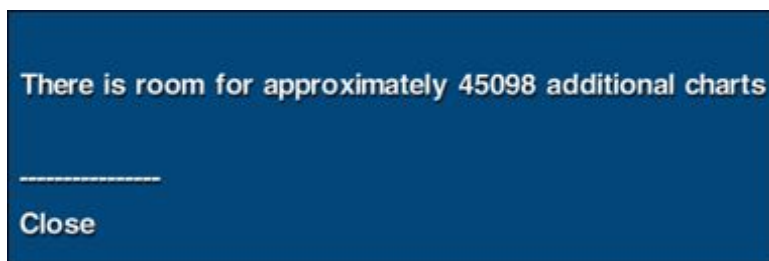
To expand your chart coverage, or if chart data has not yet been installed on your system, you may purchase chart data from your Maestro Navigator dealer or directly from Faria.

Call 877-405-1010 for availability and pricing.

### Check Available Disk Space

Be sure that you have enough free space on your navigation computer's hard drive before you install new charts.

To find out how much storage space is available, touch **Setup, Charts, Disk Information**.

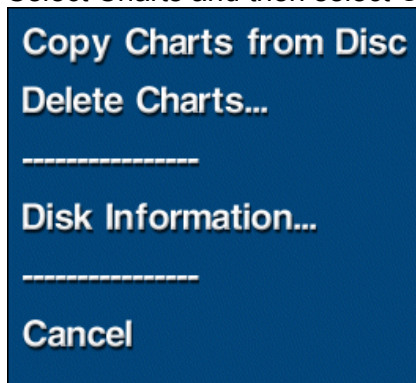


This tells you approximately how many more charts you can store.

### Install Charts

Complete the following steps for each CD/DVD:

1. Insert the disc in your drive and allow approximately 30 seconds for it to be recognized.
2. In the Navigator Menu, touch the Setup button.
3. Select Charts and then select **Copy Charts from Disc**.



4. Maestro Navigator scans the CD/DVD and copies the charts onto your hard drive. Because of the large amounts of data that are included on each disc, expect the copying process to take a while.
5. Repeat this process for each CD/DVD. They can be copied/installed in any order.

**Caution!**

*The Chart Plotter cannot be used to navigate during the copy/install process. Be sure to allow plenty of time before you begin. When copying is complete, the disc will stop spinning and the Copy Charts window closes.*

**Note!**

*Product registration required*

Nautical Charts and Contour 3D Charts must be unlocked before they can be used. Unlocking requires a special code obtained during product registration.

To register your chart product(s), and unlock your nautical/contour charts, contact Faria registration at **877-405-1010**. One registration per chart region includes both nautical and contour charts.

Maestro Navigator recognizes Faria BSB format charts. The older Faria PCX format (often used for international charts) is not compatible with Maestro Navigator.

**Delete Charts**

To delete unused or obsolete charts and free up disk, touch **Setup, Charts, Delete Charts**. A list of installed charts is displayed. Click on the name of the chart and it is highlighted with **red font**.

Touch **Delete** to remove the chart or **Close** to close the Charts Setup menu without deleting.

## Contour Charts Setup

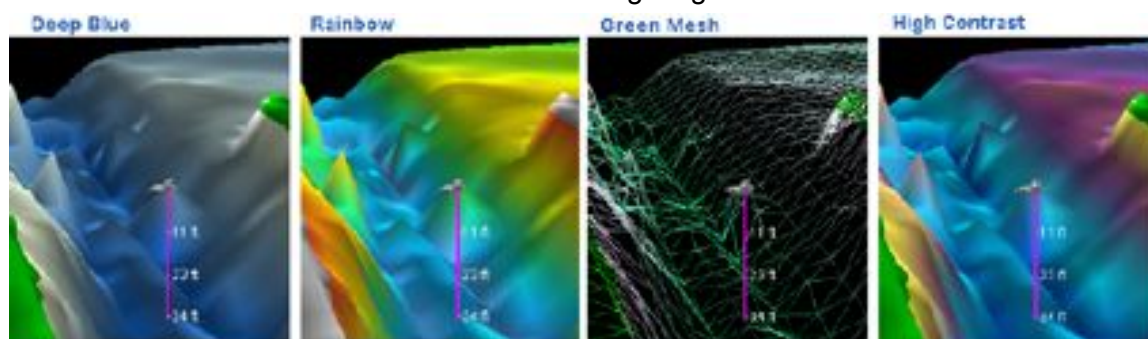
*All Contour and Fish Finder images reproduced by permission from NSI, inc © 2007*

Contour refers to displaying a navigational chart using 3-D renderings of the underwater terrain. Refer to the following sections for detailed instructions about managing how Contour Charts are displayed, adjusting chart color schemes, showing or hiding obstructions and adjusting the Depth Line.



### Contour Colors

Contour charts can be shown using several different color schemes so you can select the one that's easiest to see under the current lighting conditions.



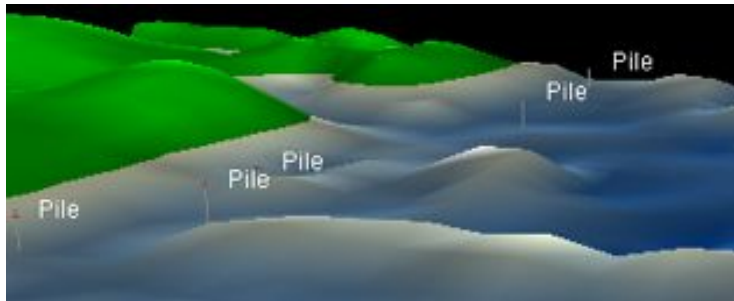
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Press **Setup, Contour Colors** and choose from the following list:

- **Deep Blue** (Blue tones are used, this is the original factory default setting)
- **Rainbow** (Red-Green-Yellow tones are used to indicate levels of depth)
- **Green Mesh** (Removes the opaque layer of color, revealing the “wire frame” underneath)
- **High Contrast** (This color scheme is designed for use in bright daylight)

### *Contour Obstructions*

Navigator indicates the locations of shipwrecks and various other obstructions, such as rocks, piles, stakes, stumps, deadheads, platforms, etc.

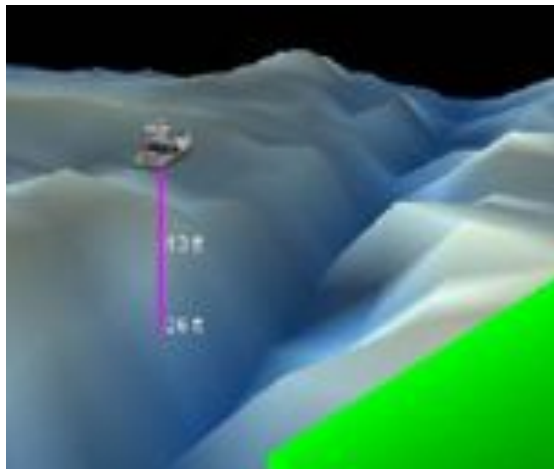


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Obstructions can be marked and labeled on the Contour Charts or hidden from view. Press **Setup, Contour, Contour Obstructions** and you'll find options to **Show** or **Hide** Contour Obstructions.

### *Depth Staff Display*

The Depth Staff is an optional visual aid designed to help you gauge depth at a glance.



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The Depth Staff is a purple line extending directly downward from the vessel icon on a Contour Chart.

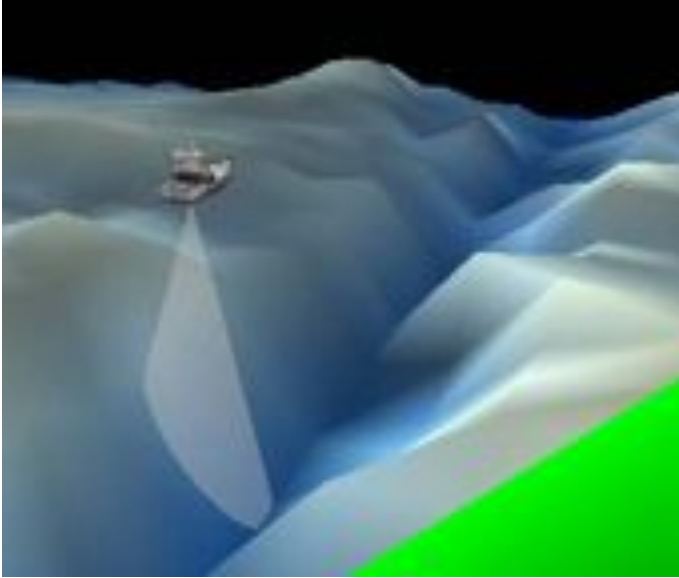
Charted depth is noted at intervals along the staff. To turn the Depth Staff on or off, touch **Setup, Contour, Depth Staff Display**.

#### **Note!**

*When viewing a Contour Chart in split-screen with a Nautical Chart, an additional Depth Staff marks the center of the display area.*

### *Transducer Cone*

The Transducer Cone is an optional visual aid designed to help you visualize the area being covered by your depth transducer.



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The Transducer Cone is a conical area of lighter shading that extends down and out from under the vessel icon representing the angle of the transducer's signal.

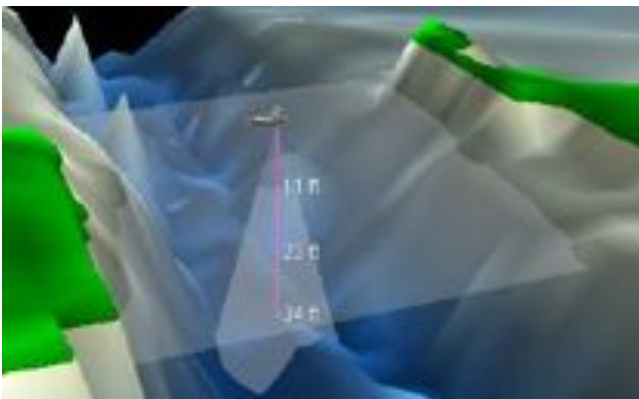
To show or hide the Transducer Cone, touch **Setup, Contour, Transducer Cone**.

#### **Note!**

*Turning the Transducer Cone graphic off and on has no effect on whether your actual transducer is on or off.*

### *Depth Line*

The Depth Line is an optional visual aid on the Contour Chart display window. It is a light-shaded plane that appears to “float” directly beneath the vessel icon.



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To turn the Depth Line on and off, touch **Setup, Contour, Depth Line**.

The manner in which the Depth Line works depends on whether or not a Fish Finder (Sonar) is installed on your vessel.

### No Sonar

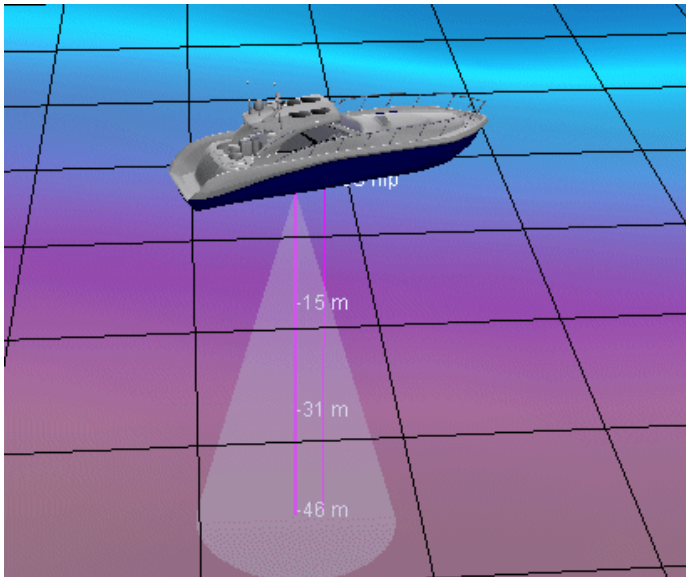
When your vessel is not equipped with Sonar, the position of the Depth Line matches the Depth Alarm setting. Adjust the Depth Alarm to raise or lower the Depth Line.

### With Sonar

When Sonar is installed, the Depth Line is controlled from the Sonar Window. If your vessel is equipped with Sonar, the depth line is displayed in both the Contour Chart and Sonar Window. It indicates the same depth in both windows. Dragging the depth line up and down in the Sonar Window and it moves simultaneously in the Contour Chart. You can turn the Depth Line off and on by pressing **Setup, Contour, Depth Line** or by using the **Depth Line** button in the Sonar control panel.

### *Surface Layer*

The Surface Layer is a visual aid that represents the surface of the water.



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The Surface Layer options add a flat graph pattern to the Contour Chart representing the water's surface. The squares in the grid measure 50 meters on each side.

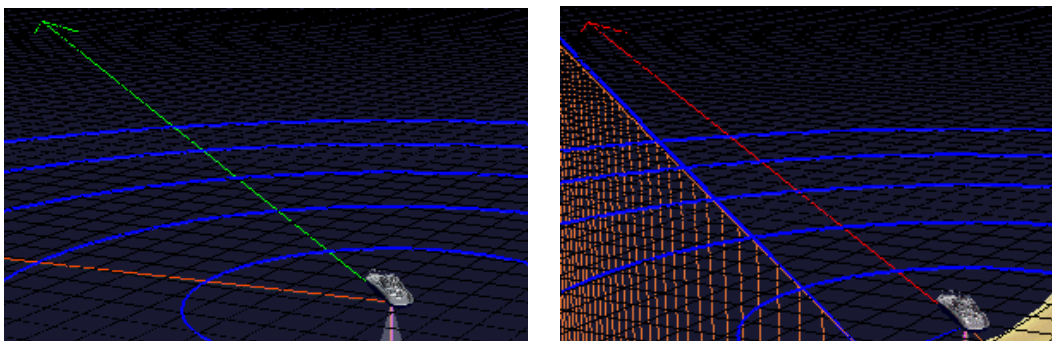
The Surface Layer menu has the following options:

- **Surface Layer** - The standard surface layer, shown in the image, is transparent: you can look "down" through it and see underwater objects (such as the Depth Staff, Cone, etc).
- The **Filtering Surface Layer** is not transparent; in order to see items under the surface, you must tilt the contour chart to look beneath the surface layer. Refer to the Contour Charts section of this manual for instruction.
- **OFF** - Removes the Surface Layer feature from the display
- **Cancel** - Returns to the display without changing the surface layer feature



### *Heading Arrow*

The Heading Arrow is a line extending forward from your vessel's bow. To turn the heading arrow on or off, touch **Setup, Contour, Heading Arrow**.

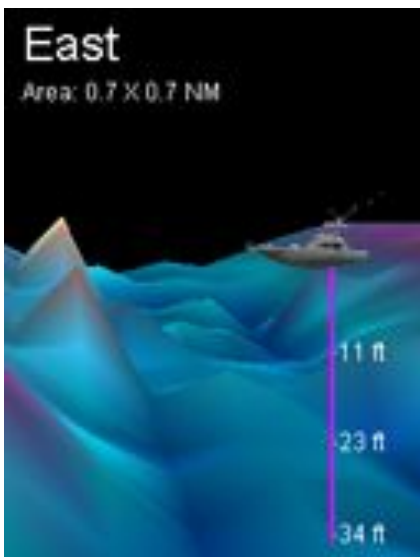


#### **Hazard**

The Heading Arrow is typically displayed in green. It turns **red** when the Depth Alarm is triggered or if the Look Ahead data window indicates a collision (based on present heading).

### *Area Display*

The Area Display is a notation on the contour chart indicating the rough dimensions of the Contour Chart that is currently being displayed. Pictured below under "East"



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Touch Setup, **Contour, Area Display** to turn the Area Display off or on.

## Depth Features Setup

Maestro Navigator offers several depth-related features, including an automatic warning for shallow areas (Depth Warning data window), a cross-section view of the sea floor along your course (Look Ahead data window), and a visual aid for gauging depth on Contour Charts (Depth Line). In order to take full advantage of all these features, there are two settings you must make, the Depth Alarm and the Depth Offset.

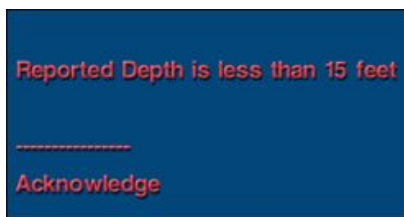
### Depth Alarm

When your vessel is equipped with a depth transducer or Fishfinder, set the Depth Alarm to activate the Depth-Related Features. Once you have set your Depth Alarm, you can begin to take advantage of the depth-related data windows, including the Depth Warning and Look Ahead windows and the Depth Line option on Contour Charts. (These features are not available until you set your Depth Alarm.)

To set the alarm's depth, touch **Setup**, Depth Alarm

Set the alarm to the depth at which you want to be notified.

When your vessel is equipped with a depth transducer or Fishfinder, Maestro Navigator sounds a beep and displays a message window when your vessel attains the depth indicated in the Depth Alarm.



To close the message window, press **Acknowledge**.

### Depth Alarm Tips

In setting the Depth Alarm, consider your vessel's draft when fully laden and specify the minimum depth required.

Be sure to consider your Depth Offset. The Depth Offset modifies the depth reported by the depth transducer as described in the next section of this manual. The Depth Alarm uses this modified depth data, so keep this in mind when specifying the alarm depth.

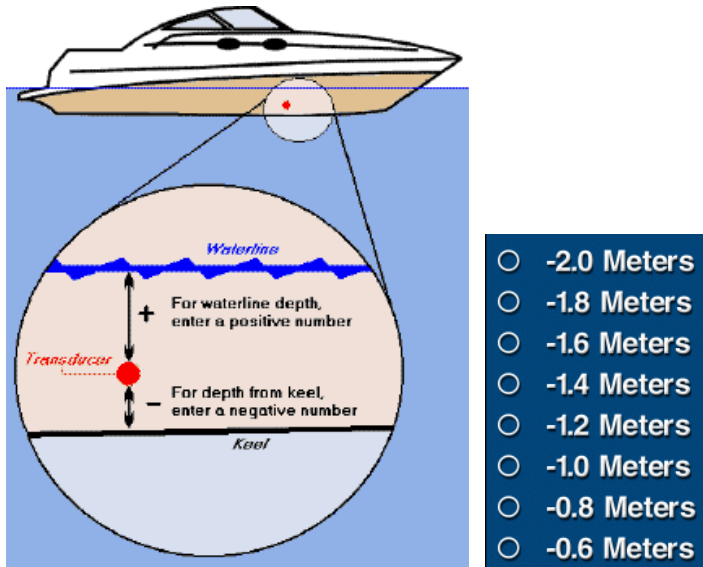
If you do not wish to receive depth alarm notifications, touch **Setup**, **Depth Alarm** and select **Off**.

#### **Caution!**

*The Depth Alarm is not corrected for the effects of tides, currents or depth sounding datum. A Depth Alarm is an aid to navigation only and should not be relied upon for grounding avoidance. Refer to up-to-date official navigational charts (such as those included with Maestro Navigator) for controlling depths.*

## Depth Offset

The Depth Offset setting tells Maestro Navigator how to adjust transducer readings to compensate for where the transducer is located on the hull of the vessel. The accuracy of your Depth Offset setting affects the accuracy of all depth measurements in Maestro Navigator. Until you specify a Depth Offset, the depth readings indicate the depth from wherever the transducer is located on the vessel to the bottom.



The transducer is mounted somewhere between the keel and the waterline on the hull of the vessel. If you would like your depth readings to show depth from another point (such as waterline depth, or depth below keel), you must specify a Depth Offset.

The offset is the distance, in vertical feet, between your transducer and the point from which you wish to measure depth. In setting your Depth Offset, you are telling Maestro Navigator how to modify the transducer measurement in order to provide the information that you want. For instance, when you want your depth readings to provide the depth below keel, specify how far your transducer is above the keel of your vessel. If your transducer is mounted one foot above the keel, enter a Depth Offset of “-1.0.” This tells Maestro Navigator to subtract one foot from the depth reported by your transducer (since the keel is one foot closer to the bottom than the transducer is). As a result, your depth readings indicate depth below keel.

To see depth readings that reflect surface depth, and your transducer is mounted two feet below your vessel’s waterline, enter “+2.0.” Maestro Navigator adds two feet to the amount reported by the transducer, thereby providing waterline depth. Maestro Navigator’s offset range is from -5.0 feet to +5.0 feet, in six-inch increments. To specify your offset, touch **Setup, Depth Offset**, and select a value from the available options.

To receive waterline depth measurements, specify a positive number. For depth from keel, specify a negative number.

### Note!

*Depth reading accuracy depends on proper calibration of your transducer’s position in the water column. Refer to your depth sounder user manual to ensure that your system is properly calibrated.*

*Depending on your autopilot model, you may need to specify this Depth Offset in your Autopilot separately Refer to your autopilot user manual for instructions.*

*Keep your Depth Offset in mind when setting your Depth Alarm. Your Depth Offset affects your Depth Alarm, which in turn affects all of Maestro Navigator's depth-related features (including depth warning and Look Ahead data windows).*

If you are having problems configuring depth-related functions, see the Troubleshooting Depth section of this manual for some tips.

## Display Quality

Adjust the quality of the screen display by changing the setting from High to Low. This may improve program performance in some circumstances.

To specify Display Quality, touch **Setup, Display Quality** then choose **Low** or **High**.

Click on **Cancel** to close the tool without changing the setting.

## Manage Marks

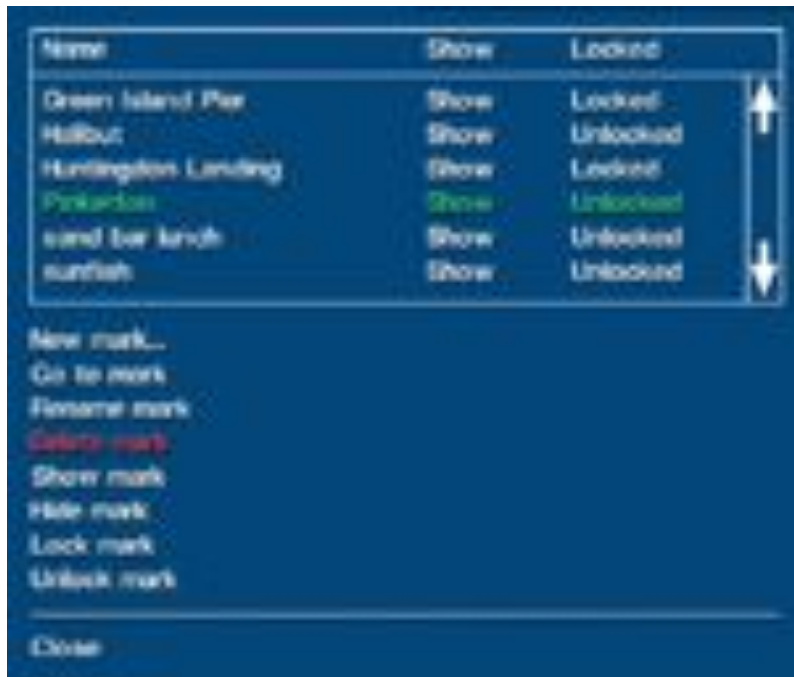
Marks are user defined locations on a chart. You can modify existing Marks, delete the ones you no longer need, set course for a Mark, or create a new Mark by pressing **Setup, Marks**.

When there are stored Marks in the system, a list of marks is displayed in the top half of the window.

Touch the up and down arrows to scroll the list.

The "Show" column indicates whether each mark is visible on the chart ("Show"), or hidden from view ("Hide"). You can change the visibility of a mark at any time.

The "Locked" column indicates if the Mark is locked in place on the chart.



To select a Mark, touch its name to highlight it in green.

The bottom half of the window contains commands that can be applied to the selected mark.

- **New mark:** Type in the coordinates to create a new Mark. (When there are no Marks in the system yet, Touch **Tools, Marks**, touch the location and type in the name of the Mark using the keyboard)
  - **Set mark location:** Change the location of the Mark by typing in coordinates
  - **Go to mark:** Sets a direct course for the Mark.
- Note! It is up to you to verify that the course is charted in safe waters.*
- **Rename mark:** Change the name of the selected Mark.
  - **Delete mark:** Permanently remove the selected Mark from memory.
  - **Show mark:** Makes the selected Mark visible on the charts.
  - **Hide mark:** Hides the selected Mark from view. Although the Mark is removed from the display, it remains in the list of Marks. Once a Mark is hidden you can make it visible again by selecting it and choosing “Show mark.”
  - **Lock mark:** Prevents the Mark from being moved on the charts.
  - **Unlock mark:** Unlocks a previously locked Mark. When Marks are unlocked they can be moved by dragging with your finger on the charts.

## Overlays Setup

Show or Hide Photo and Tide/Current icons on the chart.

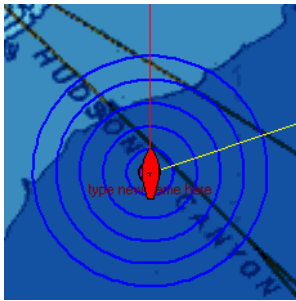


## Range Rings Settings

Maestro Navigator can draw Range Rings around your vessel to help you gauge distance on both Nautical and Contour Charts. Twelve **options** are provided for setting the interval between rings. Some of the options are set for marking distance on the chart, such as one nautical mile apart.

- ☐ Off
- ☐ 1/8 Nautical Mile
- ☐ 1/4 Nautical Mile
- ☐ 1/2 Nautical Mile
- ☒ 1 Nautical Mile
- ☐ 2 Nautical Miles
- ☐ 5 Nautical Miles

Other options are provided for time intervals to show how far you will travel in a set amount of time at your current speed.



Range Rings that are set for time intervals change as your speed increases or decreases. For example, if you speed up, the rings get farther apart, since you will cover more ground in the same amount of time at the higher speed.

Choose **OFF** to remove the Range Rings from the display.

## Range Bearing Lines (RBL) Setup

A Range/Bearing Line (RBL) is a straight line between your vessel and another point on the chart. The endpoint is labeled with the range (distance) and bearing from the vessel to the line's end point. You can create RBLs between your vessel and any location.

To view a list of all your RBLs and make modifications, touch **Setup, Range/Bearing Lines**.

You can modify any RBL in this list. Use the up and down arrows to scroll through the list.

Touch the RBL name to select it and display it in green.



Touch an option to perform the actions described below:

- **New Range/Bearing Line:** create new range/bearing lines (RBLs)
- **Locate Range/Bearing Line:** Centers the screen display on the RBL highlighted in green



- **Rename Range/Bearing Line:** Opens the on-screen keyboard so you can enter a new RBL name
- **Delete Range/Bearing Line:** Permanently deletes the RBL highlighted in green
- **Show Range/Bearing Line:** Centers the screen on the selected RBL or restores a hidden RBL
- **Hide Range/Bearing Line:** Hide the selected RBL from being displayed on the chart. A hidden RBL can be made visible again by highlighting it on the list and choosing Show Range/Bearing Line
- **Lock Range/Bearing Line:** Prevents the end point of the highlighted RBL from be accidentally moved
- **Unlock Range/Bearing Line:** Unlocks a locked RBL so the end point can be moved freely
- **Close:** Closes the RBL menu and centers the display on the vessel location

### *New Range/Bearing Line*

Select the New Range Bearing Line option and a key pad tool pops up on the screen; enter the coordinates of the end point.



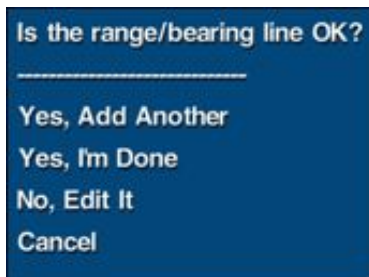
Touch **OK** and a keyboard tool pops up on the screen.



Type a name for the new RBL and touch **OK**.

The chart display changes and centers on the new RBL end point.

A popup menu inquires whether or not the RBL end point coordinate is correct.



- To add the new RBL to the list and create another RBL, touch **Yes, Add Another**.
- To add the RBL to the RBL list and close the RBL Setup menu, touch **Yes, I Am Done**.
- To change the coordinates or the name of the new RBL, touch **No, Edit It**.
- To cancel the creation of the new RBL and return to the list of RBLs touch **Cancel**.

### *Manage RBLs*

A quick way to manage RBLs is to touch an RBL end point. The Range/Bearing Line Selection menu pictured below pops up on the screen.



Touch one of the options to perform the actions described below.

- **Set Range/Bearing Line Location:** Enter the new coordinates of the end point using the pop up keypad
- **Delete Range/Bearing Line:** Permanently deletes the selected RBL.
- **Lock (or Unlock) Range/Bearing Line:** Locks or unlocks the selected RBL. A locked RBL cannot be moved.
- **Hide Range/Bearing Line:** Hides the selected RBL from view. Although the RBL hidden, it remains in the list of RBLs.
- **Rename Range/Bearing Line:** Allows you to rename the selected RBL using the on-screen keyboard.
- **View Range/Bearing line at Max Scale:** Allows you to view the selected RBL on a suitable large-scale chart for maximum detail. The chart display is centered on the RBL end point.
- **Cancel:** Choose Cancel to close the menu.

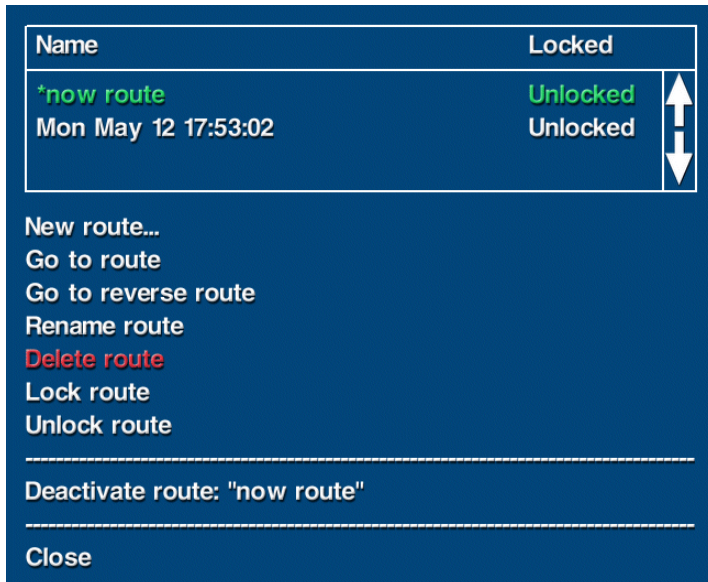
## Manage Routes

Routes are user-defined courses plotted out on a chart. Touching the Routes option in the Setup menu displays a list of all Routes with options to rename or delete existing routes, or create new ones.

The top half of the window lists all of your existing Routes by name. An asterisk is displayed next to the Active Route (the Route that your vessel is currently following).

The “Locked” column indicates if the Route is locked in place on the chart.

To select a Route, touch its name to highlight it in green, use the up and down arrows to scroll the list.



The bottom half of the window contains commands that can be applied to the selected route.

- **Go to route:** Sets a direct course from your vessel's current location to the starting point of the Route.

**Note!** *It is up to you to verify that the course is charted in safe waters.*

- **Go to reverse route:** Sets course for the highlighted route, but in reverse (starting at the ending Waypoint).
- **Rename route:** Change the name of the selected Route using the on-screen keyboard
- **Delete route:** Permanently remove the selected Route from memory.
- **Lock route:** Lock all the Waypoints in the selected Route to prevent them from being moved accidentally. When a Route is not locked, you can use your finger to drag Waypoints to locations on the chart.
- **Unlock route:** Unlocks a previously locked Route.
- **Activate Route:** This option is only available when there is no active route. Highlight a Route in the list above and touch Activate Route to set course for it.
- **Deactivate route:** This option is only available when there is an active Route. The name of the active route (the route currently being followed) is noted for reference.

## *New Route*

To create a New Route, touch the **New route...** option.

Type the Route Name and the coordinates for each Waypoint using the keyboard tools that pop up on the screen.

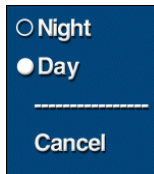
Then press OK.

You can create a new Route in this way even while you are already following a different route.

## **Day/Night Adjustments**

The Day/Night setting affects the colors used on the touch screen for daytime or nighttime viewing. The Day color palette accurately reproduces the colors found on printed charts. Night has a darker color scheme to help preserve your night vision.

Touch **Setup**, **Day/Night**, and choose from the following options:



### **Day**

The default setting, displays in the original chart colors.

### **Night**

A darker color palette, based on shades of gray and red. By keeping the display just bright enough for nighttime use, your eyes don't have to adjust between a bright screen and dark surroundings.

You can also use the dimmer buttons on the side of the screen display (above the Power button). The screen brightens (+) or darkens (-) one shade for each press, and continues to brighten or darken as you hold the button down.



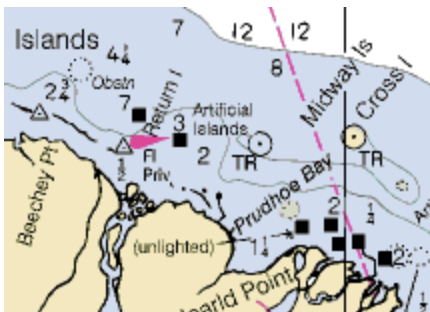
## Chart Colors Adjustments

Maestro Navigator can display charts in high contrast colors, improving the readability of charts in certain lighting conditions.

Touch **Setup**, **Chart Colors** and one of the following two options.

### Normal

Choose Normal to view charts in the normal color display.



### High Contrast

Select High Contrast to view charts in high contrast colors.





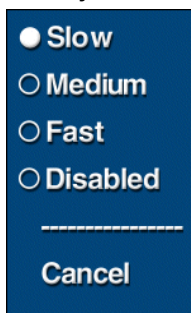
## Scroll Speed Setup

When you hold the cursor near the edge of the screen, the hand symbol changes to an arrow.

Hold your finger at the edge of the screen to scroll the chart in the direction the arrow is pointing (hold against the right side of the screen to scroll to the right, hold in a corner to scroll diagonally, etc.).



To adjust the speed at which the chart scrolls, touch **Setup, Scroll Speed**.



Select **Slow**, **Medium** or **Fast**.

Choose **Disabled** if you don't want the scrolling capability (that is, if you prefer to use the drag tool for all chart movement).

When Scrolling is disabled, the scrolling arrows won't appear at all.

Use the **Drag Tool** (pictured below) to adjust your view.



## Manage Tracks

Routes are user-defined courses plotted out on a chart.

The top half of the window lists all of your existing Routes by Name. An asterisk is displayed next to the active Route (the Route that your vessel is currently following). The "Locked" column indicates if the Route is locked in place on the chart.

To select a Route, touch its name to highlight it in green, use the up and down arrows to scroll the list.

Maestro Navigator can record your course while you cruise. The path of your progress is shown as a red line on the screen and is referred to as a "Track".

To view a list of all your Tracks, touch **Setup, Tracks**.



Touching the Tracks option in the Setup menu displays a list of all recorded Tracks with options to rename or delete. You can also add your current progress to an existing Track by activating it.

Touch any Track name to highlight it in green, then touch, **Rename**, **Delete**, or **Activate** track.

When you're currently recording a Track, its name is marked with an asterisk (to indicate that it is the active track).

### *Converting a Track into a Route*

Any Track can be converted into a Route for Maestro Navigator to follow. Use this feature to retrace one of your recorded paths.

Select a Track name and touch **Convert track to route**.

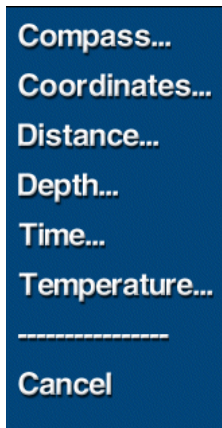
A keypad is displayed on the screen; press OK to use the same name as the Track or type a different name for the Route before pressing OK.

Maestro Navigator then displays a message telling you how many Track Points were in the Track and how many Waypoints are in the new Route. The message also notes the measure of cross-track error (how closely the new Route follows the original Track line).

Refer to the Recording Tracks section of the Plot and Store Routes chapter of this manual for more details.

### **Unit Display Formats**

The Unit settings affect data windows, route information, distance tool measurements and any other display involving distance or speed data. Set preferences on the display format of Measurement for Compass Bearings, Longitude and Latitude Coordinates, Distance Measurements, Depth Measurements, Time Clock and Temperature on screen displays and calculations.



### *True/Magnetic North*

Indicate whether to use True North or Magnetic North for Compass displays.

Touch **Setup, Units, Compass** and specify **Bearings True** or **Bearings Magnetic**.

This setting affects all bearing data, including data windows, route information, etc.

#### *Magnetic variation Note!*

There is a difference between True North and Magnetic North. True North is derived from a calculation and is not from the chart or topographic map that you are viewing. Therefore, there may be a slight discrepancy between the chart or map and the display of bearings in degrees when using Magnetic North as a reference.

### *Lat/Long Coordinate Formats*

Indicate the format to use when displaying Latitude and Longitude Coordinates.

Touch **Setup, Units, Coordinates** and select one of the following display formats:

**000° 00' 00"** (DMS) Degrees/Minutes/Seconds

**000° 00.00'** (DMM) Degrees/Decimal Minutes

**000.000000°** (DD) Decimal Degrees

### *Distance/Speed Measurements*

Indicate the type of measurement to use when displaying distance and/or speed measurement.

Touch **Setup, Units, Distance** and select from one of the following:

**Nautical** (feet, nautical miles, and knots)

**Statute** (feet, standard miles, miles per hour)

**Metric** (meters, kilometers, and kilometers per hour)

### *Depth Measurements*

Indicate the type of measurement to use when displaying depth measurement.

**Statute** (feet, standard miles, miles per hour)

**Metric** (meters, kilometers, and kilometers per hour)

### *Time*

Indicate the format for the clocks and time measurements/estimates to display time.

Touch **Setup, Units, Time** and specify a 12-hour clock or 24-hour clock.

### *Temperature*

Indicate the format for the temperature measurements to display.

Touch **Setup, Units, Temperature** and specify Fahrenheit or Celsius.

## Upgrade CD/DVD

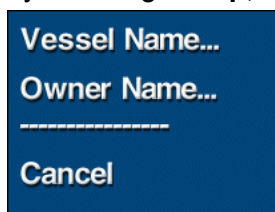
When Navigator upgrades are available, you are given an upgrade CD/DVD, along with instructions for applying the upgrade. Upgrade discs are usually self-running, but in case the installation program does not start immediately, use this menu option to begin the upgrade manually.

Insert the upgrade disc in the CD drive and touch **Setup, Upgrade**.

(You won't need this menu option unless you need to apply a software upgrade manually.)

## Vessel Information

Make changes to the Vessel or Owner's Name that is displayed on the various screens by touching **Setup, Vessel**.

A screenshot of a blue menu box with white text. It contains three options: 'Vessel Name...', 'Owner Name...', and 'Cancel'. A dashed line is positioned below the 'Owner Name...' option.

Note that changing the vessel name and/or owner information causes Maestro Navigator to display the license agreement upon startup once again. (This ensures that if the vessel changes hands, the new owner will see the agreement.) Use the white arrows to scroll through the entire agreement.



After viewing the agreement, choose one of the options

**I Accept** to hide the agreement for now. This screens pops up every time you start Navigator until registered

**I Accept - Hide License** to hide the agreement and register your copy of Maestro Navigator.

**I Decline** to hide the license agreement temporarily. It displays every time you start Navigator until you register.

## Waypoints - Set Alarms

Maestro Navigator can be setup to notify you when your vessel has arrived at (or achieved) each Waypoint. Touch **Setup, Waypoints, Arrival Alarm** to tell Maestro Navigator how close the vessel must come to the Waypoint before the alarm is triggered.

Set the alarm to sound at a certain distance from the Waypoint, or at a certain time interval based on the vessel's current speed.

**Example:** Set the arrival alarm to 100 feet and when your vessel comes within 100 feet of the Waypoint's location, the Waypoint arrival alarm sounds and a message displays on the screen.

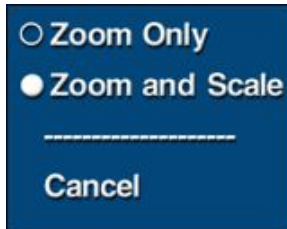
Once the alarm is sounded, Navigator considers the Waypoint as being achieved. The next Waypoint in the route becomes the active Waypoint and Maestro Navigator sets a direct course leading to it.

## Zoom Buttons



The Zoom Buttons option on the Setup Menu controls the behavior of the Plus + and Minus – buttons in the lower right corner of the screen. Maestro Navigator can either zoom in or out on the current chart, or switch to a chart of a different scale. You can decide whether you want the buttons to adjust zoom level only, or automatically adjust zoom or scale as necessary.

To adjust this setting, press **Setup, Zoom Buttons** and choose **Zoom Only**, or **Zoom And Scale**.



### **Zoom Only**

When set to “Zoom Only”, the plus and minus buttons only affect the zoom level when viewing the chart but do not affect the chart scale.

### **Zoom and Scale**

When set to “Zoom and Scale”, the plus and minus buttons adjust the view, by changing the zoom level on the current chart or switch to another chart at a different scale.

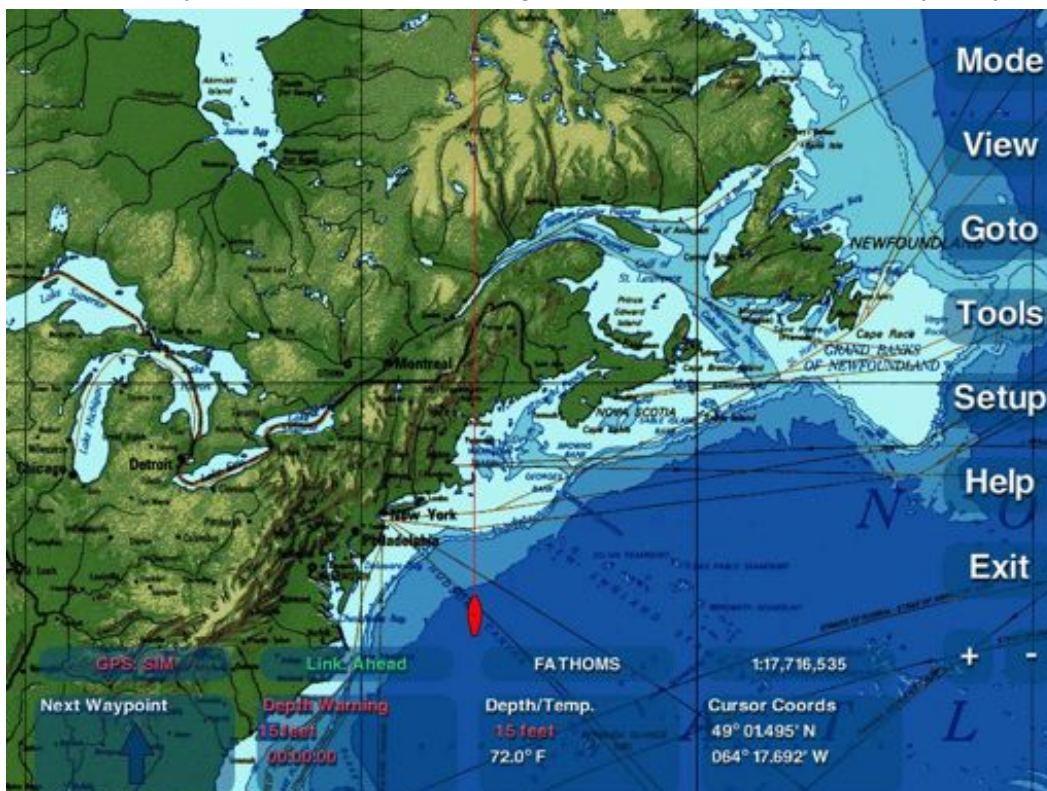
In “deciding” whether to change zoom level or chart scale, Maestro Navigator takes two things into account: the zoom level at which you are viewing the current chart and the availability of other charts for the area.

**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, Maestro Navigator opens 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.



## Charts

The first time you start up Maestro Navigator, the World Chart is displayed by default.



If your GPS has acquired your position, the chart is centered on your vessel's location.

The Navigator menu buttons are displayed down the Right Side of the screen. Use these buttons as described throughout this manual to access the various features and tools Maestro Navigator has to offer.

To find a better (larger) scale chart for your position, make sure the plus and minus buttons are set to Zoom and Scale. Refer to the Setup Zoom Buttons section of this manual for more details.

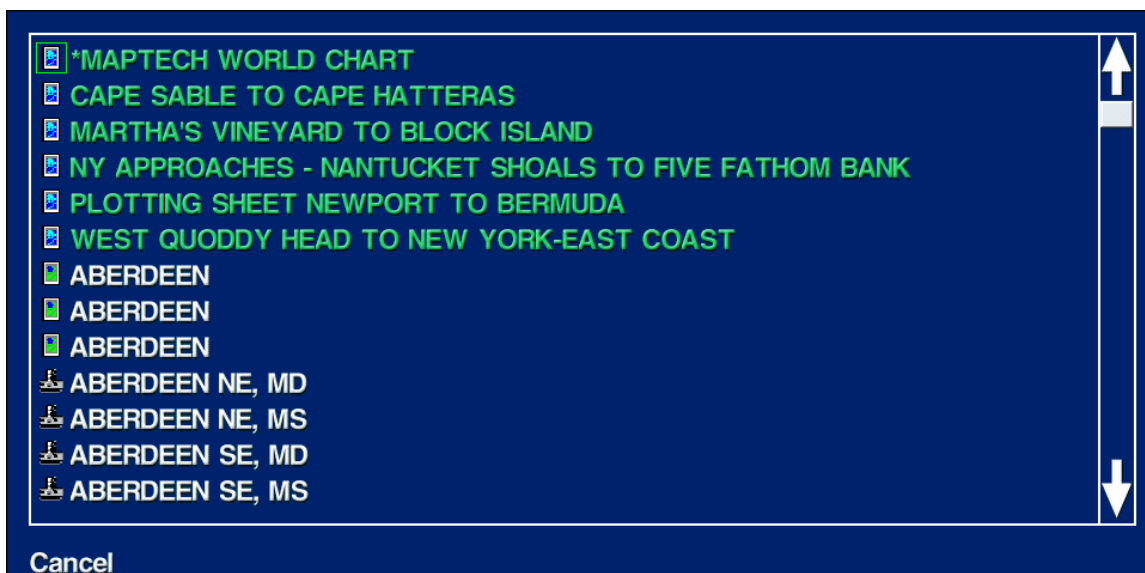
The following sections explain the various Chart options offered by Maestro Navigator.

### View Charts

Once copied onto the hard drive, all of the Charts are always available for use. If your pre-installed chart data needs to be reinstalled for any reason, follow the “Install Charts” instructions outlined in the Introduction and Setup section of this manual.

To open a particular chart, touch **View, Chart** and touch the Chart name.

The [View Chart screen](#) contains a list of all installed charts.



The charts are listed in alphabetical order, but are divided into two sections.

- The top of the list, shown in **green**, are all the chart titles available for your location as received by your GPS. When no GPS signal is available, the last chart that you viewed is displayed in green.
- The rest of the list contains the titles of all other charts in your navigation system.

The chart you're currently viewing is marked by an asterisk (\*).


Use the up and down arrows to scroll through the list, and touch the chart title to open it on the screen.


Once the Chart is displayed, press the + (plus) button to zoom in until you find a comfortable chart scale/zoom level.


Press the - minus button to move back out to a wider view.

### *Chart Type*

The following icons are a visual clue to indicate the type of chart this is going to display.

Nautical charts 

Topographic maps 

Navigation photos 

### *Switch Chart Display*

In addition to nautical chart coverage, Maestro Navigator provides three other types of charts. Use the Mode button to switch to a different type of coverage for the area you're already viewing.

**Contour Charts** - showing underwater terrain

**Topographic Maps** - for coastal areas

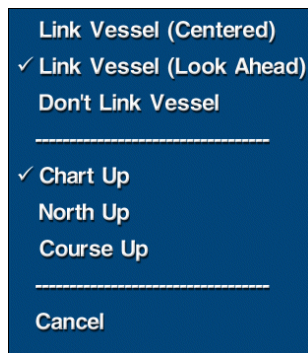
**Navigation Photos** - available in selected coastal areas

### *Chart Orientation*

You can choose how the chart should be positioned on your screen, click on the Link button at the bottom of the screen to access the Link Menu.



- **Chart Up:** The chart image is oriented so that the top of the original paper chart is also the top of your screen
- **North Up:** True north is straight up on your screen. For most charts, this is the same as chart up. However, some paper charts, notably charts of rivers, were drawn with north facing in another direction. In such cases, the chart image is rotated as necessary to achieve north up orientation.
- **Course Up:** The chart rotates as necessary so that the vessel always points and/or moves towards the top of the screen



### *Aerial Pictures*

As you view your charts, you may occasionally come across small blue camera symbols.

These are picture icons. Each picture icon is a link to an aerial picture of that chart location. Touch the picture icon to view the photograph. Touch the screen again to return to the chart display.



The arrow extending from the camera symbol indicates the direction in which the camera was pointing when the picture was taken.



## Marine Facilities

Maestro Navigator is equipped with an extensive database of marine facilities, including marinas, public and private docks, clubs, and restaurants, etc.

To view the listing for Marine Facilities, touch **View, Marine Facility**

Name	To Vessel	To Center
Long Cove Marina	32.6 NM	30.2 NM
Silver Spring Marine	33.8 NM	31.6 NM
Ram Point Marina	36.5 NM	34.2 NM
URI Sailing Club	40.2 NM	38.0 NM
Marina Bay Docking Facilities	43.1 NM	45.1 NM
Pt. Judith Yacht Club	44.3 NM	46.4 NM
Town Dock & Mariner Park	46.0 NM	43.8 NM
Stone Cove Marina	48.0 NM	45.7 NM
Fort Getty Recreation Area	48.4 NM	50.5 NM
Fort Wetherill Boat Owners	50.5 NM	48.3 NM

☐ Sort by name  
☒ Sort by distance to vessel  
☐ Sort by distance to screen center

View Facility  
 Goto Facility  
 Facility Information

Close

A list of all Marine Facilities installed in the system is displayed.

Use the arrows to scroll through the list.

Touch one of the sorting options to change the order in which the Marine Facilities are displayed in this list.

- **Sort by name** - displays the list of facilities in alphabetical order by their name
- **Sort by distance to vessel** - lists the closest facilities first
- **Sort by distance to screen center** - lists facilities nearest to the chart area you're viewing, which is handy if you're plotting a route and looking for a good place to stop along the way

When you find a facility you are interested in, touch the name to select it and highlight it in green. Touch one of the options listed below

- **View Facility** - indicates the location of that facility on the Chart
- **Go to Facility** - sets a course for that facility
- **Facility Information** - displays a description of the services provided, contact information and telephone number (if available), as well as distance and bearing from your vessel for that facility



Touch **Close** to return to the navigation screen without altering your present course.

## Traversing the Charts

Maestro Navigator provides tools for customizing and scrutinizing the Charts provided.

### *Drag / Pan Tool*

The Drag/Pan tool is the most common method to move around on a chart and enables you to “drag” the chart across the screen to view sections that may be obscured from view.

This cursor tool, symbolized by the familiar hand icon, lets you “drag” the chart to reposition the image. To activate the Drag/Pan tool, press the **Tools** button and choose **Drag/Pan Tool**.



This tool is selected by default each time you start Maestro Navigator.

### *Scrolling*

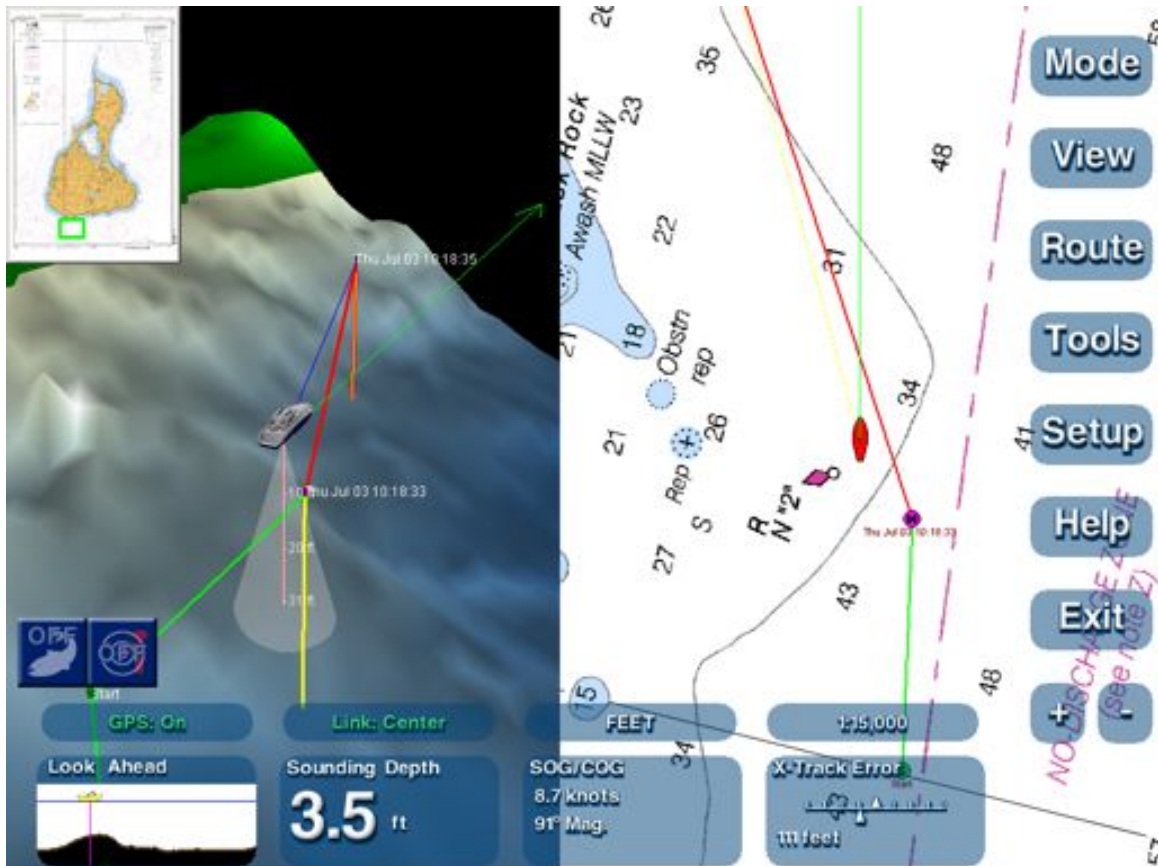
The Scrolling tool slowly changing the display area of the chart while the mouse button is held down or your finger touches the screen.



When the cursor is near the edge of the screen, it changes from the hand symbol to a black arrow. Press the arrow and the chart scrolls smoothly in the direction the arrow is pointing.

### *Chart Overview*

The Chart Overview tool provides a relational view of what is shown on the screen as compared to the entire chart. The tool displays a thumbnail sized image of the chart you're viewing in a pop up window in the top left corner of the screen. Turn the Overview Window on and off by touching **View**, [Chart Overview](#).



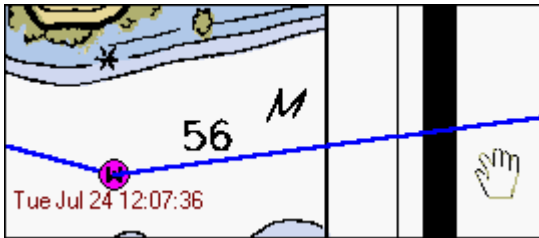
The light green rectangle in the overview indicates what part of the chart you see in the main window. As you drag and pan the chart image, the green rectangle also moves so that it always indicates the area that you are viewing on the screen.

You can use the overview to “jump” to another portion of the chart quickly.

Touch another part of the chart in the thumbnail view window to display that area of the chart in the main window. This is handy for moving quickly to a distant point on the chart without having to drag or pan to get there.

### *Open Adjacent Chart*

When you reach the edge of one chart, you can open a chart for the adjacent area by double-touching in the chart margin, the region outside the chart's navigable area.



Maestro Navigator automatically selects the chart whose scale best matches the scale of the current chart.

### *Scale*

The Scale of the chart that you are viewing is displayed in the small data window at the bottom of the screen.



Touch the Scale to open a list of all the other chart scales that are available for the center of the area shown on the screen. Touch the scale that you prefer and the display changes to switch to another chart and show one with in that scale

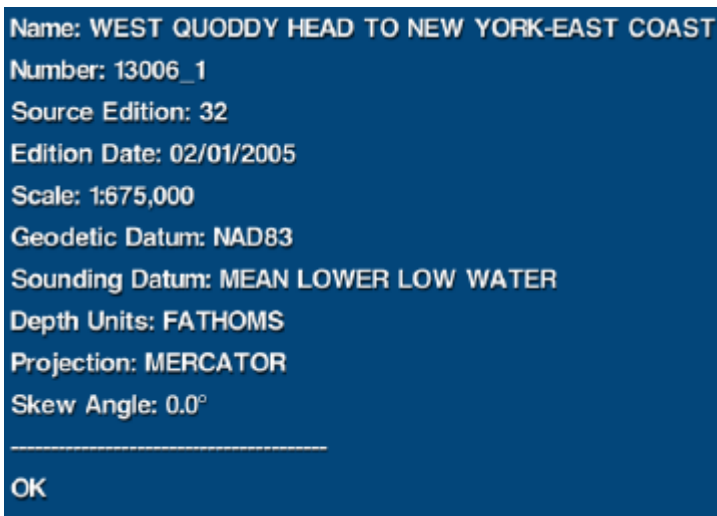
#### *Tip!*

*Instead of scrolling across a large area in search of a particular point, try switching scales. You can scale out for a wider view of the area, center the screen on your point of interest, and scale in again to a detailed chart of the area at the center of your screen.*

### *Chart Information*

When viewing a nautical chart, the third button along the bottom of the Maestro Navigator window displays the chart's units of depth measurement.

For additional chart information, press this button, or press **Charts, Chart Information**.



The chart information window is your reference for data such as chart name, number, scale, edition date, geodetic and sounding datum, and projection.

Touch **OK** to close the chart information window.

### **Note!**

*The data provided in the chart information window pertains to nautical charts only. If you open the chart information window while you're viewing a navigation photo or a contour chart, remember that the information displayed refers to whatever nautical chart you last viewed before switching to photo or contour chart coverage.*

*The third data window button along the bottom of the screen displays "Photo" or "Contour" to indicate the type of chart.*

## **Linking**

Maestro Navigator automatically scrolls the chart image as your vessel moves, following your progress on the screen. When your route takes your vessel icon off one chart, you can tell Maestro Navigator to close that chart open the next chart by linking your vessel icon to the screen display.



While linked, you may temporarily scroll away from your vessel icon to inspect other areas of the chart. After you stop scrolling the chart, Maestro Navigator will wait 12 seconds so that you can look around, before automatically returning to your vessel location.



(The 12 seconds are counted down for you and displayed on the Link button so that you know when to expect your vessel location to reappear on the screen.)

## **Keep Vessel in Sight**

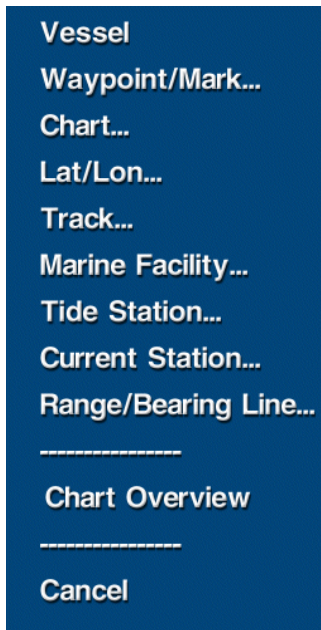
Press the **Link** button at the bottom of the screen, and select a link method:

- **Link Vessel (Centered):** Keeps the chart view centered on your vessel icon.
- **Link Vessel (Look Ahead):** Keeps your vessel icon in view, but near the edge of the screen to maximize your view of the chart area that lies ahead.
- **Don't Link Vessel:** When the vessel and chart view are not linked, you are free to open and view charts that don't contain your vessel position.

***Note!** When linked, a new chart opens when your vessel has completely left the navigable area of the previous chart. As soon as the vessel crosses the chart margin, that chart closes and the next chart opens.*

## **Find Specific Locations**

Use the View button to find the chart location for Tracks, Waypoints, Marks, etc.



Touch **View** and select **Track**, **Waypoint/Mark**, **Lat/Lon** or **Marine Facility**, and the corresponding chart opens, centered on the point of interest.

The View menu also provides a **Vessel** option, so you can instantly view your vessel location on the screen.

If you reach the edge of a chart, just double-touch outside the chart's margin and the next chart will open automatically to the area where you left off the first chart.

## Marks

Marks are user-defined locations on a chart. The Maestro Navigator provides the Mark Tool to add marks to whatever chart you are viewing.



A Mark is displayed as a small purple circle labeled **M** with an identifying name label.

### *Marking a Chart*

Follow the steps outlined below to create Marks.

1. Open the chart to the location where you want to create the Mark.
2. Press the **Tools** button and choose **Mark Tool**
3. A blue outline box is displayed with arrows on each of the four sides and in each corner.
4. Use the blue arrows to navigate the box so the area you would like to place the Mark is inside the box.
5. Touch the location on the chart where you'd like to place a mark. When the location you choose is inside the box, a keyboard tool is displayed on the screen. When the location is outside the box, the screen scrolls and the box is moved.
6. Maestro Navigator automatically assigns a default name, made up of the date and time when the Mark was created.



7. Use the keyboard tool to enter a personalized name for the Mark or accept the default name by typing nothing with the keyboard.
8. Touch the **OK** button to save the Mark, or **Cancel** to close the Mark Tool without creating a Mark.
9. The keyboard closes and the Mark is displayed with the name underneath.

### *Points of Interest*

Marks are handy for keeping track of Points of Interest. Create Marks for various Points of Interest and refer to the Plot and Store Routes section of this Manual for details on how to chart a course using these Marks.

### *Vessel Location*

You can place a mark at your vessel's location by touching **Tools, Insert Mark at Vessel**. Touch **Tools, Locate Vessel** to bring your vessel into view.

### *Find a Mark*

To view the chart location of any Mark, touch **View, Waypoint/Mark**, and select the Mark from the list.

A chart containing that Mark location is displayed.

Touch the Mark on the chart and a pop up menu is displayed.

Choose **View Mark at Max Scale** to open the most detailed chart available for the mark's location.

### *Edit Marks*

Touching a Mark opens a pop up menu with various options.

You can delete the Mark or add it to the route you're following. You can change its location by assigning a new latitude and longitude (choose **Set Mark Location**) or by dragging it to a new chart location. Other options include Lock Mark, Hide Mark and Rename.

Refer to the Plot and Store Routes section of this manual for details on how to use the Go To Mark and Add To Route options for navigating.

## **Managing Waypoints**

While you're adding Waypoints, the cursor is in route mode, so you can no longer touch-and-drag the chart as usual. Instead, a blue outline box appears on the chart. You can place Waypoints anywhere inside the box. To move to a different portion of the chart, hold your finger outside the box. The chart will scroll in the direction indicated by the blue arrows. Lift your finger to stop scrolling.

- To erase a Waypoint, just touch the Waypoint and choose **Delete Waypoint**.

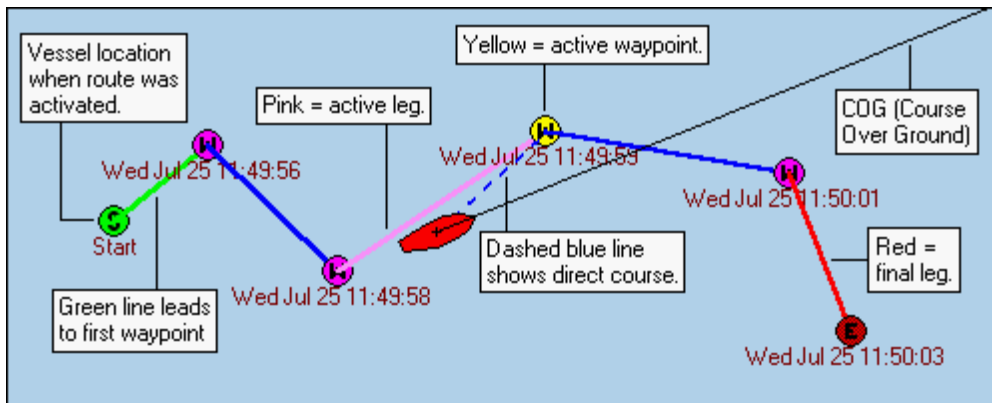
- If the cursor changes back to the drag tool before you have finished adding Waypoints, touch **Route, Add New Waypoint**, and you can pick up where you left off.
- When you have finished adding Waypoints, touch **Tools, Drag/Pan Tool** to switch back to the drag tool (or wait a few seconds for the drag cursor to return automatically).

### Note!

*Although you may view routes on topographic maps and navigation photos, you should always create your routes on Nautical Charts. If when viewing a Topographic Map or a Navigation Photo you wish to create a new Route, Maestro Navigator opens a matching Nautical Chart in split-screen mode. Use the Nautical Chart to set your Waypoints. The Route is displayed on both on the Topographic Map and Navigation Photo at the same time.*

### Route/Waypoint Colors

Most Waypoints are represented by purple “W” symbols, and are joined by blue lines (called route “legs”). Other colors are used to indicate specific Waypoints and route legs:



The **S** in a green circle indicates the vessel location at the beginning of the active route. The **green** line of the route indicates the first leg of the route, from start to first Waypoint. The active Waypoint is where you are headed next, indicated with a **yellow W**. The **pink** line of the route indicates the leg that leads to the next/active Waypoint route. The **dashed blue** line shows the direct heading from the vessel to the active Waypoint. This line represents an absolutely true course, showing you what to “aim for” as you follow the route.

The **red** line in the Route indicates the last leg of the Route

The **E** in a red circle indicates the last Waypoint in Route

### Waypoint Arrival Message Window

As you follow along a route, a message window notifies you as each Waypoint is reached. The message window also lets you know that there is a new active Waypoint.

Waypoint arrival, next waypoint:  
 Number: 3  
 Name: 'Mon Jun 09 18:25:12'  
 Bearing: 314° True  
 Distance: 2.4 NM  
 -----  
 OK

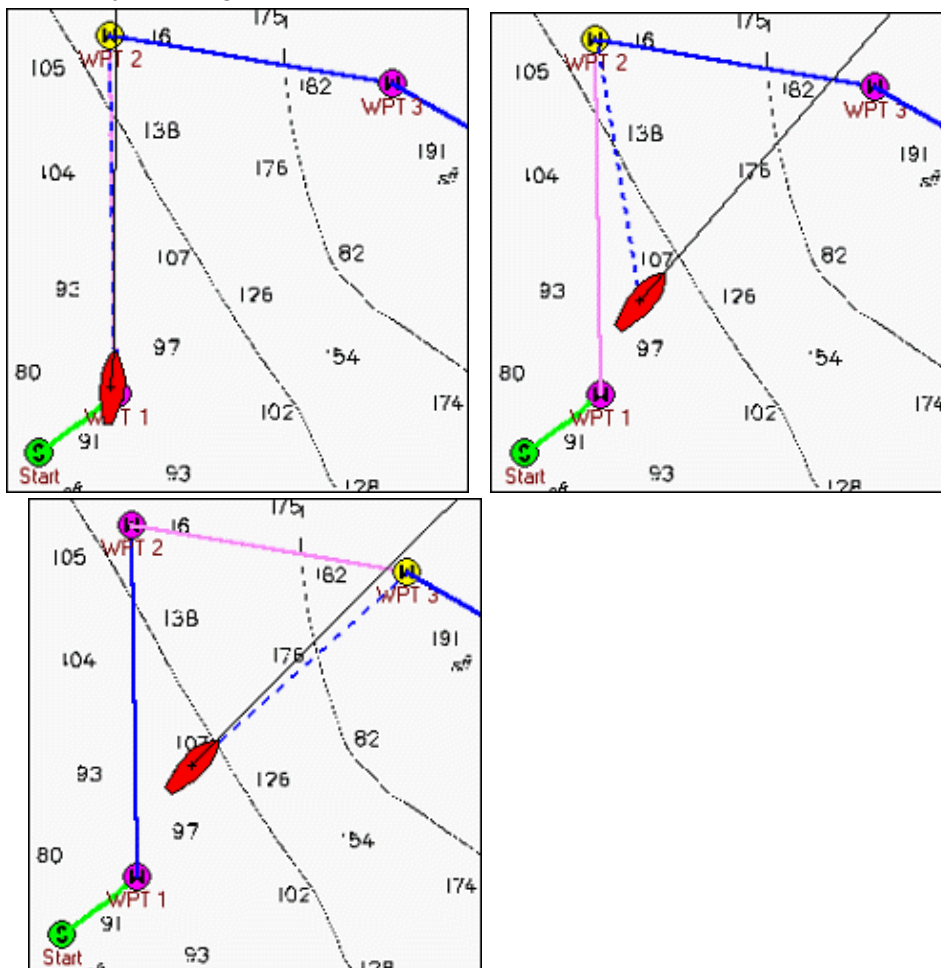
To close the message window, touch **OK** (in the window), or touch anywhere outside the window. The message window also closes itself after a few seconds of inactivity.

### *Active Waypoint*

The Active Waypoint is the Waypoint you are headed to next. It is represented by a yellow symbol and the route leg leading to it is highlighted in purple. Once you arrive at the active Waypoint, the next Waypoint in the sequence becomes the Active Waypoint.

### **Change Active Waypoint**

As you're following a route, you may decide to skip ahead and omit some Waypoints along the way, or you might decide to backtrack to a previous Waypoint. You need to "tell" Maestro Navigator about your change in plans, so that the program can continue to monitor your progress.



If the Waypoint that you want to skip to is visible on the screen, touch the new Waypoint and choose the **Go To Waypoint** option from the menu that pops up on the screen. Maestro Navigator draws a direct course leading to the new active Waypoint and your data windows provide the data that you need to stay on your new course.

Another way to change the Active Waypoint is to touch **Route, Change Active Waypoint**. A list of all Waypoints in the route that you are following is displayed in a pop up window. The Waypoints are listed in the sequence of travel and the Waypoint you're presently headed for is shown in green type and marked with an asterisk (\*). Select the Waypoint you'd like to go to. Maestro Navigator will mark your course with a dotted line from your vessel to the new Active Waypoint.

## Contour Charts

*All Contour and Fish Finder images reproduced by permission from NSI, inc © 2007*

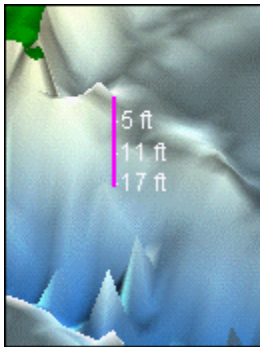
Maestro Navigator can show your vessel location on Contour Charts using 3-D renderings of the underwater terrain. Your location is represented by a vessel icon positioned above the terrain, atop a vertical line indicating the water depth.

To view your vessel location on a Contour Chart, touch **Mode, Contour**. This changes the display of the current chart to the Contour Chart for your vessel's location.

To view contour coverage for an area that does NOT contain your vessel location, you must first open a Nautical Chart for the desired area, then switch to contour chart coverage. Touch **View, Chart** and select a nautical chart title. If corresponding contour chart coverage is available, the nautical chart that you selected will be displayed in split-screen with the corresponding contour chart. If you like, you can then touch Mode, Contour to view the contour coverage in full-screen. If the Mode, Contour menu item is darkened, contour coverage is not available for the area you have selected.

## Depth Staff

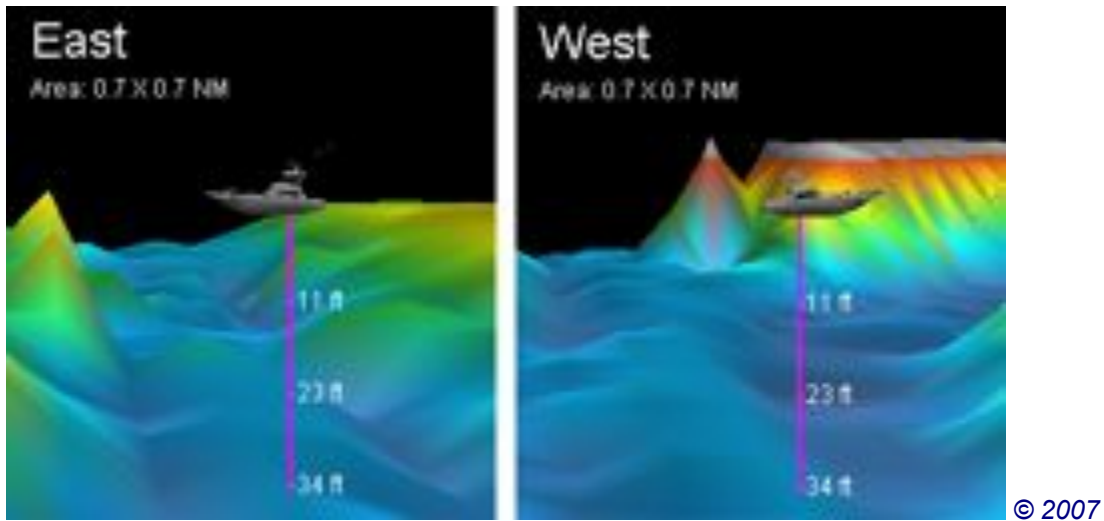
The Depth Staff Marks Center of the Contour Chart Coverage.



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## Rotate and Tilt View

You can rotate and tilt the Contour Chart image to adjust your angle and direction of view. Move your finger along the screen to move the chart image. For example, if you are viewing the area ahead of your vessel, but you would rather see the view to starboard, move your finger across the screen from left to right.



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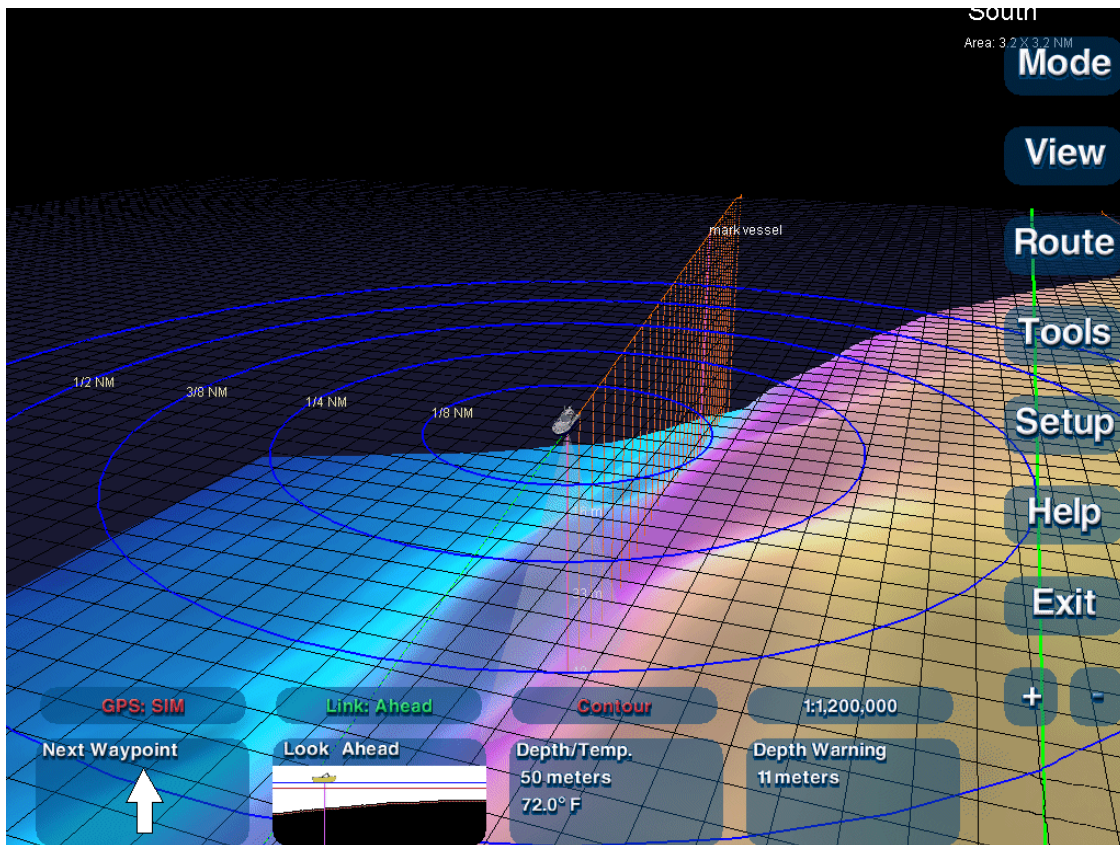
This has the effect of “pushing” the stern around counter-clockwise, so that the vessel may be viewed in profile, with its bow pointing to the left side of the screen. You can continue to rotate the vessel in this way (to a full 360 degrees). The example above shows the view forward, then rotated to show the view aft.

You can also raise or lower your viewpoint, by moving your finger up or down on the screen.

### ***Over-the-Shoulder View***

Tap the vessel and it will automatically rotate itself so that it points towards the position of 11 o'clock.





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This over-the-shoulder view can be helpful for maintaining a constant view of the area ahead, while still offering enough of a sideways view angle to let you watch your vessel's progress. To undo over-the-shoulder view, just rotate the chart to a different angle. Tap the vessel to return to over-the-shoulder view.

#### **Note!**

*One-tap over-the-shoulder view is only available when the vessel is linked. Refer to the Linking section of this manual for details on linking the screen view to your vessel location.*

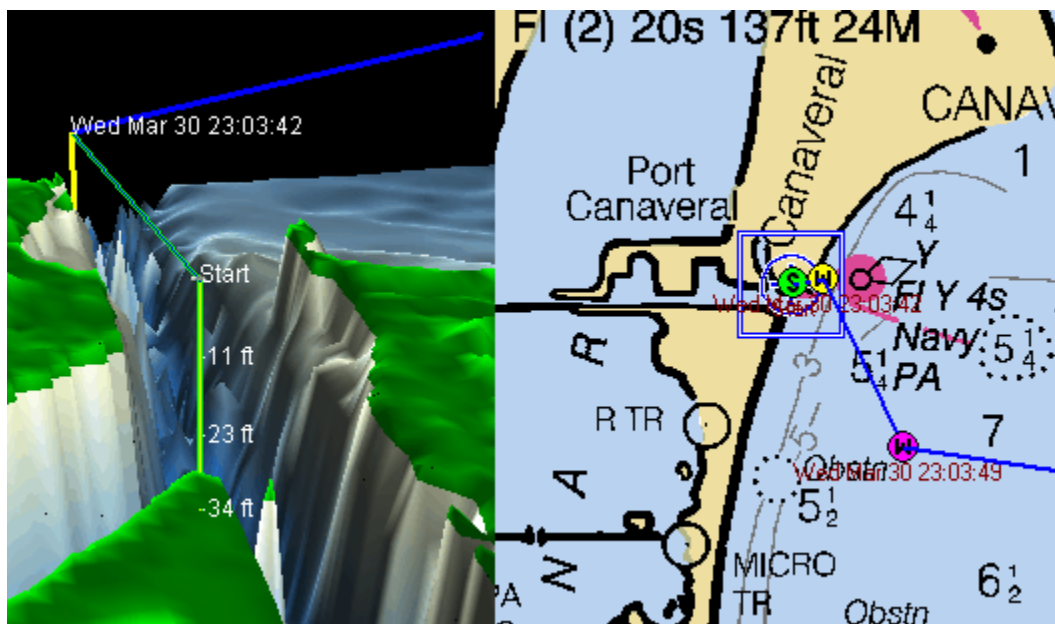
## **Split-Screen**

You can view nautical and contour coverage for your area simultaneously in split-screen. Press **Mode, Split With...** and choose the type of chart you'd like to split the screen with. Both charts are displayed side by side. To return to single-chart mode, touch **Mode** again and select the chart type you want.

### ***Dominant Chart***

When viewing two chart types in split-screen mode, you'll find that one chart window is dominant. If you move the chart in the dominant window, the other window follows along, always showing the same location. If you try to drag the chart in the non-dominant window, nothing will happen. To view another area, just drag the dominant chart. The other chart window automatically snaps to the same area. Likewise, any routes, marks etc. must be created on the dominant chart. When you create a route on the dominant chart, the route is shown in the non-dominant window as well.





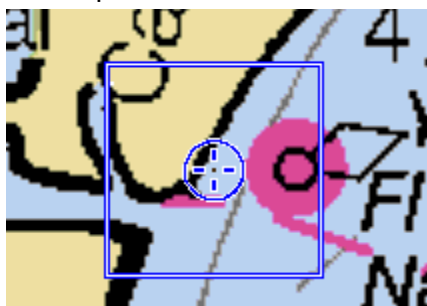
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The dominant chart will vary depending on what chart combination you're viewing. Nautical charts take precedence, followed by Topo Maps, then navigation photos. Contour Charts are never the dominant in split-screen mode.

There is a blue bounding box and cross hair symbol shown on the Nautical Chart. A vertical line, or depth staff, on the Contour Chart marks the center of the contour coverage being shown. This depth staff corresponds to the blue cross hair symbol on the nautical chart, both indicate the same geographic location.

### ***Blue Box/Cross hairs***

The Blue Box and Cross hairs indicate the area of the Nautical Chart that is being displayed in the Contour Chart window. If the charts are not centered on the vessel (that is, if you have panned away from your vessel location) the cross hair symbol marks the center point of the Contour Chart coverage.



### ***Note!***

*Depending on the charts' zoom levels, the blue bounding box may not be visible. For example, if you are zoomed in closer on the nautical chart than you are on the contour chart, the bounding box is not displayed. The bounding box is only seen when the nautical chart window is displaying more area than the contour window.*

### ***Zooming In and Out***

When the screen is split between two chart types, the plus and minus buttons in the lower right corner of the Navigator window only controls the dominant chart. When nautical and contour charts are viewed in split-screen, the nautical chart is always dominant.

To adjust the contour window's zoom level, touch **Mode, Contour** to temporarily show just the contour chart, then use the plus and minus buttons to make your adjustments and press **Mode, Split With, Nautical** to return to split-screen.

### ***Dragging and Scrolling***

To view a different area, drag your finger across the Nautical Chart. Both charts will pan in the direction you're dragging. To move the charts faster, hold your finger at the edge of the nautical chart to scroll in that direction.

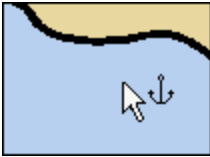


## Plot and Store Routes

A Route is a path of travel marked by Waypoints (locations) linked together in sequence. The first step to lay in a course for a destination is to press the **Go To** button. The Go To option is only visible when there is no active Route. When a Route has been specified as active, then the label on this button changes to **Route**.

### New Route

To create and activate a new route on the chart, touch **Go To**, then choose the **New Route** option. The cursor changes to an arrow/anchor symbol when creating a route as pictured here.



1. Touch the chart at the locations where you would like to place your Waypoints, in the order of travel.
2. Each Waypoint is marked by a symbol on the chart.
3. To move a Waypoint, touch it and drag it to the new location.
4. To delete a Waypoint, press it until a menu pops up, then choose **Delete Waypoint**.
5. When you have finished setting Waypoints, touch **Tools, Drag/Pan Tool** to switch and display the new route.
6. The new route becomes the active route and is displayed after a few seconds of inactivity.
7. The new route is stored for future reference.



### Creating Routes for Future Use

If you're not presently underway, but you would like to create some routes for future use or for planning purposes:

Touch **Go To, New Route**.

Touch the Chart to set down your Waypoints.

Assign a unique name to the route, touch **Route, Rename Active Route**. This helps you find the route later when you select it from the stored routes list.

When you have finished creating Waypoints and have named the new Route, touch the **Route** button and choose **Deactivate Route**.

Every Route that you create is automatically stored for future reference and designated as the active Route. Deactivating the route tells Maestro Navigator that you don't want to follow the Route right now.

### *Abandoning a Route*

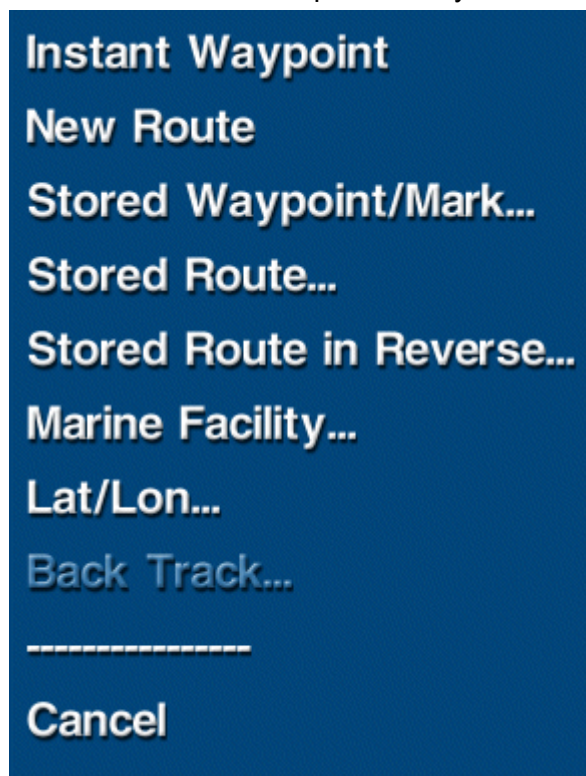
When you reach the last Waypoint in your route, the Route is deactivated and removed from view. Any route-related data windows (like the Waypoint pointer, cross-track error, time to Waypoint, etc.) are cleared, since that data is no longer necessary or relevant.

However, if you decide to stop following a route before you reach its final Waypoint, you need to "tell" Maestro Navigator. To do this, touch **Route, Deactivate Route**.

Otherwise, Maestro Navigator will continue to provide data designed to keep you on course for the next Waypoint, since the program won't "know" that you have abandoned the route. This can be confusing (not to mention annoying), so be sure to deactivate your route if your plans change before the route is completed.

### **Go To**

The **Go To Menu** provides options used for plotting new routes based on the vessel's current location. This option is only available when there is no active route.



- **Instant Waypoint** - add a temporary Waypoint to the current route
- **New Route** - Create a new route
- **Stored Waypoint/Mark** - Create a route from your current location to a preset location
- **Stored Route** - Create a route from your current location to the first Waypoint in an existing route
- **Stored Route in Reverse** - Create a route from your current location to the last Waypoint in an existing route
- **Marine Facility** - Create a route from your current location to a preset Marine Facility location
- **Lat/Lon** - Create a route from your current location to specific coordinates
- **Back Track** - Create a route from your current location back along the active route starting with the last Waypoint visited

### *Instant Waypoint*

Touch the **Go To** button and choose **Instant Waypoint**, then touch the chart location where you want to go. A dotted line will join your vessel to the Waypoint, indicating that the course has been set.

The Instant Waypoint is represented by a circle labeled **E** (for end of route). A green circle labeled **S** (for start) marks your vessel's starting location. When you reach your destination, a message window notifies you that the route is completed and the Instant Waypoint symbol disappears.

#### **Caution!**

*A route to an Instant Waypoint is a straight line between your vessel and your destination. It is up to you to make sure that your route is charted in safe waters. Be sure to view the entire path of your route at the appropriate scale before setting course, to make sure the route does not cross through shallow or rocky areas or dry land.*

### **Save Instant Waypoints**

The Instant Waypoint is not saved unless it has been named. The Waypoint is initially assigned a temporary name, which is the date and time of its creation. To save this Waypoint for future use, touch the Waypoint and a menu pops up; choose **Rename Waypoint**. A virtual keyboard is displayed on the screen, so that you can assign the Waypoint a new name.

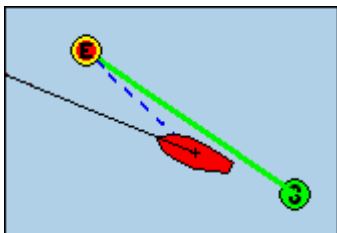
When you want to set course for this location again in the future, touch **Go To, Stored Waypoint/Mark** and select the name from the list.

### *Stored Waypoint/Mark*

Maestro Navigator lets you mark points of interest with symbols on the charts. Press the **Go To** button and choose **Stored Waypoint/Mark** for a list of all Marks and Waypoints from routes you have previously created.

Use the up and down arrows to scroll through the list and select the mark or Waypoint that you want. A course is automatically set for the mark or Waypoint that you chose.





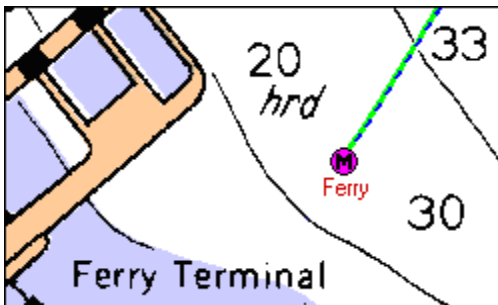
**Tip!**

If the mark/Waypoint is visible on the chart, you can set course for it by touching it and choosing **Go To Mark/Waypoint**.

### ***Stored Route***

Every Route that you create is stored for future use.

To follow a previously created Route, press **Go To, Stored Route**, then select the route that you want to follow. Maestro Navigator places a new Waypoint at your current location and draws a line from your vessel to the first Waypoint in the stored route.



**Tip!**

To manage your routes (rename existing routes, delete routes you no longer need, etc.), touch **Setup, Routes**.

### ***Reverse Route***

Maestro Navigator makes it easy to follow your stored routes in either direction.

Following a route in reverse lets you retrace your steps.

To reverse direction of the route you are currently following, press **Route, Reverse Direction**. Maestro Navigator reverses the order the Route's Waypoints so you can begin at the ending Waypoint and return to the starting Waypoint.

When you are not currently following a route (there is no active Route), press **Go To**, choose **Stored Route in Reverse**, and then select any route that you have previously stored. Maestro Navigator creates a Waypoint at your current location and draws a direct course to the starting Waypoint following the selected route.

### ***Marine Facility***

Maestro Navigator is equipped with an extensive database of marine facilities, including marinas, public and private docks, clubs, and restaurants, etc. To select a facility and set course for it, touch **Go To, Marine Facility**.

### ***Lat/Lon***

If you know the coordinates of the location where you'd like to go, touch **Go To, Lat/Lon** and enter the coordinates in the panel provided.

To enter each number, you may either use the keypad or the arrows. Use the left and right arrows to move the cursor from place to place, and use the up and down arrows to run through the counters and specify 0-9 for each digit. (For example, each time you touch the up arrow, the number increases by one. When you reach the number you want, press the **Right** arrow to move to the next digit.)

The up and down arrows may also be used to toggle between north/south for latitude, and east/west for longitude.

When you have filled in the latitude and longitude, press **OK**. Maestro Navigator creates a temporary Waypoint at that location and set course for it.

### ***Back Track***

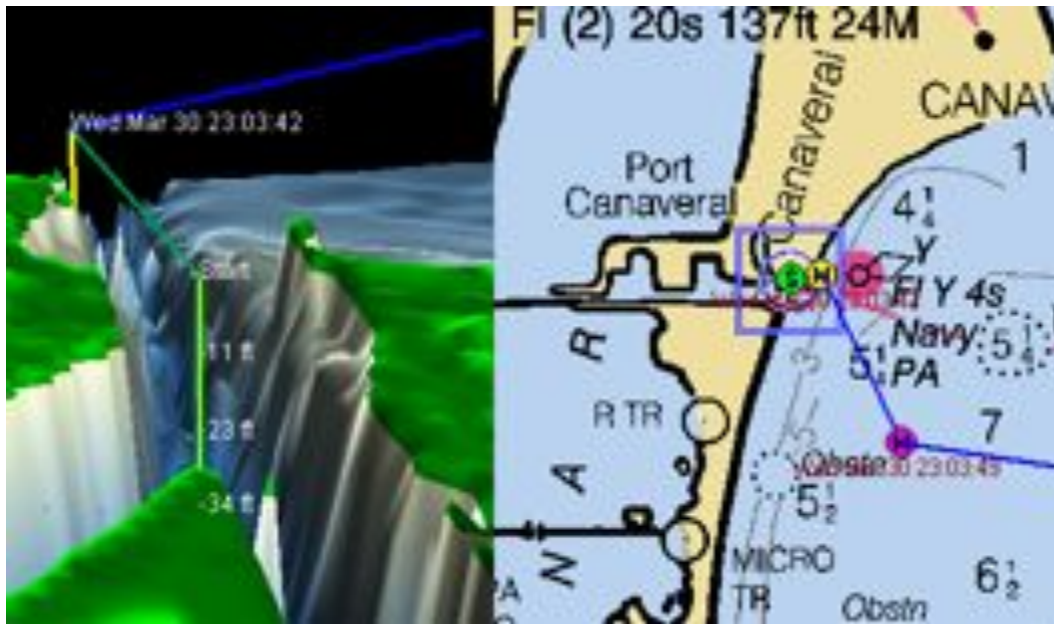
When you have recorded a Track of your vessel's progress, you can turn your vessel around and navigate back along any path you have traveled with the Navigator Back Track feature. Maestro Navigator creates a new Route based on the active Track line in reverse so that you can retrace your path to the beginning of the Track.

This feature is only available when there is no active Route, so deactivate the current Route.

Touch **Go To, Back Track** and a message telling you how many Track Points were in the active track, and how many Waypoints are in the new route. The message also notes the measure of cross-track error (how closely the new route follows the original track line). For the sake of convenience, the route is automatically given the name "Back Track." If you want to assign a different name, touch **Route, Rename Active Route**.

### **Routes on Contour Charts**

When you're following a route, it can be viewed on a Contour Chart, however, Routes and Marks must be created on a Nautical Chart.



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When you are viewing a Contour Chart and you decide to plot a course for a new route or set an Instant Waypoint, Maestro Navigator splits the screen with a Nautical Chart that covers the area you're viewing.

You can then create your Waypoint(s) on the Nautical Chart. Once the Waypoint(s) have been established, close the Nautical Chart to return the full view of the Contour Chart.

## Navigation by Marks

Marks can be used to navigate.

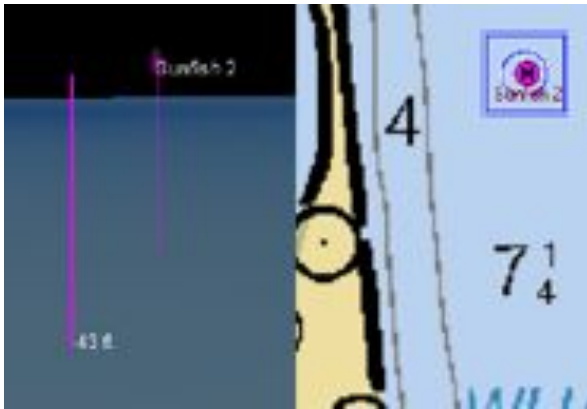
To set course for a Mark, touch **Go To, Stored Waypoint/Mark**, and select the desired Mark.

If the Mark is visible on the screen, touch the Mark and choose **Go To Mark**.

When you're following a route, you can add a Mark to the end of the route: touch the Mark and choose **Add to Route**.

### *Marks on Contour Chart*

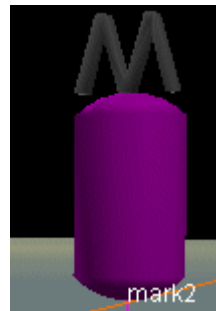
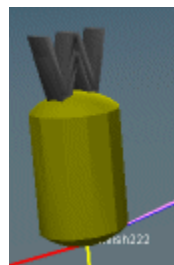
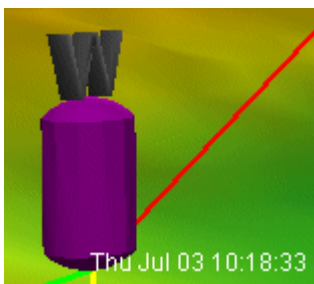
Although Marks must always be created on a Nautical Chart, they can be viewed on any type of chart, including contour. In the example shown here, the mark "Sunfish 2" is visible on both the Nautical and Contour Charts when viewed together in split-screen. On a nautical chart, a mark is indicated by a round, purple "M" symbol.



#### Notes!

- The additional purple line labeled “43 ft” in this example picture marks the center point of the contour window. On the nautical chart, the center point is marked by a blue cross hair symbol. These visual references appear whenever you view nautical and contour charts in split-screen mode.
- Marks must be created on nautical charts, so if you’re viewing a contour chart and you see a place you’d like to mark, touch **Tools, Mark Tool** and Maestro Navigator displays a split screen with a nautical chart of the area you’re viewing. Touch the location you’d like to mark.
- To bring a Mark into view, touch **View, Waypoint/Mark** and select the Mark from the list.

A 3D version of the Waypoint or Mark symbol is used for contour charts.



## Managing Waypoints

While you’re adding Waypoints, the cursor is in route mode, so you can no longer touch-and-drag the chart as usual. Instead, a blue outline box appears on the chart. You can place Waypoints anywhere inside the box. To move to a different portion of the chart, hold your finger outside the box. The chart will scroll in the direction indicated by the blue arrows. Lift your finger to stop scrolling.

- To erase a Waypoint, just touch the Waypoint and choose **Delete Waypoint**.
- If the cursor changes back to the drag tool before you have finished adding Waypoints, touch **Route, Add New Waypoint**, and you can pick up where you left off.

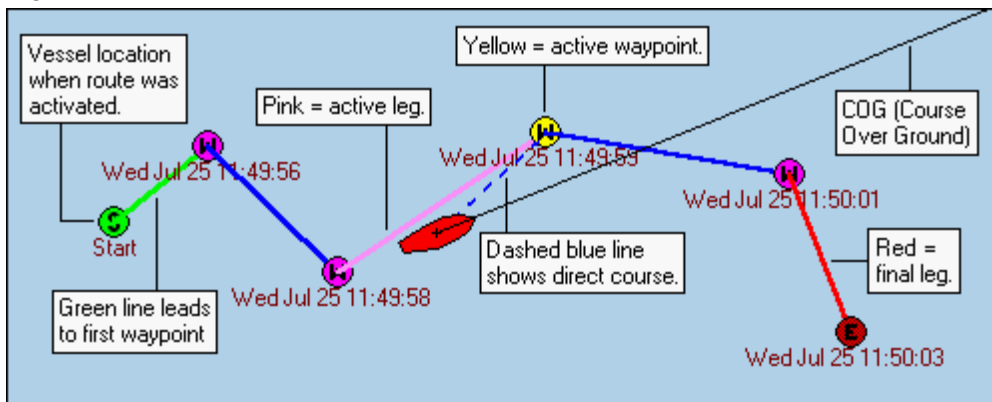
- When you have finished adding Waypoints, touch **Tools, Drag/Pan Tool** to switch back to the drag tool (or wait a few seconds for the drag cursor to return automatically).

**Note!**

*Although you may view routes on topographic maps and navigation photos, you should always create your routes on Nautical Charts. If when viewing a Topographic Map or a Navigation Photo you wish to create a new Route, Maestro Navigator opens a matching Nautical Chart in split-screen mode. Use the Nautical Chart to set your Waypoints. The Route is displayed on both on the Topographic Map and Navigation Photo at the same time.*

### Route/Waypoint Colors

Most Waypoints are represented by purple “W” symbols, and are joined by blue lines (called route “legs”). Other colors are used to indicate specific Waypoints and route legs:



The **S** in a green circle indicates the vessel location at the beginning of the active route. The **green** line of the route indicates the first leg of the route, from start to first Waypoint. The active Waypoint is where you are headed next, indicated with a **yellow W**. The **pink** line of the route indicates the leg that leads to the next/active Waypoint route. The **dashed blue** line shows the direct heading from the vessel to the active Waypoint. This line represents an absolutely true course, showing you what to “aim for” as you follow the route.

The **red** line in the Route indicates the last leg of the Route

The **E** in a red circle indicates the last Waypoint in Route

### Waypoint Arrival Message Window

As you follow along a route, a message window notifies you as each Waypoint is reached. The message window also lets you know that there is a new active Waypoint.

**Waypoint arrival, next waypoint:**

Number: 3

Name: 'Mon Jun 09 18:25:12'

Bearing: 314° True

Distance: 2.4 NM

OK

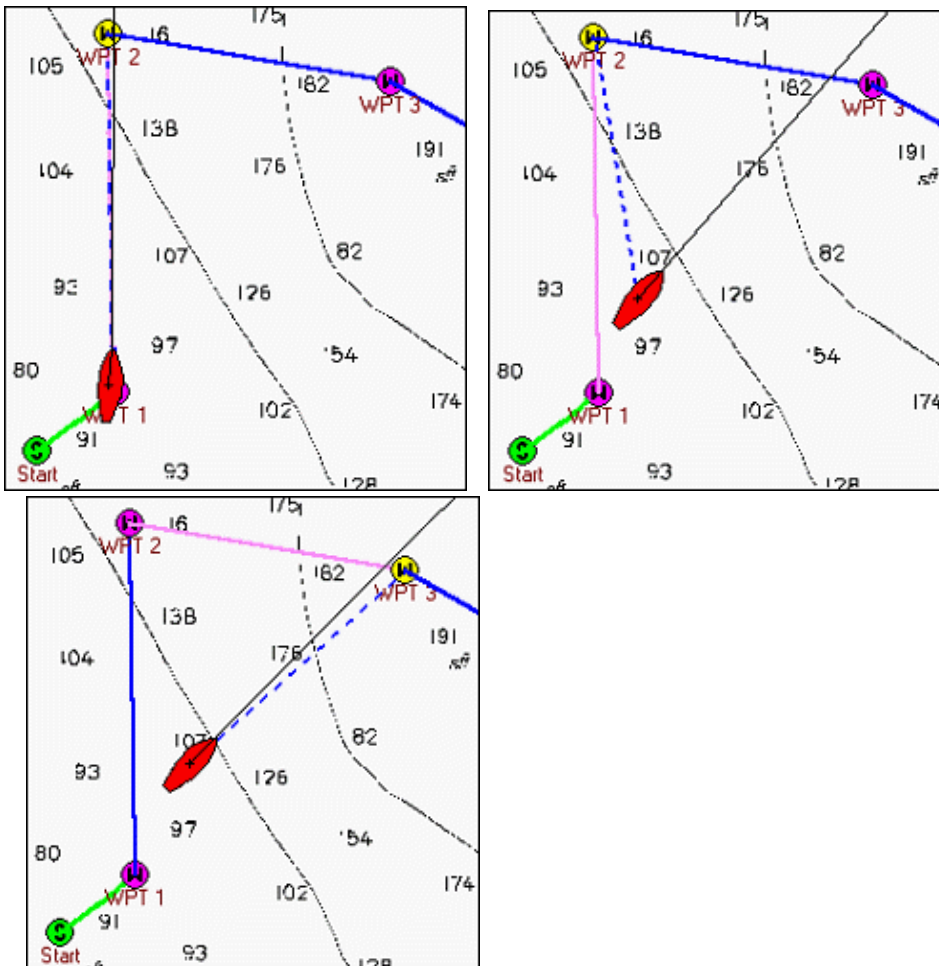
To close the message window, touch **OK** (in the window), or touch anywhere outside the window. The message window also closes itself after a few seconds of inactivity.

**Active Waypoint**

The Active Waypoint is the Waypoint you are headed to next. It is represented by a yellow symbol and the route leg leading to it is highlighted in purple. Once you arrive at the active Waypoint, the next Waypoint in the sequence becomes the Active Waypoint.

**Change Active Waypoint**

As you're following a route, you may decide to skip ahead and omit some Waypoints along the way, or you might decide to backtrack to a previous Waypoint. You need to "tell" Maestro Navigator about your change in plans, so that the program can continue to monitor your progress.





If the Waypoint that you want to skip to is visible on the screen, touch the new Waypoint and choose the **Go To Waypoint** option from the menu that pops up on the screen. Maestro Navigator draws a direct course leading to the new active Waypoint and your data windows provide the data that you need to stay on your new course.

Another way to change the Active Waypoint is to touch **Route, Change Active Waypoint**. A list of all Waypoints in the route that you are following is displayed in a pop up window. The Waypoints are listed in the sequence of travel and the Waypoint you're presently headed for is shown in green type and marked with an asterisk (\*). Select the Waypoint you'd like to go to. Maestro Navigator will mark your course with a dotted line from your vessel to the new Active Waypoint.

## Autopilot

Autopilot needs a route to follow, so the first step is to create a Route in the Maestro Navigator.

Once you have determined which Route the Autopilot is to follow activated it in Navigator, turn on your Autopilot.

After verifying that the course shown on the autopilot display is safe to follow, press the **Track** button.

Follow the instructions on the Autopilot screen.

The Autopilot makes continual adjustments to keep you on course. As you follow your Route, you must verify that each segment of the Route is safe for navigation. The Autopilot sounds an arrival alarm as you reach each Waypoint.

When you have verified the next leg of the route, press the autopilot's **Track** button to acknowledge the alarm and set course for the next Waypoint.

Upon reaching the last Waypoint, the autopilot sounds the arrival alarm and continues to steer the vessel in the same direction until you adjust your course.

For further instructions, consult your Autopilot user's manual.

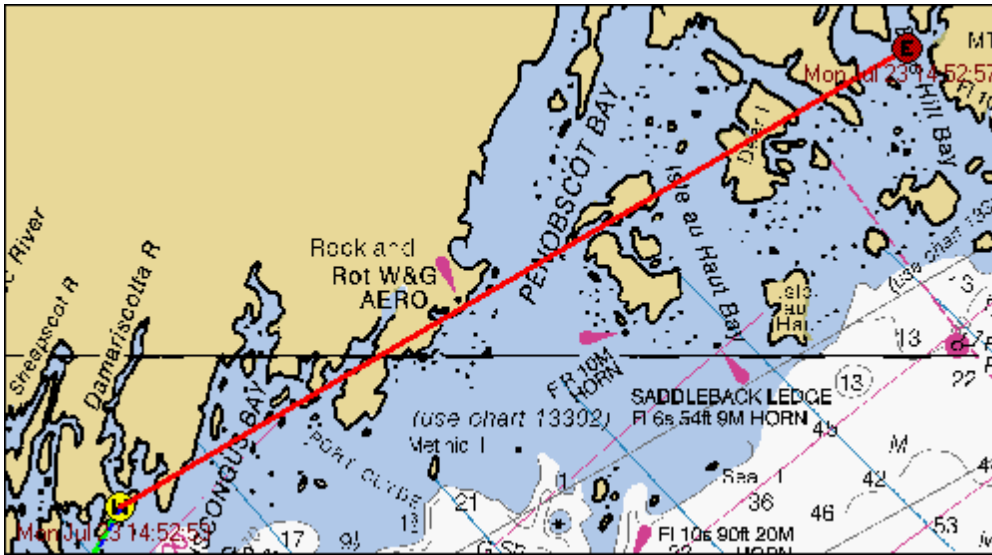
## Create Routes Across Multiple Charts

### 1. Scale Out

The easiest way to create a route over a long distance is to first scale out to a view of a small-scale chart that covers the entire route. Touch the **Scale** button for a list of available scales, and select a smaller-scale chart (the higher the number, the smaller the scale).

### 2. Create the Basic Route

Start out by setting down just enough Waypoints to create the basic shape of your route. You might even use just two Waypoints, for the start and the finish. Don't worry for now if the route line crosses over land.

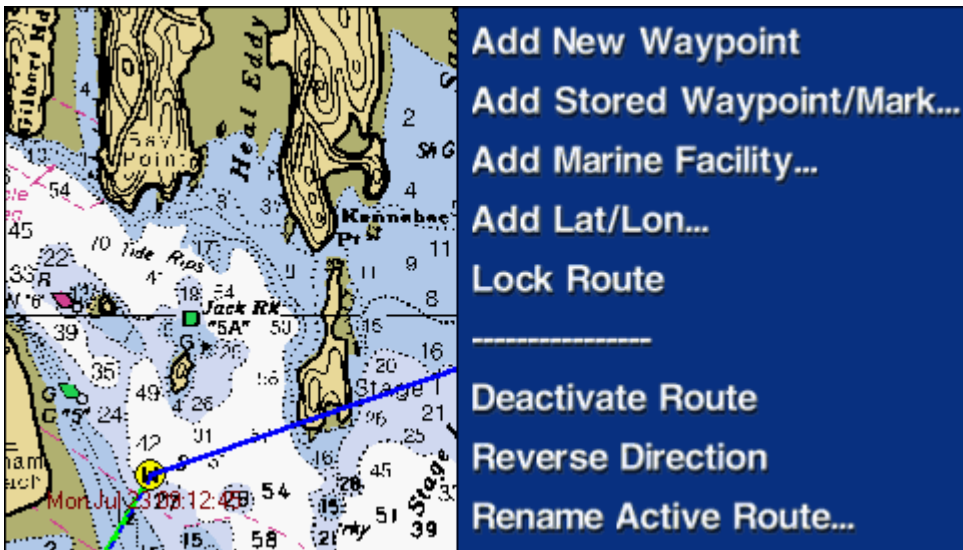


### 3. Scale In

Next, position the chart view over the first portion of the route, and scale in or zoom in until you can see the area in adequate detail.

### 4. Fine-Tune the Route

Move any Waypoint by touching and dragging it to the new location.



Add Waypoints as you see fit to straighten out and refine your route. Touch **Route, Add New Waypoint**, and then touch the route line in the places where you'd like to add Waypoints.

### 5. Follow Along the Length of the Route

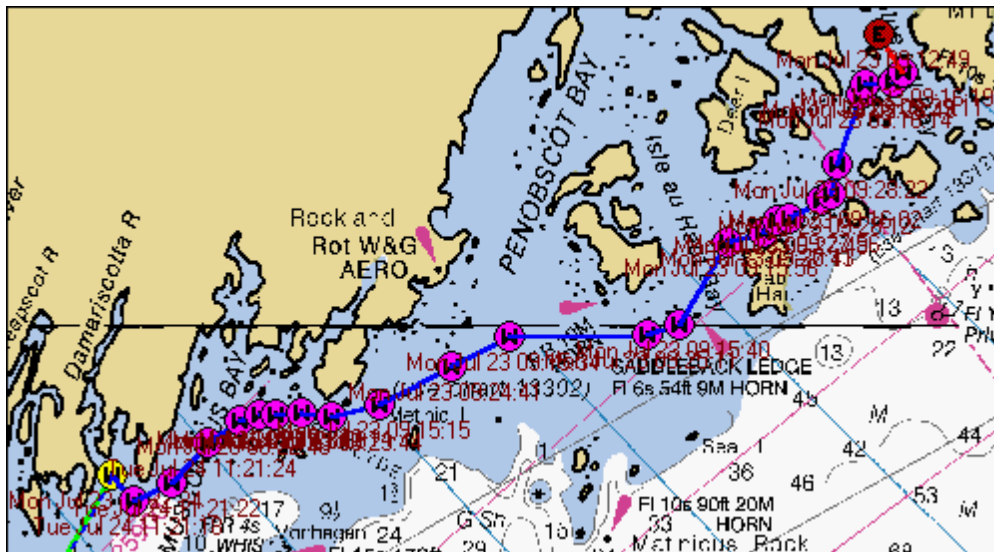
Use the chart scrolling feature to move along the route line and continue adding Waypoints. Move the cursor to the edge of the screen and hold your finger down to scroll along the length of your route.

A blue line indicates the scrolling area. Touch outside the blue line to scroll the chart; touch inside the blue line to create a Waypoint. Blue arrows indicate scrolling direction.

When you reach the edge of one chart, you can open the adjacent chart by double-touching in the chart margin. The next chart will automatically open to the area where you left off the first chart.

## 6. Finish Route

When you have finished adding Waypoints, touch **Tools, Drag Tool** to change back to the standard drag cursor (or wait a few seconds and Navigator changes back automatically).



To assign the route a name of your own choosing, touch **Route, Rename Active Route**.

If you don't want to follow the route right now, but you want to save it for future use, touch **Route, Deactivate Route**. (You can follow your route later, by touching **Go To, Stored Route** and picking this route out of the list.)

## Recording Tracks

Maestro Navigator can record the path you travel while you cruise. This path of your progress is shown as an orange Track line on the screen. The Track line can be displayed on nautical and contour charts.

### *Start/ Stop Track Recording*

To begin recording, touch **Tools, Tracking**.



The virtual keyboard is displayed on the screen with a default name (date and time). Keep the default name or type in a new name for this track log.

Press **OK**, the keyboard closes and the tracking begins.

As your vessel moves, you see an orange line created in its wake.



While your Track is being recorded, there is a check mark in the Tools menu next to "Tracking".



To stop the recording, touch **Tools, Tracking** again.

A message box pops up on the screen.

Answer Yes to stop recording the Track and save it.

Answer No to continue recording.

### *Turn Off During Tracking*

When you turn off the navigation computer while a Track is being recorded, the next time the computer is turned on, a message box pops up on the screen.

Answer Yes to save the track will be saved as-is.

Answer No and Maestro Navigator will keep the track active and will continue adding to it when you restart Maestro Navigator.

### *Track Points*

Every five seconds, Maestro Navigator puts down a small cross or "X" mark on the track line. Each cross is referred to as a Track Point.

The faster your speed, the farther apart the track points are placed. When you look back at a Track, you can see where your speed was faster (Track Points are farther apart) or slower (Track Points are closer together).

### *Convert Track to Route*

Any Track can be converted into a Route for Maestro Navigator to follow. Use this feature to retrace one of your recorded paths.

Select a Track name and touch **Convert track to route**.

A keypad is displayed on the screen, press OK to use the same name as the Track or type a different name for the Route before pressing OK.

Maestro Navigator then displays a message telling you how many Track Points were in the Track and how many Waypoints are in the new Route. The message also notes the measure of cross-track error (how closely the new Route follows the original Track line).

### *View Tracks*

To view a Track on the chart, touch **View, Track** and select the track name.



Maestro Navigator centers the screen display on the last Track Point of the selected Track.

### *Deleting Tracks*

Press **Setup, Tracks** to view a list of all your Tracks.

Highlight a Track by touching its name.

To delete the Track, press **Delete**. The Track is removed from the list.

Tracks must be deleted one at a time, but the Track list remains open for additional deletions until you press **Close** or touch outside the list window.

### *Back Track*

When you have recorded a Track of your vessel's progress, you can turn your vessel around and navigate back along any path you have traveled with the Navigator Back Track feature. Maestro Navigator creates a new Route based on the active Track line in reverse so that you can retrace your path to the beginning of the Track.

This feature is only available when there is no active Route, so deactivate the current Route.

Touch **Go To, Back Track** and a message telling you how many Track Points were in the active track, and how many Waypoints are in the new route. The message also notes the measure of cross-track error (how closely the new route follows the original track line). For the sake of convenience, the route is automatically given the name "Back Track." If you want to assign a different name, touch **Route, Rename Active Route**.

### *Tracks on Contour Chart*

Maestro Navigator can record your progress as your vessel moves. On a nautical chart, your progress is shown as a track line made up of small orange "+" symbols. The symbols are placed at regular intervals as you cruise. The faster your speed, the farther apart the symbols.



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On a contour chart, your track is shown as an orange line at the water surface level. Vertical lines extend downward from the track line at varying intervals, based on the speed of your vessel and the angles of the turns you make.

## Range/Bearing Lines (RBLs)

A Range/Bearing Line, referred to as RBL, is a straight line between your vessel and another point on the chart. The endpoint is labeled with the range (distance) and bearing from the vessel to the line's end point.



You can create RBLs between the vessel and any location.

## Create an RBL

Follow the steps outlined below to create an RBL:

Touch **Tools, Range/Bearing Line Tool**.

The default starting point for an RBL is the center of your vessel. Touch the location on the chart where you would like the RBL to end.

Once the RBL tool is activated, you have 12 seconds to create an RBL. Before the RBL tool is deactivated.

A keyboard panel is displayed on the screen. You may choose to keep the default name, which is the date and time the RBL was created, or type in a different name using the keyboard tool. Touch **OK** on the keyboard panel to create the RBL. The name is displayed on the chart directly below the RBL icon.

Once it is created, the name, range, and bearing of the RBL is always displayed below the RBL icon. As your vessel moves, the RBL remains connected to the vessel, and the range and bearing numbers below the icon are updated.



## *Moving an RBL*

To move an RBL, touch and drag its end point (the end opposite the vessel) to a different location. This is useful when you want to find the range and bearing to various points on the chart without cluttering the chart with multiple RBLs.

## *Deleting an RBL*

To delete an RBL, touch its end point and choose **Delete Range/Bearing Line**.



You can also delete an RBL by choosing **Setup, Range/Bearing Line**, touching the name of the RBL you wish to delete and choosing **Delete**. Both of these options permanently remove the selected RBL from the screen and from memory.

## *Viewing an RBL*

To select an RBL to view, touch **View, Range/Bearing Line**.



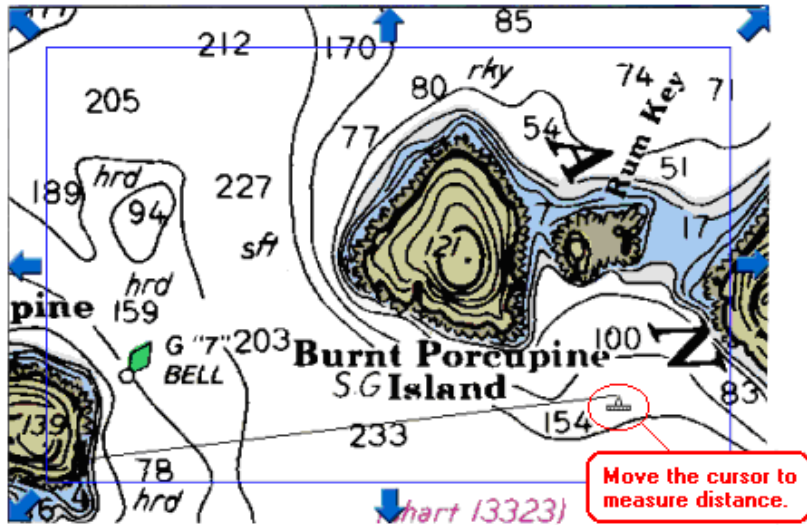
Select the RBL you wish to view from the list and touch **OK**. The RBL is displayed on the screen, centered on its end point.

**Note:** When viewing an RBL while the vessel is linked. Maestro Navigator will center on the selected RBL for 12 seconds and then automatically return focus to the vessel. If you wish to view the RBL for longer than 12 seconds, touch **Link, Don't Link Vessel**.

## Distance and Bearing

You can measure the distance and bearing between any two points on the chart using the Distance Tool.

Press the **Tools** button and choose **Distance Tool**.



The cursor changes to a ruler symbol and a thin blue outline box is displayed on the screen. This blue box defines the screen area where you can draw your distance line. Touch and drag the cursor along the straight-line distance you'd like to measure.

Start	End	Range/Bearing
42° 17.042' N	37° 50.712' N	373 NM
063° 11.436' W	057° 29.274' W	134° True

The line's length, as well as the bearing from its starting point to its ending point, is displayed in the Data Windows at the bottom of the screen. These figures update themselves as you extend the line. The line and the data readings remain in view as long as you are touching the screen; they disappear when you lift your finger.

You'll notice that when you select the distance tool, you can no longer drag the chart image. Instead, you can scroll the chart: press and hold your finger outside the blue box to scroll the chart in the direction of the blue arrows.

To extend the distance line beyond the chart area presently in view, press and hold your finger outside the blue box. The chart will scroll in the direction the arrow is pointing. Move your finger back into the blue box to halt scrolling but don't lift your finger from the screen until you have finished measuring.

To adjust the chart scrolling speed, touch **Setup, Scroll Speed**, and choose **Slow**, **Medium**, or **Fast**. Choose **Disabled** if you don't want the ability to scroll.



## Tides

Special icons mark the locations of tide stations throughout your chart coverage area.

There are two sizes of tide icon. On small-scale charts, the icon is smaller and is labeled “TIDE”, as pictured below on the right. On larger-scale charts, or at closer zooms, where there is more room for icon overlays, the icon is larger and provides some data about the present tidal conditions.



The large version of the tide icon tells you the tide’s present height, whether the tide is flooding (rising) or ebbing (falling), and a general idea of the present tide level (low, high, or mid-tide).

Different colors and symbols are used to convey this information. The tide icon’s appearance changes as tidal conditions change:



Low water.



High water.



Mid-tide.



Mid-tide.



High water.



Low water.

Blue Arrow: Tide is Rising;

Red Arrow: Tide is Ebbing

A blue arrow pointing up indicates that the tide is rising. A red arrow pointing down means that the tide is ebbing. The wave symbol moves up and down the icon to portray general water level.

Touch Icon for More Information

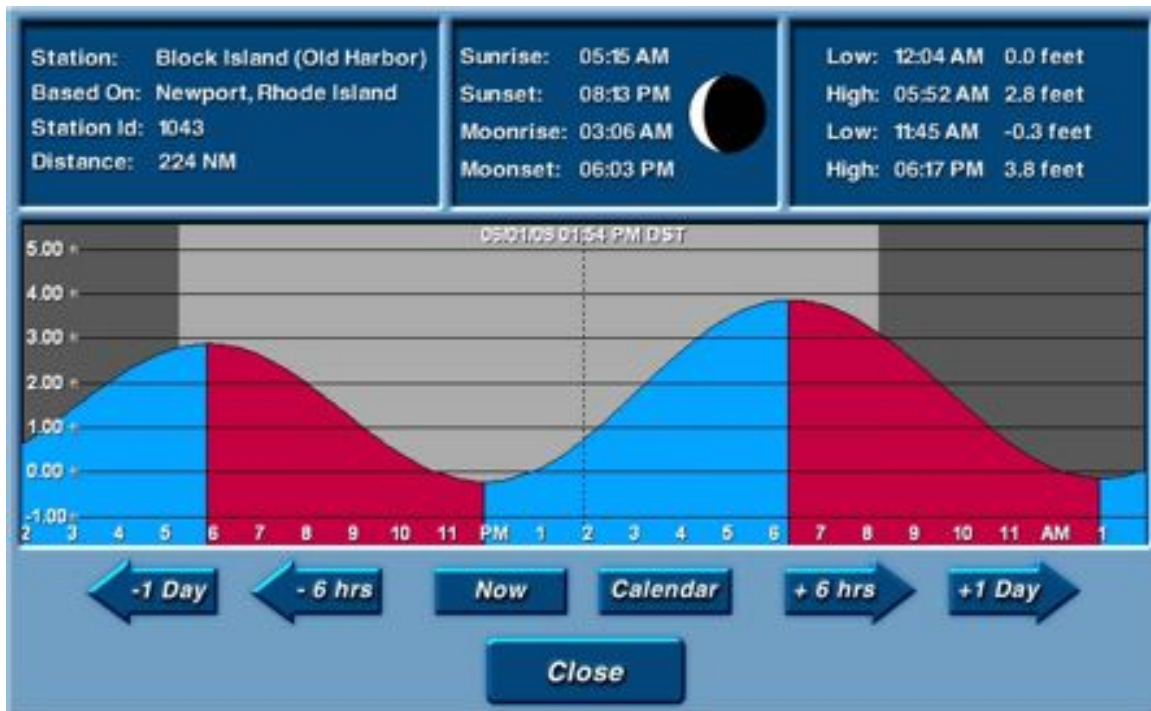
To get more information about any tide station, just touch the icon and that station’s tide graph will appear.

## Tide Graphs

To get more information about a tide station, touch any tide icon and that station’s tide graph is displayed.



The tide graph shown here is the standard format for conveying tide fluctuations hour by 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 12-hour scale.

In the tide graph, blue indicates when the tide is flooding (rising); red shows when the tide is ebbing (falling).

The dark and light gray shading above the line distinguishes day from night.

The top of the graph provides you with additional data, including the station's name, its distance from your vessel, the times of sun and moon rise and set, the phase of the moon, and the exact times and water levels of high and low tide.

## Historical Tides

When you first open the Tide Graph, it shows the present conditions. All 24 hours for today's date are shown, and a vertical dotted line indicates the present time.

For Researching Past and Future Conditions, use the buttons labeled -1 Day, -6 hrs, + 1 Day, + 6 hrs to scroll the graph backward and forward in time. As you change the day or hour, the graph scrolls to represent conditions at the specified time. The date and time represented by the dotted vertical line will update as you scroll the graph.

Press the **Calendar** button to select distant dates.

Press the **Now** button to return to present conditions.

Touch **Close** to close the tide graph.

### Note!

*The accuracy of the tide information displayed in Maestro Navigator depends on the accuracy of your system time. If you need to adjust the system time (for example, if the time shown as "now" in the tide graph does not seem correct), press the **Set Time** button in the NavPanel display.*

## Tide Stations

To look for a particular tide station, or to find stations that are near your vessel or near the chart area you're viewing, touch **View, Tide Station**.

Name	To Vessel	To Center
NANTUCKET	216 NM	216 NM
Eel Point	217 NM	217 NM
Nomans Land	219 NM	219 NM
Muskeget Island, north side	220 NM	220 NM
Squibnocket Point	222 NM	222 NM
Great Point	222 NM	222 NM
Wasque Point, Chappaquiddick Island	222 NM	222 NM
Block Island (Old Harbor)	224 NM	224 NM
Edgartown	224 NM	224 NM
Southwest Point, Block Island	224 NM	224 NM
Gay Head	225 NM	225 NM
MONTAUK, FORT POND BAY	225 NM	225 NM
Lake Montauk	225 NM	225 NM

☐ Sort by name  
☒ Sort by distance to vessel  
☐ Sort by distance to screen center

Station Information...

OK  
Cancel

A list of all Tide Stations installed on the system is displayed.

Use the arrows to scroll through the list.

Touch one of the sorting options to change the order in which the Tide Stations are displayed in this list.

- **Sort by name**- displays the list of Tide Stations in alphabetical order by their name
- **Sort by distance to vessel** - lists the closest Tide Stations first
- **Sort by distance to screen center** - lists Tide Stations nearest to the chart area you're viewing,

Touch the name of the Tide Stations to select it and highlight it in green.

Touch **Station Information** to display Tide Graph for the station

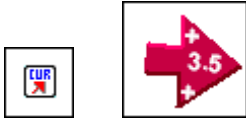
Press **OK** to view the station location on a chart. Once the tide station icon is in view, you can touch the icon to see the tide graph.





## Currents

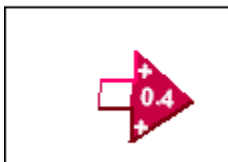
Special icons mark the locations of Current Stations throughout your chart coverage area. The icon comes in two sizes: a small version for small-scale charts, and a large version for large-scale charts (or when the display has enough real estate for the larger icon).



The small version of the icon is labeled “CUR” (for “current”). The larger version uses shape and color to provide data about the direction of the current, its speed and whether it is flooding or ebbing.

The picture below illustrates the different phases of the current icon. The icons change in appearance over the course of the day, to reflect the present conditions at that current station.

### RED: CURRENT IS EBBING



*Current is slow,  
but increasing*



*Strong (full speed)*



*Current is slowing  
(no plus sign)*



### BLUE: CURRENT IS FLOODING

The arrow symbol points in the general direction of the current. Note that as the speed increases, the arrow symbol becomes filled with color. A completely filled arrow represents that the current is moving at or near maximum speed. Color is removed from the arrow outline as the current speed decreases. A plus sign indicates that the speed is increasing. When no plus sign is present, the speed is lessening.

### Slack Water

A special symbol (a combination of the red and blue arrows) indicates slack water.



## Current Graphs

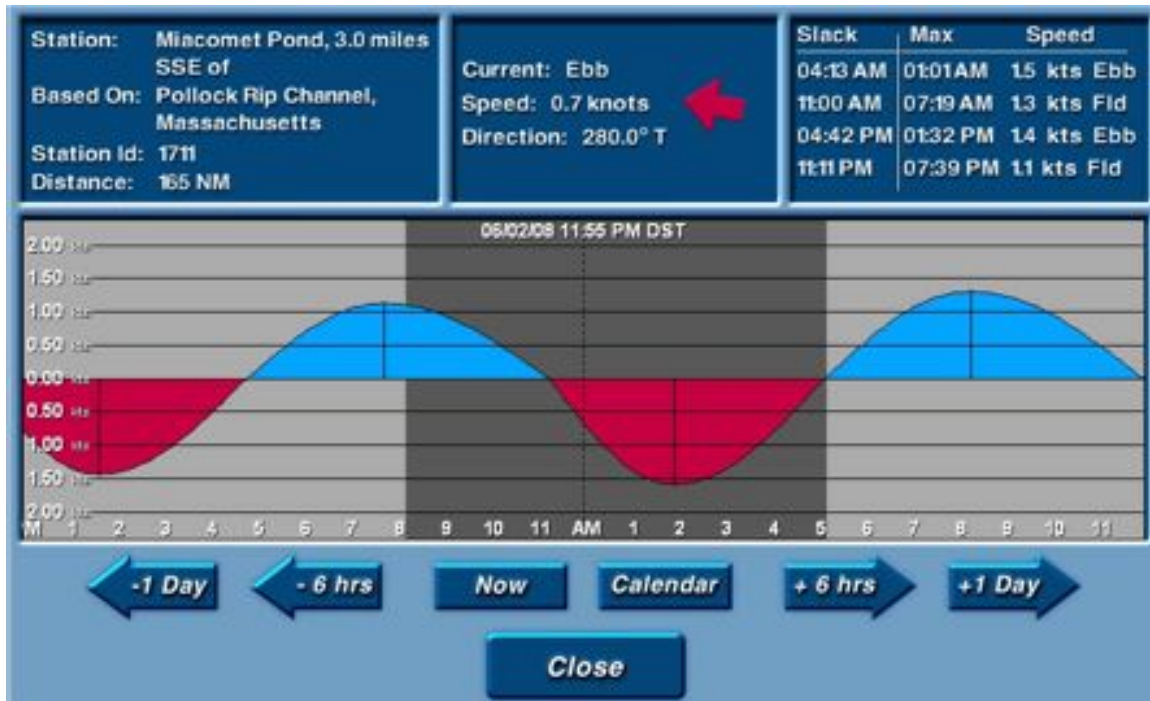
To get more information about a current station, touch the icon and that station's current graph is displayed. *Current graphs* provide data on the type, speed, and direction of the current at each current station.



Click on the icon to open the 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 by 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 12-hour scale.
- 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 (blue shading), the current is flooding.
- The valleys (red shading) between the peaks show when the current is ebbing.

### **Historical Currents**

When you first open the Current Graph, it shows the present conditions. All 24 hours for today's date are shown, and a vertical dotted line indicates the present time.

For Researching Past and Future Conditions, use the buttons labeled -1 Day, -6 hrs, + 1 Day, + 6 hrs to scroll the graph backward and forward in time. As you change the day or hour, the graph scrolls to represent conditions at the specified time. The date and time represented by the dotted vertical line will update as you scroll the graph.

Press the **Calendar** button to select distant dates.

Press the **Now** button to return to present conditions.

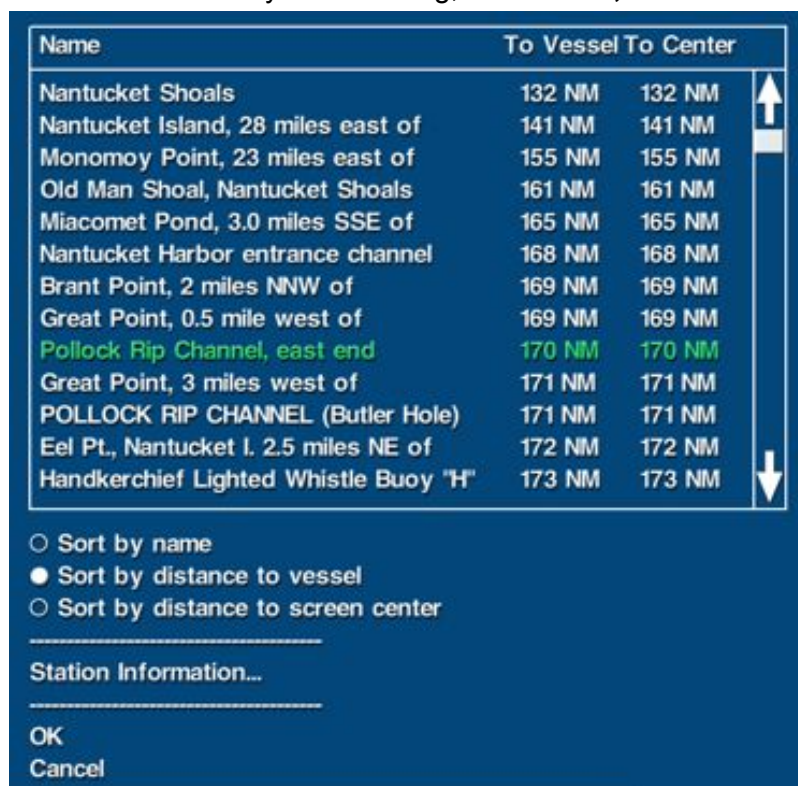
Touch **Close** to close the tide graph.

**Note!**

*The accuracy of the tide information displayed in Maestro Navigator depends on the accuracy of your system time. If you need to adjust the system time (for example, if the time shown as “now” in the tide graph does not seem correct), press the **Set Time** button in the NavPanel display.*

## Current Stations

To look for a particular current station, or to find stations that are near your vessel or near the chart area you’re viewing, touch **View, Current Station**.



A list of all Current Stations installed on the system is displayed.

Use the arrows to scroll through the list.

Touch one of the sorting options to change the order in which the Current Stations are displayed in this list.

- **Sort by name**- displays the list of Current Stations in alphabetical order by their name
- **Sort by distance to vessel** - lists the closest Current Stations first
- **Sort by distance to screen center** - lists Current Stations nearest to the chart area you’re viewing,

Touch the name of the Current Stations to select it and highlight it in green.

Touch **Station Information** to display Current Graph for that station

Press **OK** to view the station location on a chart. Once the tide station icon is in view, you can touch the icon to see the Current Graph.



## Weather

XM WX Satellite Weather is an optional hardware and software package specifically designed as an on-the-water weather information system. It operates using the XM WX Satellite Weather service.

Utilizing an intuitive user interface, XM WX Satellite Weather continuously and automatically receives updates and displays real-time weather data using textual and graphic formats. Easy commands enable you to customize your weather display screens.

The collection of XM WX service packages offer a selection of data sources designed to meet a broad or specialized weather monitoring need at affordable prices. Activation of an XM WX subscription is easily achieved by calling the XM WX Listener Care at 1-800-985-9200 and selecting option number two for activation. Be sure to mention the specific XM WX service package by name.

There are three data packages available: **Fisherman**, **Sailor** and **Master Mariner**. Package subscriptions are activated and can be changed through XM Listener Care. Refer to the Account Activation section that follows for details.

Below is a summary of features and the packages in which they can be found:

### *XM WX Service Products*

XMWX Service Products	XMWX Service Packages		
	Fisherman	Sailor	Master Mariner
High Resolution NEXRAD Radar	X	X	X
Precipitation Type (at surface)	X	X	X
Surface Observations	X	X	X
NWS Forecasts	X	X	X
County Warnings	X	X	X
City Forecasts	X	X	X
Surface Analysis Weather Maps	X	X	X
Wave Direction (Pacific + Atlantic)		X	X
Wave Period (Pacific + Atlantic)		X	X
Surface Wind Speed/Direction		X	X
Surface Pressure	X		X
Sea Surface Temperature	X		X
Wave Height (Pacific + Atlantic)	X		X
Buoy Data	X		X
Marine Zone Forecast Coastal	X	X	X
Marine Zone Forecast Offshore			X
Hurricane Track			X
Visibility Forecast			X
Severe Weather Storm Tracks			X
Lightning			X



### *Technical Support - Satellite*

If you have question about XM WX Satellite Weather, or are interested in adding this feature to your system, Faria's technical support staff will be happy to help. Contact our staff by telephone, fax or e-mail, Monday through Friday 9 AM to 5 PM EST.

**Phone:** 877-405-1010

**Fax:** 860-848-2704

**E-mail:** [maestro@faria-instruments.com](mailto:maestro@faria-instruments.com)

For service activation and account management questions, contact

**XM Satellite Radio Listener Care** at (800) 985-9200

See Troubleshooting guide for XM WX Satellite Weather tips.

### *Account Activation*

The XM WX Satellite Weather-Ready Receiver must be powered on and the WxWorx WEATHER software must be running in Activation Mode before service can be activated. Ensure your antenna has a clear line of sight to the sky.

Touch the XmLink and choose **Tools, Activation Mode** and have your 8-digit receiver ID ready before calling to activate service.

Once up and running, call (800) 985-9200 to begin the activation process.

Advise the XM Listener Care Representative that you are activating an XM WX Satellite Weather-Ready Receiver and provide the 8-digit radio ID located on the bottom of the radio, on the outside of the packing box or in the XM Link window.

The Listener Care Representative will ask for billing information and discuss the types of weather data packages that are available for subscription.

Approximately 5 minutes after your call to the Listener Care Center, an activation signal is sent and continues to broadcast for 36 hours.

Leave your receiver on until the "Service Level" displayed in the XmLink activation mode window matches the level of service requested. This can take up to an hour. Then touch the **Done** button.

The receiver should then begin to display all the data products that are part of the package. Once this occurs, you can start the WxWorx program.

If an hour has passed and you are not receiving data services, call the Listener Care Center.

If you find your receiver has been deactivated, a refresh can be obtained over the internet.

Make sure you have your 8-digit receiver ID ready, go to [www.xmradio.com/refresh](http://www.xmradio.com/refresh) and follow the on screen instructions.

## Start Weather System

To open the Weather system main window, touch the **XM WX Satellite Weather** button in the NavPanel, or touch **Mode, Weather** in the Navigation Menu of the Chart Plotter or the **Weather** button in the NavPanel

The first time the software is started, you are presented with a window for selecting the display resolution you wish to use. Your choice will remain as the default until a different resolution is chosen.

Check the box at the bottom and this window will not appear again.

The XmlLink application is launched and initiates a connection to your receiver. Once the connection is established and the serial number is read from the receiver, your WxWorx on Water license and user understanding agreement is displayed. Touch **Accept**.

## Reception Status

The green circle below the logo is the data reception indicator. If this indicator turns red, your radio is not receiving data. Access the XmlLink program by touching the **XmlLink** button or the green circle below the logo.



Touch the dot, the left half of the logo or the XmlLink button to monitor radio status and view the event log. Enable full screen mode by touching the right half of the WxWorx on Water logo.

## Close Reception Status

When you are finished viewing the XmlLink window, minimize it by touching the underscore button in the upper-right corner of the menu.

*Do not close the menu by touching the Close (X) button or by touching File, Exit unless you are also closing the XM WX Satellite Weather program, as this disconnects the data stream.*

## Customize Satellite System

XM WX Satellite Weather provides a number of functions that can be customized.

### Satellite Views

Use the Satellite View menu to save up to one or two additional map positions (views) in addition to **View 1**, which is a preset nationwide view that cannot be customized.

Position the map to display a frequently viewed area and select **Save View 2**.

Select **Load View 2** and your view automatically moves to the latitude/longitude that you have saved. To save a different location as View 2, center the map on the screen and select **Save View 2**. This can be changed at any time.

**Save View 3** and **Load View 3** work in the same manner.

Saving views does not store the weather data being displayed at the time of the save. Satellite Views only display current weather information.

### *Configure Counties*

XM WX Satellite Weather can receive National Weather Service (NWS) warnings, which can be displayed by touching the **County** button. Touch **Setup, Configure Counties, Activate Counties** to identify the counties you would like to display warnings for.

Select a state from the drop down menu.

To select a county to display warnings, touch it in the field on the right and touch the left arrow between the fields to move it to the left field.

To stop displaying warnings in a county, touch it in the left field and touch the right arrow to move it to the right field.

Select all of the counties in a state at once by touching the **Set All** button above the field.

To stop all county notifications, touch the **Del All** button and touch the right arrow.

Set all the counties in the United States to display warnings by touching the **Include All Counties in the U.S.** button.

Touch the **Remove All Counties in the U.S.** button to stop all notifications.

When you are done configuring counties, touch the **Exit** button to close the menu.

Restart XM WX Satellite Weather from the NavPanel for the changes to take effect.

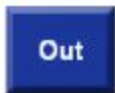
### *Satellite Units*

To change the units of measurement, touch **Setup, Units** and choose **Default units, English** or **Metric**.

## **Map View Buttons**

### *Zooming In and Out*

Touch the **In** button to zoom in on the map for a closer look.



Touch the **Out** button to zoom out on the map for a wider view.

### *Panning the Map*

The **Pan** button allows you to move around on the map.



Touch the **Pan** button and touch the image to move it. The screen refreshes and the display is centered on the location you touched. Touch the **Pan** button again each time you want to move to a different area on the map.

### *Zooming to a Selected Area*

The **Magnifying Glass** button also allows you to zoom in for a closer look.



Touch the button to activate the feature.

Touch the top left corner and drag diagonally down across the map to draw a box. This box shows the boundaries of the area to be zoomed.

When you lift your finger, the screen zooms in refreshing the display with a larger visual of the area in the box.

### *Resetting the Map Position*

The **Reset** button moves the map view so it is centered on the entire United States. The Reset button also moves all displayed data, and causes SCIT markers to appear

## Weather Display Features

When the weather screen opens, you can easily determine if the Satellite connection has been activated by looking at the color of the buttons.

**Red** buttons indicate no connection.





Blue buttons indicate that the connection is activated.

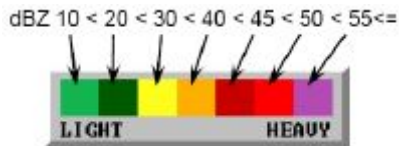


### *Radar Reflectivity Data*

Touch the **Radar** button to display radar reflectivity. This display is composed of a composite of all the active NWS radars across the United States. It provides 2Km resolution of radar data, beginning with 10 DbZ reflectivity and then increasing to 75DbZ.



The accompanying legend can be used to judge the reflectivity in an area.



The radar reflectivity data indicates density of precipitation via seven colors. Each color correlates to the strength of the radar return and together the colors provide an overview of the reflectivity in a certain area.

While viewing radar reflectivity you can identify the strength of the radar returns on the map. Touch a specific color to identify its DbZ value.



Legends for snow and mixed precipitation can also be viewed.

Touch **Options, Legends, Standard Legend, Legend Rain Modes, Radar Legend w/Snow** to add these options to the legend.

### *Animate Display*

The **Loop** button will animate radar and satellite data. To set the number of frames to be looped, touch Setup, Loop. The display can lay the radar data over the satellite data, but only one set of data can be looped at a time. If you touch the Loop button while both are displayed, the satellite data will disappear and the radar data will loop. To loop the satellite data, make sure it is the only data displayed. If neither data is active when you touch the **Loop** button, the **Radar** button will activate and show a loop of radar reflectivity



## *Wind and Temperature*

The white, arrow-like marks on the map show wind speed and direction. The shaft of the marker indicates the direction that the wind is blowing. The barbs along the tail indicate the wind speed. Add the values of all the barbs on a marker to find the total wind speed.

Touch **Options, Legends, Wind Legend** to see examples of each type of barb.

## *Surface*

The contour lines that appear on the map when the Surface button is pressed indicate the surface pressure, in millibars. The value of each contour appears at intervals along the contour line.

The colored areas on the water indicate different sea surface temperatures. Zoom in to see measurements that are more precise. Touch an area to display text indicating the temperature for that color shade. Temperatures are in Fahrenheit or Celsius.

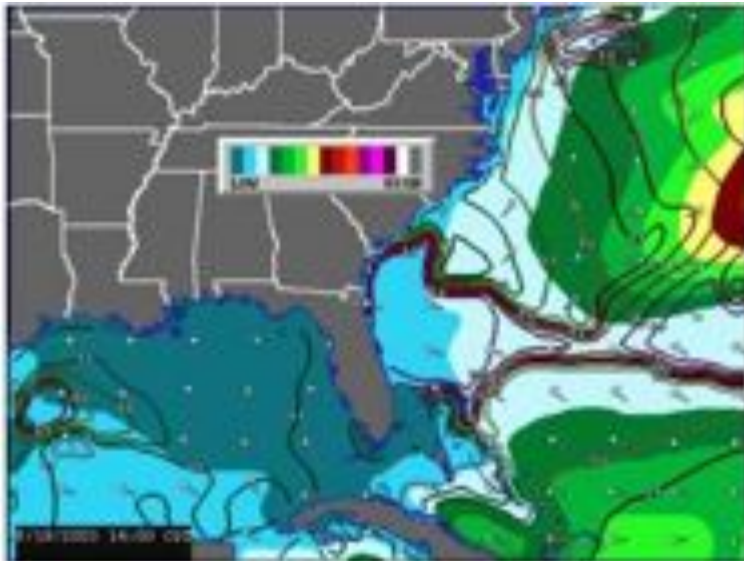
Touch **Setup, Units** to change the units of measurement.

## *Waves*

Touch the **Waves** button to display the height, period and direction of ocean waves. Data is displayed for one coastal area (East or West) at a time.

Touch **Options, East Coast Waves** or **West Coast Waves** to select the East or West Coast.

If the Waves button is active when you select a different coast, touch the **Waves** button twice to view the new data.



The colored areas indicate changes in wave height. Zoom in to see measurements that are more precise. Touch an area to see the wave height for that zone.

The contour lines on the water indicate boundaries between areas where the period of time (in seconds) between waves changes from the areas around them. A line that reads 6.5 indicates a period of 6.5 seconds between wave crests for that area.

The white arrows over the water at regular intervals indicate the general direction the waves are moving.

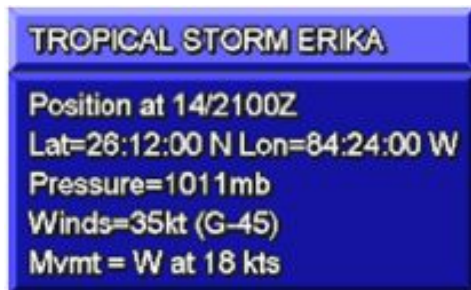
### *Storms (Master Mariner Only)*

Touch the **Tropical** button to track the movement of storms classified as hurricanes, tropical storms or tropical depressions. Touch **Options, Legends, Tropical Legend** to view the icons that designate each storm type.

When you touch the **Tropical** button, the system will scan for storms. If none are found, a message will pop up indicating the system did not detect any storms. If a storm is detected, it will appear as a series of icons showing its observed position and continuing with its forecasted positions.



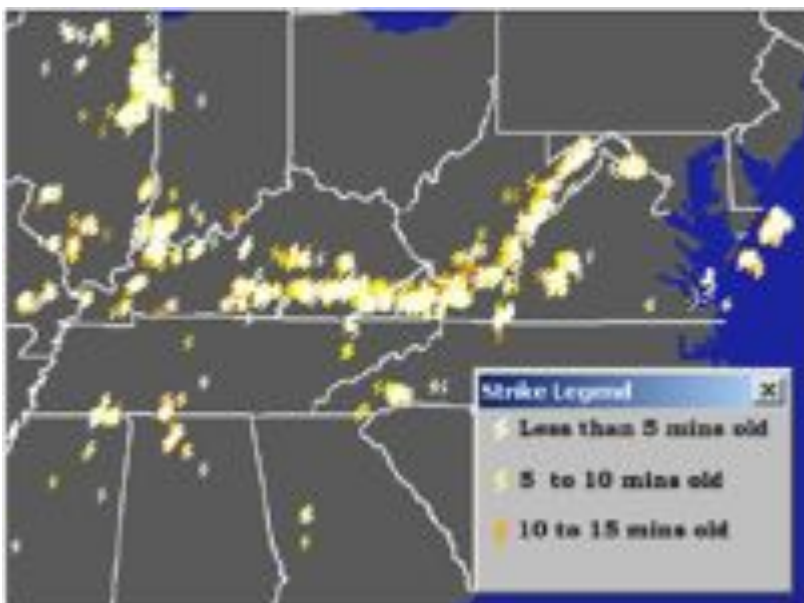
Touch one of the icons to see details about the storm's behavior at the time that the observation or forecast was made.



This information includes the storm's latitude and longitude, surface pressure, average wind speed (with gusts in parentheses), and movement (direction and speed).

### *Lightning Strikes (Master Mariner Only)*

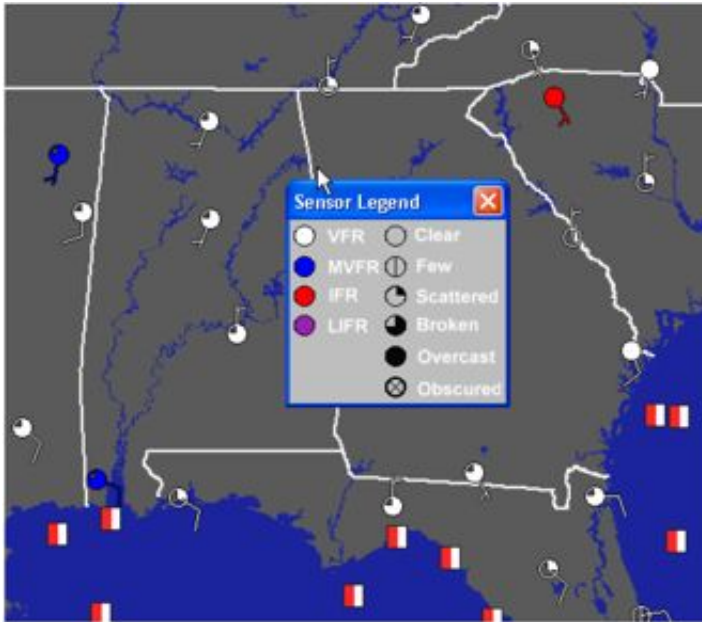
Touch the **Strikes** button to display recent cloud to ground lightning strikes. These strikes continually flash while they are active.



You can use the strike legend to determine how old the strike data is. To view the strike legend, touch **Options, Legends, Strike Legend**.

### *NWS Weather Information*

Touch the **Weather** button to view METAR and buoy data. METAR data is weather data observed at National Weather Service observation locations. A small circle, known as a station plot, is displayed for each location that provides data. The plots are white, blue, red or purple depending on weather conditions,. The amount of color used to fill in the dots indicates the amount of cloud cover observed over the station.



Touch **Options, Legends, METAR Legend** to see examples of each possible station plot.

Touch a station plot to see detailed information about the weather observed at that location. This includes the time at which the observation was made, temperature, dew point, visibility, wind direction and speed, speed of wind gusts, barometric pressure, precipitation type and cloud status.

Buoys are indicated by red and white squares along coastal areas and some inland waters. Touch a square to see detailed information about the weather observed at that buoy. The data may include the buoy number, the time at which data was last recorded, the buoy's latitude and longitude, temperature of the air and water, wind speed and direction, wave height, dominant wave period, and air pressure.

### *City Weather Forecasts*

Touch the **City Forecast** button to check the current weather forecasts for cities across the United States. When you touch the button, three-letter codes for various cities will appear on the map.

Touch one of these codes to see information about the city's present. This includes the general weather status, the predicted high and low temperatures, and the chance of precipitation.

### *Areas of Reduced Visibility (Master Mariner Only)*

Touch the **Visibility** button to display areas where visibility is forecasted to be less than ideal. Good visibility is considered to be ten miles or better. When the estimated visibility drops below ten miles, a contour line appears, separating areas with different levels of visibility. The estimated visibility in an area, in miles, appears on the contour line.

### **National Weather Service Warnings**

Before you can receive warnings for an area, you must first configure the affected counties to display warnings. Refer to the Configure Counties section under Customize Satellite System for details.

Touch the **Warnings** button on the Weather screen to display National Weather Service warnings for floods, flash floods, thunderstorms and tornadoes.

When warnings occur, the Warnings button flashes orange.

The warnings are displayed on the map as small colored boxes.

Light gray boxes indicate flood warnings

Blue boxes indicate flash flood warnings

Yellow boxes indicate thunderstorm warnings

Red boxes indicate tornado warnings

Touch **Options, Legends, Warnings Legend** to see examples of each warning.

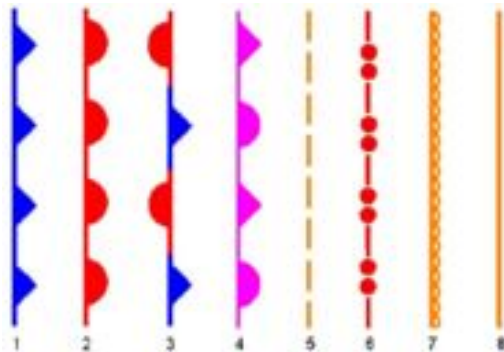
If you have purchased the optional mapping upgrade, the counties affected by warnings will fill with the appropriate color when the **Mapping** button is activated.

To view past warnings, touch **Misc, Reload Warnings**. You will see a message asking to confirm that you want to reload warnings. Touch **Yes** to proceed or **No** to cancel reloading.

### *Fronts*

Touch the **Fronts** button to display surface analysis information. The current forecasted locations of the highs, lows, and fronts are shown.

Touch the left and right arrow buttons to browse through the available current and forecast surface analysis data. The date and time in the window shows when the data was recorded. The following 8 types of fronts are shown on the map:



1 - Cold Front

- 2 - Warm Front
- 3 - Stationary Front
- 4 - Occluded Front
- 5 - Trough
- 6 - Squall Line
- 7 - Dry Line
- 8 - Tropical Wave

### ***Satellite Images (Master Mariner Only)***

Touch the **Satellite** button to display infrared satellite data. Clouds below 5000 feet are not shown.



Touch the up arrow and the data displayed will only show infrared satellite information at or above the displayed elevation, in increments of 5,000 feet, up to 40,000 feet. Touch the down arrow to lower the minimum height down to 5000 feet.

### ***Marine Zone Forecasts***

Touch the **Marine Zones** button to display marine forecasts. These include the Special Marine Warnings, Marine Weather Statements, Coastal Waters Forecasts, Great Lakes Forecasts, Near shore Marine Forecasts, Offshore Waters Forecasts, Recreational Forecasts and High Seas Forecasts.





Touching the **Marine Zones** button once will show the Coastal and offshore zones, while a second touch will bring up the high seas zones (Master Mariner only). Touching any zone in the display window will show the associated text forecast for that zone.

### *SCIT Markers*

The white boxes outlined in pink or orange are Storm Cell Identification and Tracking (SCIT) markers. These identify the position of potentially dangerous storms. XM WX Satellite Weather displays two types of SCIT markers: Shear Storm markers, which have orange outlines, and Severe Storm markers, which have pink outlines. Shear SCIT markers are generated when high wind shear is detected. This is identified when inbound and outbound winds are located directly next to each other and exceed a threshold of 50 knots.



Severe Storm SCIT markers are generated based on the presence of several factors including maximum rain rate, hail presence, and hail size. Touch a box to see details about the storm. Shear SCIT displays the speed of wind shear and the storm width, while Severe Storm SCIT displays the maximum reflectivity, the height of maximum reflectivity, the projected size of hail suspended in the cell, the storm's movement, and the storm's width.



As a result of processing the data from all of the radars across the country, multiple SCITs may be displayed in and around one storm. When you zoom in to a radius of less than 188 miles, arrows appear on each SCIT marker, showing the projected direction of the storm over the next 15 minutes.

Toggle the display of SCIT markers by touching **Options, Storm SCITs**.

## Mapping and GPS Options

Touch the **Mapping** button at the top of the Weather screen to toggle the display of place names, inland water and topography data on the map.



### *Places Database Set up*

Touch **Setup, Places Database** to determine the display range (in miles) of every populated community in the United States. Determine at what range various communities appear on the map when you touch the Mapping button. You can also use the Places Database to add or delete community names from the database.

**To customize your database, you must plug the USB keyboard included in your owner's kit into Maestro Navigator's dash.**

The following steps describe how to customize your database:

1. Touch Setup, Places Database to open the Select State menu.
2. Touch a state name, and touch OK to open the Place List for that state. All communities in the selected state are listed alphabetically.
3. Touch the name of a community in the list and touch Edit Place to modify it, if you wish. The Edit Place option lets you modify information already in the database. You can touch Add Place to add a new location to the map that isn't already in the database. The following information can be added or changed:
  - **Name:** The full place name.

- **Abbreviation:** An abbreviation that can be displayed on the map instead of the full place name.
  - **County:** The county in which the place is located.
  - **Population:** The known population, in thousands.
  - **Altitude:** The altitude, in feet, if known.
  - **Latitude and Longitude:** Geographical coordinates. You can automatically assign coordinates to the place by touching the desired spot.
  - **Use abbreviation on map:** Displays the abbreviated name rather than the full place name on maps.
  - **Show Range:** Defines the range, in miles, at which the place will display. For example, a place with a Show Range value of 1 will not display until your view range is one mile or less. If you would like to see the place on the map when zoomed out, raise the Show Range value.
  - **Show on maps:** Check to display the place name when it is in range.
4. When you are finished adding or editing places, touch OK to approve the changes and return to the Place List, or touch Cancel to discard the changes.
  5. Repeat steps 3 through 5 to add or edit other places in the selected state.
  6. Touch the Save button to save changes.
  7. Touch the Done button to close the Place List. Follow this process again to add or edit places in another state.

While your Places database contains thousands of place names, you need not adjust them all. The program defaults all of its communities to a Show Range of 1, meaning a community will not appear on a map unless zoom in to one mile or less.

### ***Boat Display Options***

XM WX Satellite Weather uses the GPS from your Maestro Navigator to show your vessel's position on the map. The area above the map shows data concerning your vessel, including your boat's course, speed (in knots or miles per hour), and bearing from the cursor to your vessel. You can change the units of measurement at any time by touching **Setup, Units**.

Touch **Setup, GPS, GPS Settings** to change the appearance of the vessel icon on the map.



**Show vehicle:** Check **Show** vehicle to place a boat shaped icon at your current position.

**Lock mapping view on vehicle:** Check here to center the map on your vessel's position.

**Range Rings:** These options allow you to configure the rings that appear around the vessel.

Check the **Active** box to display range rings.

**Radius in nm** defines the distance between the rings.

**Number of rings** defines how many rings are displayed.

**Line width in pixels** defines the thickness of each ring, with a maximum width of 4 pixels.

The values entered in the **Red**, **Green**, and **Blue** fields combine to give the color for the rings. A value of 255 in all three boxes results in purely white rings, while a value of 0 in all three boxes results in purely black rings.

**Percentage of mapping behind vehicle:** Controls where the vessel icon will appear on the map. At 50% the vessel icon will remain in the center of the map, while at 40% you will have 40% of the mapping will be behind the boat and 60% forward. This allows positioning the vessel icon on the moving map so that the amount of weather data viewable in front of your current location can be maximized.

**GPS Sim:** In order for the XM WX Weather receiver to acquire your vessel's position from Maestro Navigator, the **Active** box must be checked. Once this is done, your vessel's position, heading, speed, altitude and ascent are displayed in the fields below.

## ***Radar***

Maestro offers an optional Radar system. "Radar" is an acronym. It stands for Radio Detection and Ranging. The first worldwide application of radar technology was during World War II, when military forces used radio wave signals to detect and locate enemy aircraft. During this wartime period, radar's weather forecasting capability was realized, when fuzzy blips on the radar screen were discovered to represent precipitation.

### ***How Radar Works***

Radar works by sending microwaves out in all directions, then receiving the waves that bounce back after hitting solid surfaces. By measuring the time it takes for the echo to return, and knowing the returning signal's direction, radar systems can estimate the size and location of the objects detected. These objects are called targets, and the shapes and colors with which they are portrayed on the screen are radar returns.

### ***Radar Terms***

On your vessel, the radar antenna or scanner (the bar that spins in circles) houses the following:

Magnetron - generates the microwave signal

Transmitter - sends the signals out

Receiver - receives the signals returned from the targets

### ***Technical Support - Radar***

If you desire to add the optional Radar feature to your system, Faria's technical support staff will be happy to help. Contact our staff by telephone, fax or e-mail, Monday through Friday 9 AM to 5 PM EST.

**Phone:** 877-405-1010

**Fax:** 860-848-2704

**E-mail:** [maestro@faria-instruments.com](mailto:maestro@faria-instruments.com)

## ***Radar Safety***

Prolonged or direct exposure to radar microwaves can cause personal injury, so extreme care should be used when operating a radar system. Careful attention to the following safety guidelines will greatly minimize this risk.

Put your radar system in Standby mode whenever anyone moves out of the cockpit into the range of the scanner array. The radar signal is cast in an angle extending approximately 15 degrees above, and 15 degrees below the scanner. Since the radar antenna rotates whenever it is transmitting, this signal "wedge" is radiated in a full circle (360 degrees) around the scanner. When the radar is in use, remain outside the signal area.

The radar signal is strongest when it first leaves the scanner, then it weakens over distance. Keep in mind that the closer you are to the scanner, the stronger the signal. When the radar is in operation, remain at least six feet aside from the scanner and at least two feet below it.

Never look directly into the antenna or an open waveguide on the scanner, as this can cause eye injury.

The rotation of the scanner is designed to lessen possible exposure to radiation, since a person standing within the angle of the radar signal is only exposed when the signal sweeps past him. Radar signals will not be transmitted unless the scanner is rotating.

Turn off your radar equipment whenever it is not required for navigation. Be conscious of others and turn off your radar whenever you enter a congested area (in close harbors, at dock side, or when moored in proximity of other vessels).

The microwave radiation emitted by a radar system can disrupt cardiac pacemakers. If a passenger on your boat uses a pacemaker and suspects that it is functioning abnormally, immediately turn off the radar equipment and move the person away from the scanner antenna.

Damage from microwave exposure is cumulative. We are all exposed daily to a certain amount of radiation, from radio towers, cell phones, other electronic devices, and from the sun's ultraviolet rays. By taking care to minimize exposure where possible, you reduce your overall susceptibility to the effects of such damage.

### *Turn On the Radar*

Turn on your vessel's radar power switch

Touch **Mode**, then **Radar Display**

Touch the radar button on the lower left corner of the Maestro Navigator screen



Next to the radar menu, press Transmit



You may need to wait for the radar to preheat. In this case, a message will appear, giving you a 100-second preheating countdown. Once the radar is warmed up, the radar menu is displayed on the left side of the screen.

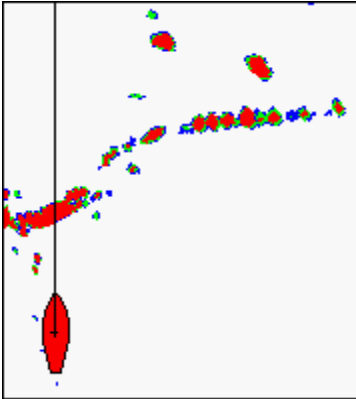
If there are any problems connecting to the radar, you'll see a message: "Error: Cannot Detect Radar Unit." See the Radar Troubleshooting section of this manual for information.

### **Configure the Radar Display**

Maestro Navigator provides a full-color radar display.

#### *Target Colors*

When targets (objects) are detected, the radar returns (signals bounced off these objects) appear as colored shapes on the screen. The color of the targets depends on the strength of the radar returns.



The strongest returns are shown in red, medium-strength returns in green and weak returns in blue. Spend some time in good weather watching the radar display while observing the actual targets being depicted. You will soon learn to identify different types of targets solely by examining the radar display when in low visibility conditions.

To achieve a radar display with minimal distortion:

Press the radar button to open the radar menu.

Select a **Range** setting, or choose **Automatic**. (Automatic will automatically set a range that makes best use of the available screen space, based on your zoom level and vessel orientation).

Raise the gain by increments until you can see all the targets around you.

Too low a gain setting can result in the loss of targets.

If you set the gain too high, you'll start to see speckling on the screen - lower the gain just enough to remove the speckling.

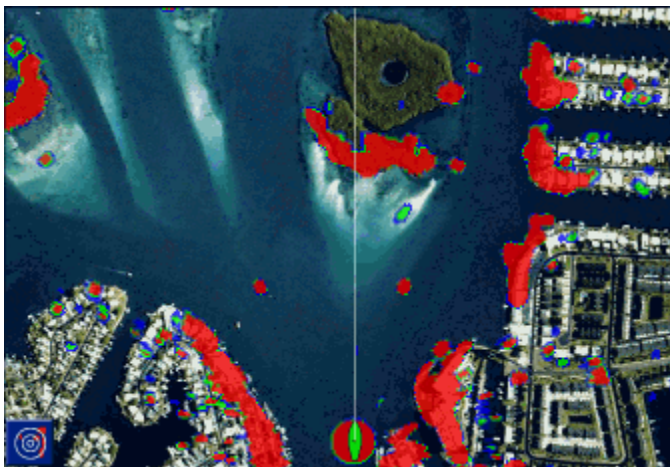
Speckling may also be caused by waves or chop around your vessel. If this is the case, leave the gain alone and instead use the sea clutter setting to remove the speckling.

In congested areas, too high a gain setting may merge separate targets together, making them unreadable.

### ***Radar Display as Overlay***

You can view the radar display by itself, or as an overlay on a nautical chart or navigation photo. First, turn on the radar display. Then, press the **Mode** button in the top right corner of the Maestro Navigator screen, and choose **Nautical Chart** or **Navigation Photo**.





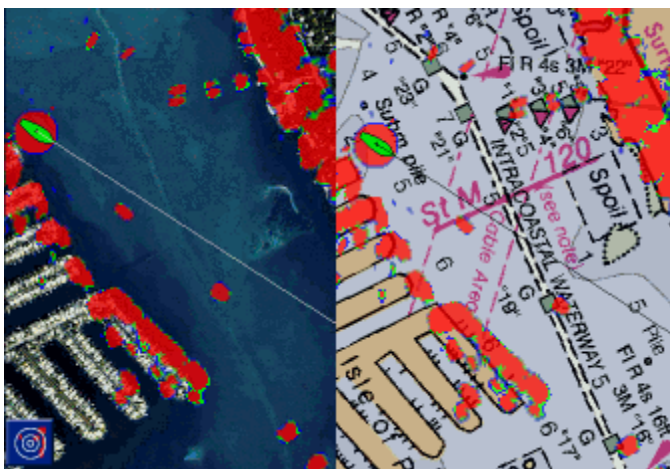
The radar targets remain on the screen, atop the new chart.

To return to the regular radar view, press **Mode** and choose **Radar Display**.

**Tip:** For better visibility through the radar targets, increase the radar display's transparency setting.

### *Radar Display in Split Screen*

The screen may be split between different chart types and/or the radar display, so that each occupies half of the screen.

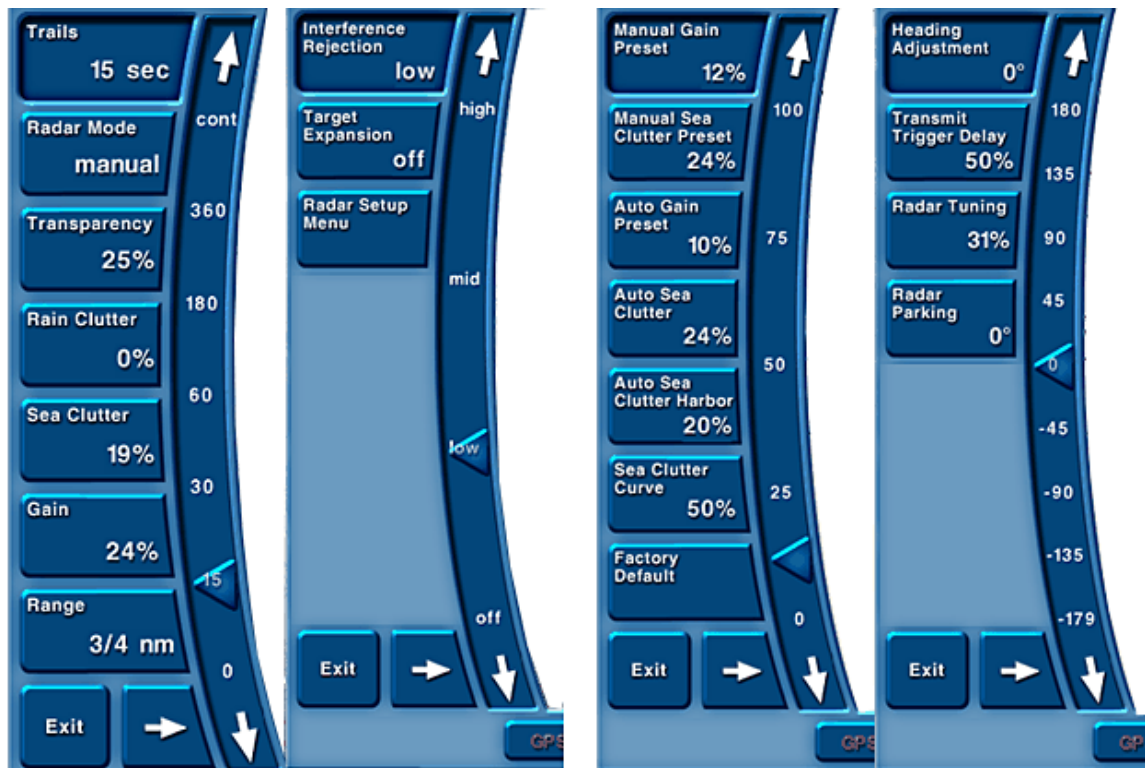


Press **Mode**, **Split With** and select the chart type that you'd like to add to the display.

- If you're already viewing radar targets, they will be included atop any nautical chart or navigation photo that you open.
- If you're already viewing radar targets as an overlay on a chart, you have the option of choosing to split the screen with a radar only display.
- The screen may also be split with a contour chart, but radar overlay is not possible on this chart type.

### *Radar Menu*

When Maestro Navigator is configured with radar, you can bring up the radar menu by pressing the radar button in the lower left corner of the screen.



The radar menu contains separate buttons for each radar setting. Each button is labeled with its present setting. To make adjustments to any of the items listed, touch that button and use the vertical slider control to adjust the setting.

For coarse adjustments, touch a point on the slider, or use your finger to drag the lever up or down. Finer adjustments may be made using the up and down arrows. The button may dim momentarily as your changes are applied, then the button label will update to reflect the new setting.

The radar menu contains more items than can fit on the screen at one time. To view the additional items, press the sideways-facing arrow button at the bottom of the menu. To remove the radar menu from the screen (without removing the radar target display), press the **Exit** button at the bottom of the menu. To bring the menu back into view, press the radar button in the lower left corner of the screen.

## *Trails*

You may opt to attach trails to radar targets to show their previous locations. This will help you visualize the direction and motion of nearby vessels. Radar trails are shown in aqua.

To activate trails, press the radar button and touch **Trails**, then specify a trail length. For example, choose 20 Seconds and Maestro Navigator will append trails to the targets showing the last 20 seconds of each target's motion.

## **Trails and Stationary Objects**

Trails are drawn based on the change in distance between your radar scanner and the objects that it detects. If your vessel is stationary, only moving targets will have trails. However, when your vessel is moving, trails may be drawn for all targets, since the

target distance is changing as you move. This means that motion trails may be shown for targets that in reality are stationary.

Targets aft of your vessel may appear to be moving away, while forward targets may appear to be moving toward you. Trails of targets to either side will likely be shorter, since their relative distance from your vessel has not changed as much (resulting in less perceived motion).

### ***Radar Mode***

Radar mode governs the correlation between your gain and range settings. There are three radar modes available. To select one, touch the radar button to open the radar menu, and then press **Radar Mode**.

- **Automatic Mode (AUT):** Maestro Navigator's default setting which uses preset gain and sea clutter settings. In addition, Maestro Navigator will make small periodic adjustments based on your range, in order to achieve the best target resolution. Automatic mode works best in low sea state conditions.
- **Smart Mode (SMT):** In smart mode, Maestro Navigator "remembers" your gain settings for each range. In other words, Maestro Navigator will record your (possibly different) gain settings at ½ mile range, at 2 miles, at ¼ mile, and so on. Whenever you change the radar range, gain will be automatically adjusted to the recorded setting for that range.

***Note!** In smart mode, Maestro Navigator reverts to the settings in memory, without analysis or modification. It is your responsibility to ensure that your settings are correct for the current conditions. Unlike automatic mode, smart mode does not affect your sea clutter setting.*

- **Manual Mode (MAN):** In manual mode, Maestro Navigator makes no association between your gain and range settings. You must manually maintain both settings.

### ***Transparency***

The transparency setting refers to the targets shown in the radar display. The higher the transparency figure, the more transparent the radar returns will be. To adjust transparency, press the radar button and touch **Transparency**, then use the sliding lever to set a percentage.

The transparency setting is only applied when viewing the radar display as an overlay on a chart. This lets you see shoreline details, navigation aids, and printed data on charts through the radar returns.

### ***Rain Clutter***

The *rain clutter* setting tells Maestro Navigator to filter radar interference from rain. The heavier the rain, the higher you should set the rain clutter percentage. To adjust the rain clutter setting, touch the radar button and select **Rain Clutter**, then specify a percentage.

**Note:** Don't forget to turn rain clutter off when it's no longer needed. Otherwise, the radar display might filter out small targets.

### *Sea Clutter*

The sea clutter radar setting filters interference from chop or heavy seas by lowering the gain close to your vessel. Touch the radar button and select **Sea Clutter** to make adjustments. Raise the clutter setting when you expect an increase in interference from wave action: the higher the waves, the higher your clutter setting.

Sea clutter filtering starts at your vessel. As you increase the clutter percentage, the area being filtered expands around your vessel. The higher the clutter setting, the farther out the filter reaches.

### *Gain*

Gain is the measure of the radar receiver's sensitivity. To adjust the gain, press the radar button and from the radar menu, select the **Gain** button.

To achieve a radar display with minimal distortion, you should first select a range, then raise the gain just enough to show radar targets without speckling. Too high a gain can produce speckling. (So can waves or chop around your vessel - if this is the cause, you can remove speckles by increasing the sea clutter setting.)

Notes!

- Most of the time, the radar targets match the actual object size. However, some objects, especially if equipped with radar reflectors (as buoys often are), may appear larger than actual size.
- Keep in mind that the radar may not see targets that are positioned just beyond near targets.

### *Range*

The range setting tells Maestro Navigator how far from the vessel the radar should look. For example, at a range of  $\frac{1}{4}$  mile, the radar will scan  $\frac{1}{4}$  mile radius around your vessel. Range can be specified manually (touch the radar button, press Range and choose a distance), or set to automatically cover the visible chart area (press Range and choose Automatic).

On the display, the square, shaded area indicates the reach of the radar. When you adjust the range, the radar display is zoomed accordingly: for a longer range, the view is zoomed out, and for a shorter range, it is zoomed in. When zooming out to a longer range, the radar targets appear closer together in the center of the display (as though you are viewing them from farther away). Zooming in, the targets are pictured farther apart.

When viewing the radar data as an overlay against a chart or photo, it's easier to set range to automatic and let Maestro Navigator determine what range setting will provide the best display. (When using manual control in these cases, it is easy to over zoom, which results in rough-looking radar returns. If this happens, Maestro Navigator will put up an explanation message and offer to fix the problem for you.)

### *Interference Rejection*

If you see spoke-like marks on your radar display, they are likely caused by interference from neighboring radar systems. To decrease this interference, turn on interference rejection.

To turn on interference rejection, touch the radar button to bring up the radar menu, press the sideways arrow to see the second menu page, and press **Interference Rejection**. Use the sliding lever to select a percentage: the higher the number, the stronger the Interference filter. (Use a high number if you are experiencing a lot of interference.) To turn interference rejection off completely, set it to zero.

### *Target Expansion*

Target expansion enlarges the radar returns for greater visibility. To turn on target expansion, touch the radar button to bring up the radar menu, press the sideways arrow to see the second menu page, and press target expansion. Use the sliding lever to select a percentage: the higher the number, the greater the target emphasis. Use a high number to enlarge the radar returns. To turn target expansion off completely, set it to zero.

#### **Caution!**

*When target expansion is in use (especially at high settings), closely grouped targets may appear as a single larger target.*

### **Radar Setup Submenu**

The final button in the radar menu leads to the radar setup submenu. While the main radar menu lets you control general items like gain, clutter and range, the options under radar setup let you make changes to the operation and calibration of the radar scanner itself. Do not make any setup changes unless you have a thorough understanding of the item(s) being adjusted and their implications on radar operation. If you do make any changes that you wish to undo, you can always revert to the original factory settings by pressing the button labeled **Factory Defaults**.

### *Manual Gain Preset*

The manual gain preset does two things: it specifies a default gain setting for use when radar mode is set to manual or smart, and it has the additional effect of re-calibrating the gain scale.

For example, say you have set manual gain preset to 12%. However, in order to achieve a clear display of radar returns, you find yourself raising the gain to a much higher setting, say 75%. Whenever you find that your gain setting is always hovering near an extreme end of the scale - either high (as in this case), or low - you should probably adjust your preset more towards middle range. In this example, you might increase the preset gain to 15%. Returning to the radar display, you'll find that you still need to raise the gain as conditions merit, but that now you might only need to raise it to 50% (instead of the more extreme 75%) to achieve the same display quality.

#### **Note!**

*Your preset applies to all ranges, so you may want to preview a few ranges before making adjustments.*

### *Auto Gain Preset*



The auto gain preset specifies a default gain setting for use when radar mode is set to automatic (the factory default setting).

You shouldn't need to adjust the auto gain preset frequently—periodic adjustment is typically all that is required. For example, suppose the auto gain preset is 8%. If you consistently notice weak returns through different ranges, you might increase it to 10%.

**Note!**

*Your preset applies to all ranges, so you may want to preview a few ranges before making adjustments.*

### ***Manual Sea Clutter Preset***

The manual sea clutter preset does two things: it specifies a default sea clutter setting for use when radar mode is set to manual or smart, and it has the additional effect of re-calibrating the sea clutter scale.

For example, say you have set sea clutter to 24%. However, in order to achieve a clear display of radar returns, you find yourself raising the sea clutter to a much higher setting, say 75%. Whenever you find that your sea clutter setting is always hovering near an extreme end of the scale - either high (as in this case), or low - you should probably adjust your preset more towards middle range. In this example, you might increase the preset sea clutter to 30%. Returning to the radar display, you'll find that you still need to raise the sea clutter as conditions merit, but that now you might only need to raise it to 50% (instead of the more extreme 75%) to achieve the same display quality.

**Note!**

*Your preset applies to all ranges, so you may want to preview a few ranges before making adjustments.*

### ***Auto Sea Clutter***

When Radar Mode is set to Automatic and the Radar Range is set to over 1 mile, Maestro Navigator defaults to the auto sea clutter setting but can be adjusted later as necessary.

This sea clutter figure is designed to partially suppress nearby targets which at longer (>1mile) ranges are no longer the intended focus of the radar display. A separate auto sea clutter harbor setting is used to attenuate close targets whenever range is less than one mile.

### ***Auto Sea Clutter Harbor***

When Radar Mode is set to Automatic and the Radar Range is set below 1 mile, Maestro Navigator defaults to the Auto Sea Clutter Harbor setting. This is done because a shorter range typically indicates a greater need to focus on nearby surroundings. In a congested area like a harbor, the use of a specialized harbor sea clutter setting ensures that nearby targets are not attenuated.

At ranges over 1 mile, Maestro Navigator will automatically switch to the standard auto sea clutter harbor setting. A longer range is used when traveling through more open water. Since nearby targets are no longer the sole focus (as when traveling in a harbor or other congested area), such targets are partially suppressed in order not to dominate the radar display.



### *Sea Clutter Curve*

Sea clutter curve adjusts the sensitivity of the sea clutter adjustment in the radar menu.

Sea clutter filtering starts at your vessel. As you increase the clutter percentage, the area being filtered expands around your vessel. The sea clutter curve affects the rate at which the filter area expands. The higher the curve setting, the faster the filter area will expand when sea clutter is raised. The lower the curve setting, the slower the expansion of the filter area. In other words, a higher curve setting makes the sea clutter control more sensitive.

### *Factory Default*

Pressing the *factory default* button will return ALL radar settings (both in the radar menu and the radar setup menu) to their original Faria default values.

### *Heading Adjustment*

On many vessels, the radar scanner might be slightly offset from the lubber line - usually only by a few degrees. If targets that are dead ahead don't appear directly in front of the vessel on the radar display, you can apply an offset, or heading adjustment, here to compensate for the difference. For example, if your radar scanner points at 358°, apply an offset of 2°. If you aren't sure how much of an adjustment is needed, try adjusting by one degree at a time.

If dead-ahead targets appear slightly to starboard, you should apply a positive offset. If these targets appear to the port side of the vessel icon, apply a negative offset.

### *Transmit Trigger Delay*

Increase the delay in order to minimize interference (shown as a colored ring around the vessel) without distorting the radar images. To determine a good setting, bring your vessel near a straight-edged target, like a bulkhead or a pier. If the radar target curves in towards the vessel instead of appearing as a straight line, the trigger delay is set too high. Lower it just enough to minimize the ring around the vessel, without distorting straight targets. (The ring cannot be removed entirely, and will always be visible, especially at short ranges.)

To adjust transmit trigger delay, press the sideways arrow in the radar menu to reach the radar setup menu button. From the radar setup menu, select **Transmit Trigger Delay**.

### *Radar Tuning*

Radar tuning tunes the radar receiver to match the magnetron frequency. Radar tuning is a long-term adjustment. You may need to make periodic adjustments over time, as magnetron frequencies can drift as the radar unit ages.

1. First, set the radar to a low range.
2. Adjust the gain just enough to show radar targets.
3. Finally, adjust radar tuning to maximize the target returns.

The radar tuning setting is found on the radar setup menu: press the radar button to open the radar menu, then press the sideways arrow to reach the **Radar Setup Menu button**.

### ***Radar Parking***

The radar parking feature allows you to adjust the radar's position to a specific point in its rotation when the radar is turned off. Touch the radar symbol located at the bottom left corner of your screen, then touch **Standby**. Press **Radar Parking** until the radar adjusts to the desired position.



## Sonar/Fish Finder

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Maestro Navigator may be equipped with an optional Sonar system providing ability to detect fish and track bottom conditions as you cruise.

The sonar works by sending pulsating sound signals downward from your vessel. When the signals hit a solid object, like the sea floor or a fish, they bounce up again. The sonar receives these returned signals as echoes. By measuring the timing of the echoes, the sonar can calculate depth.

The strength of the return echo is used to determine the density of the object - the bottom, or any suspended targets - that reflected the sound waves. Sound waves are reflected by physical discontinuities: places where the speed of sound suddenly changes.

Maestro Navigator measures the strength and timing of the returned signals, analyzes this data and portrays the results with shapes, colors and symbols on the sonar screen.

### *How the Sonar Finds Fish*

The flesh of a fish is mostly water. The part of a fish that is detected by the sonar is the fish's swim bladder. The gas-filled swim bladder enables a fish to remain at a chosen depth without having to swim constantly to keep from rising or falling. The difference between the speed of sound through water and the speed of sound through the gas of a swim bladder is so great that much of the energy that strikes the swim bladder is reflected back. When hit by sound waves, the swim bladder resonates, reflecting the sound waves back to the sonar. With sonar alone, you do not "see" the fish at all: what you see is the swim bladder.

The tone at which the swim bladder resonates is affected by its size and shape and by the water pressure. These factors change as the fish moves vertically through different water pressures. Maestro Navigator's sonar takes these factors into account when analyzing the returned echoes. The resulting target display shows you the location, and even the size, of any fish detected.

### *Start Sonar*

The **Sonar** button, in the lower left corner of the screen, shows a fish symbol along with the word ON or OFF to indicate whether the sonar is presently on (transmitting) or off.

To start sonar transmission, touch the **Sonar** button, then press the **ON** button that appears.



The sonar will locate the bottom, and start marking and recording the bottom and any suspended targets detected.

## ***Sonar Screen***

When the sonar is on, the sonar data streams across the screen, from right to left. As data is acquired, it appears on the right side of the screen, then streams to the left (and out of sight) as newer data is received.

Once it is turned on, the sonar collects and records data regardless of what Maestro Navigator screen you are viewing. (For example, you might be in nautical chart mode plotting routes, returning occasionally to the sonar screen mode to check on bottom conditions.) When you want to view the sonar screen, touch **Mode, Sonar**.

### ***Depth and Temperature***

A depth scale (vertical line with numbered increments) appears along the right side of the screen. The present depth is noted in large blue type at the top of the screen.

The surface water temperature is noted in the upper right corner. Whenever there is a temperature change of at least three degrees over a five minute span, a temperature trend arrow is shown alongside the temperature readout. The trend arrow reflects the change. When the up arrow is red, the temperature is rising; when the down arrow is blue, the temperature is getting lower.

### ***Control Sonar Transmission***

A pair of on/off buttons let you control sonar transmission. These buttons appear whenever you press the **Sonar** button, and disappear when you press any other key.

## ***Technical Support - Sonar***

If you desire to add the optional Sonar and Fish Finder features to your system, Faria's technical support staff will be happy to help. Contact our staff by telephone, fax or e-mail, Monday through Friday 9 AM to 5 PM EST.

**Phone:** 877-405-1010

**Fax:** 860-848-2704

**E-mail:** [maestro@faria-instruments.com](mailto:maestro@faria-instruments.com)

## Customize Sonar Panel

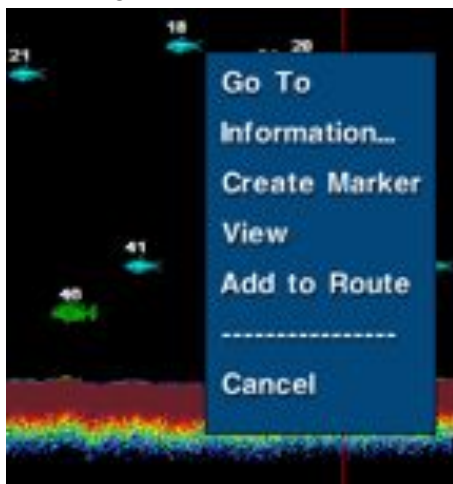
*All Contour and Fish Finder images reproduced by permission from NSI, inc © 2007*

The left side of the screen contains the sonar control panel.



## Sonar Colors

The shapes that you see on the sonar screen are called echo returns, because they indicate sonar signals that have bounced off an object and returned to the sonar. The word target is also used for a return that indicates a fish or school of fish.

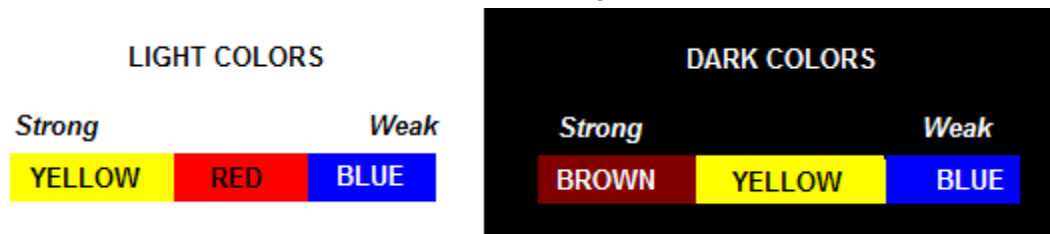


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Different colors are used to indicate the strength of the sonar returns. Harder surfaces (like a rocky bottom) and larger objects (like a large fish) produce stronger returns. A weedy or sandy bottom, or smaller fish, generally produce weaker returns.

The example above shows the dark sonar background.



To switch between light and dark background, touch **Setup, Depth/Sonar** and choose **Sonar Colors**.

### *Fish Targets*

Sonar returns that indicate fish are often called targets. Fish targets may be shown as arches or fish icons. To choose either, open the Sonar Control Panel and touch the **Targets** button, then choose **arch** or **fish**.



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Two views of the same three targets, shown as arches and fish (against a dark background).

A taller and broader arch represents a larger sized fish. It is normal to see some extra “noise” in the water column when viewing targets as arches.

When fish icons are used instead of arches, the depth is noted next to each target. In addition, extra noise is removed from the display, for greater clarity.

### *Fish Icons*

When using fish icons to depict targets, there are four colors/sizes:

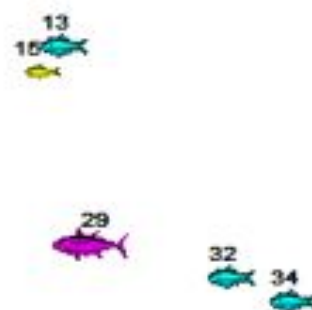
**Magenta:** Large fish.

**Green:** Medium fish.

**Blue:** Small fish.

**Yellow:** Bait fish.

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## Working with Targets

The fish targets and bottom structure shown in the sonar window are “touchable.” As you scroll back through the sonar history, just touch any item for a popup menu with the following options:

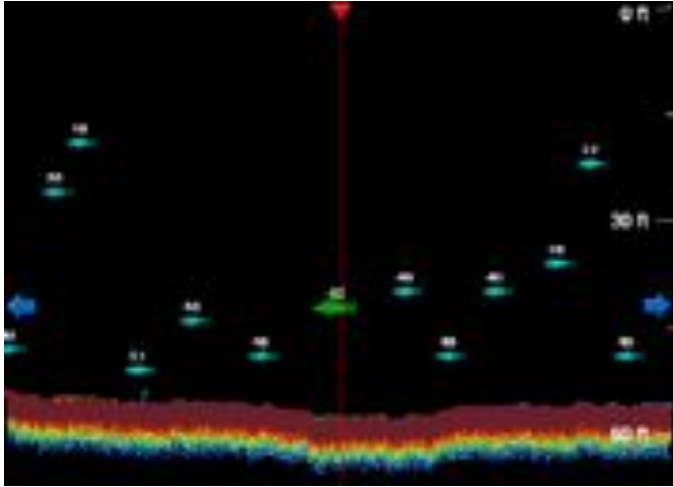
- **Go To:** Set course for this sonar item. The target item will be temporarily marked on the nautical and contour chart windows. Navigating to the target is just like navigating to an Instant Waypoint. Once you reach the destination target, an “End of Trip” message will appear on the screen, and the target will be removed from the nautical/contour window.
- **Information:** Display the latitude and longitude of this target, exactly when it was recorded, and its bearing and distance from your vessel’s present location.
- **Create Mark:** Set a mark at this target location. You can either accept the default mark name (the date and time that the fish target was acquired), or assign a name of your own choosing using the on-screen keyboard. The mark will appear on nautical and contour charts containing the target location. It will be stored in memory along with all other marks you have created. You can find the mark by touching View, Waypoint/Mark and choosing it from the list.
- **View:** Splits the screen with a nautical chart centered on this target’s location.
- **Add to Route:** If you’re already following a route or heading for an instant Waypoint, this option will be available in the target menu. It will add the fish target to your route. The target will be added onto the end of the route, after the final Waypoint of the route you’re already following.

### *Tips!*

- When navigating with the sonar display alone, set up two of your data windows for Waypoint pointer and range/bearing to next Waypoint. These two data windows serve to help you visualize your progress even when you aren’t tracking your vessel on the nautical chart screen.
- Use the sonar history to review where the best fish appeared recently, then touch a likely target and choose Go To set course for it (or choose Create Marker to mark the location for future consideration).
- When reviewing older history, touch a target and choose Information to find out how long ago the target was acquired and how far away it is now. Choose View to see the general area on a nautical chart.

## Sonar History

As sonar data is received, it streams across the screen from right to left. The newest data appears at the right side of the screen, then moves out of view to the left.



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To review sonar readings received hours, or even days, earlier, just drag the Sonar screen to scroll back (left) through the data. The Sonar history can hold 72 hours worth of data. Whenever the sounder is running, the data is being recorded (regardless of whether you're viewing the Sonar data on the screen). Once 72 hours have elapsed, the oldest data is gradually replaced by the new data being received. The history always contains the last 72 hours of running time, unless you manually clear the history.

### *View Sonar History*

Why look back at the Sonar history? Suppose, for example, that you saw a large school of fish hanging around a big rock earlier in the day and now you want to return to where they were seen. Scroll back through the Sonar history until you find the fish, and then you can split the screen with the contour window or nautical chart to see where those fish were.

To look back through the Sonar history, just drag your finger from left to right across the Sonar screen. To scroll faster, hold your finger on either of the blue arrows at the sides of the screen, then lift it when you want to stop scrolling. You can drag or scroll in either direction (forward or backward in time).

As you view the history, a vertical red line appears on the Sonar data. The time and date shown at the top of the screen refers to the point in time marked by the vertical red line on the Sonar screen. As you scroll back through the Sonar history, you can see the date and time that the data was recorded. You can also see the depth, surface water temperature and vessel latitude and longitude at the time the data was acquired.

A green line along the bottom of the screen indicates the surface water temperature trend. The temperature is recorded every two seconds and plotted in this line graph: rises in the line indicate rises in temperature, dips indicate lowering temperature, and a flat line indicates steady temperature.

### *Latest Data*

When you are done reviewing the Sonar history, press the **Sonar** button and the Sonar screen will resume normal operation. (If you have set Maestro Navigator to link to your

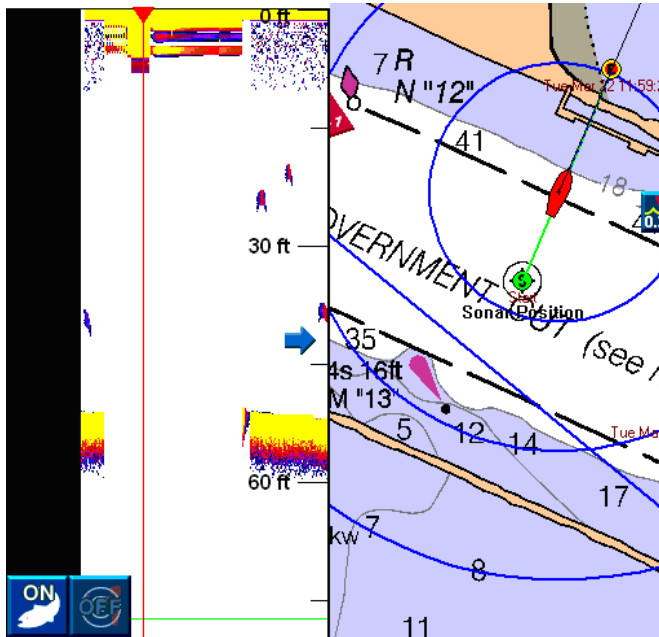
vessel location, the Sonar screen will automatically return to the latest data after several seconds have passed in which you have not dragged or scrolled the Sonar history.)

### *Upper/Lower Range Settings*

If you cannot see the bottom in the Sonar history window, but you know the bottom data was recorded, you may need to adjust your lower range setting. For example, if you are sitting in port in 10 feet of water, and your auto range is set to show only from 0 to 20 feet, this will affect your view of the Sonar history. To avoid this problem, set your lower range to the deepest depth that you know you recorded. This will ensure that you can see all your data when you scroll back through the history screen. Just change your range values back when you're done reviewing the history.

### *Split History with Chart*

Press **Mode**, **Split With** and choose **Nautical** to split the Sonar history screen with a nautical chart. This lets you see the chart location of the targets you're reviewing. As you look back at a historical target in the Sonar window, the Nautical Chart window is centered on the location of your vessel when the target was acquired. The location is marked with a cross hair symbol and labeled "Sonar Position."



#### **Note!**

*Drag your finger on the Sonar screen and the Nautical or Contour chart moves at the same rate as the Sonar display, constantly updating to show the location of whatever targets you're viewing. When you scroll the Sonar data too quickly, the chart window waits until after you stop scrolling to update the target locations.*

### *Go To Sonar History*

If you see something interesting (fish target, bottom structure, etc.) in the Sonar history and you want to return to the location where that sonar data was acquired, touch the target for a popup menu with the following options:

- **Go To:** Set course for this Target. The Target is temporarily displayed on the Nautical and Contour Chart windows. Once you reach the destination target, an “End of Trip” message is displayed and the target is removed from the chart window.
- **Information:** Find out the latitude and longitude of this target, exactly when it was recorded, and its bearing and distance from your vessel’s present position
- **Create Marker:** Set a Mark at this Target location. Accept the default mark name (the date and time that the target was acquired) or assign a unique name using the on-screen keyboard. The named Mark is displayed on Nautical and Contour charts containing the target location.
- **View:** Splits the Sonar screen with a Nautical chart centered on this target’s location. (If the nautical chart window is already open, the target location will remain centered for approximately 10 seconds, and then the window returns to the chart area you had been viewing.)
- **Add to Route:** Adds the target to your Route. This option is only available when there is an active route or when you are heading for an Instant Waypoint. The Target is added to the end of the active Route, after the final Waypoint.

### *Tips!*

- When navigating with the Sonar display alone, set up two of your data windows for Waypoint pointer and range/bearing to next Waypoint. These two data windows serve to help you visualize your progress even when you aren’t tracking your vessel on a chart screen.
- Use the Sonar history to review where the best fish appeared recently, then touch a likely target and choose Go To set course for it (or choose Create Marker to mark the location for future consideration).
- When reviewing older history, touch a target and choose Information to find out how long ago the target was acquired and how far away it is now. Choose View to see the general area on a nautical chart.

### *Hide History*

If you routinely view your Sonar data in the contour window, you might find that after a time, the Sonar data can clutter the Contour screen. This is because while the Sonar window displays sonar returns in a linear fashion (scrolling from right to left), the Contour window always shows returns directly on the chart in the geographic location where they were received. If you remain long enough in one area, or if there are many fish present at one time, the Contour window can become cluttered. This can slow the Contour display.

To alleviate this problem, you can temporarily remove the targets from the Contour window. To do this, touch the **History** button on the Sonar control panel, and choose **hide**. To show it again, select **shw** (“show”) from the same menu.

### *Note!*

*When you hide targets from view in the contour window, “Contour Targets Hidden” is displayed on the Sonar history screen as a reminder that the targets aren’t visible.*

### *Clear History*

When you no longer need the data in the Sonar history, touch **History** and choose **Clear**. This will permanently delete the returns and remove them from view in both the

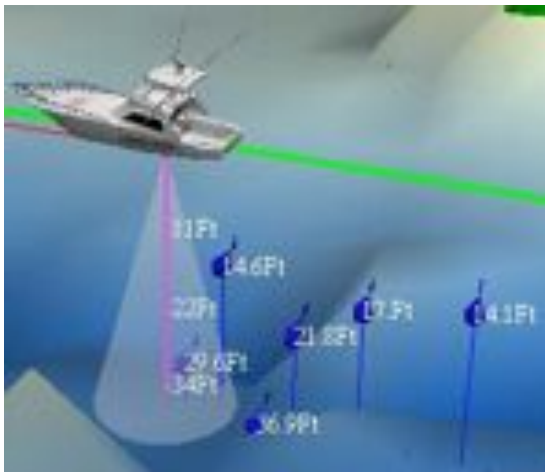
Sonar and contour screens and increase system performance. If your contour display seems excessively slow, you should clear the Sonar history.

## Sonar Data on Contour Charts

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### *Fish Targets in Contour Window*

The fish targets that you collect may also be viewed in the contour window if you have contour chart coverage for that area. To include fish targets on the contour display, press Setup, Contour, Targets and select one of the options to Show Targets. The targets are always displayed as fish, initially using 3D versions of the four fish icons of different sizes and colors.



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### *Groups May Merge Into One Target*

As the vessel moves beyond a group of 3D fish targets, the targets will group themselves together into a school. This helps you identify the targets more easily as they recede into the distance. The color of the school indicates the number of fish in the group. White or light blue indicates a small number of fish; dark blue indicates a larger number.

### *Add Depth or Age Notes to Fish Targets*

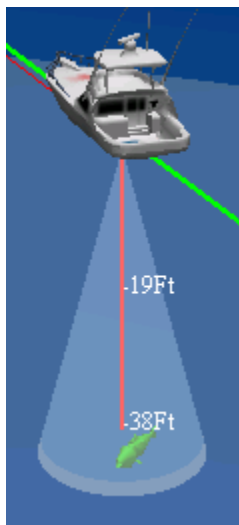
If you wish, you can choose to add a depth note or age note to the contour fish targets. Touch Setup, Contour, Targets and choose Show targets with depth to include each fish's depth next to its target icon. Choose Show Targets with age if you would prefer to see how much time has passed since the target was acquired. Maestro Navigator will attach a note to each target, stating how many hours have passed. The age is rounded to the nearest tenth of an hour (six-minute increment).



### *Transducer Cone*

Another sonar-related feature that you can also add to the Contour window is the *transducer cone*.

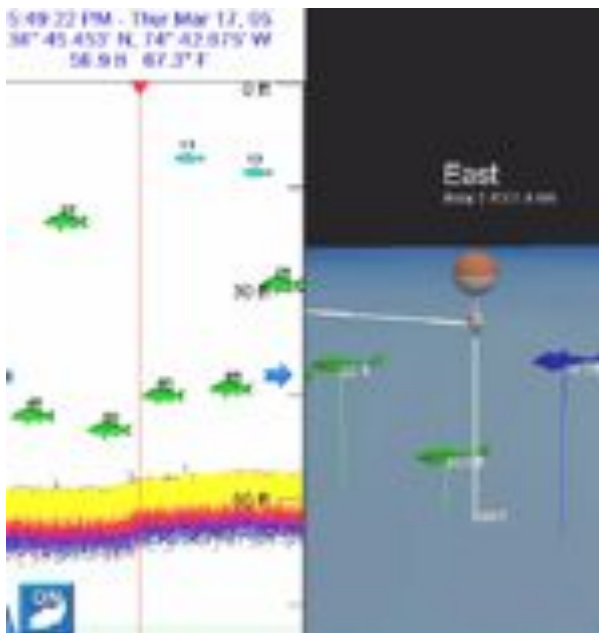
The transducer cone serves as an aid to help you visualize the water column covered by the sonar. Touch **Setup**, **Contour**, **Transducer Cone** to add or remove the cone from display.



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### *Splitting the Sonar History with Contour Screen*

Press **Mode**, **Split With** and choose **Contour** to split the screen with the contour chart window.



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This lets you see the bottom conditions for the location of the targets you're reviewing. As you look back at a historical target in the sonar window, an orange and white bobber symbol will appear in the chart window, centered on the location of your vessel when the

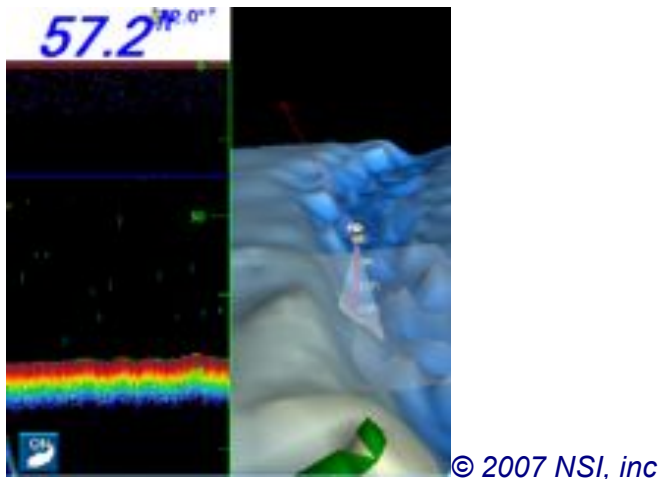
target was acquired. (You may temporarily lose sight of your vessel icon, depending on how far away the historical target is.)

The bobber on the contour chart shows where the vessel was when this sonar data was originally acquired. This lets you see the environment where a school of fish was detected.

Note: To line up a fish target for easy identification in both windows, scroll the sonar window so that the vertical red line is centered on the tail of the fish.

### ***Depth Line in Sonar and Contour Windows***

The depth line is a visual aid that appears in both the sonar and contour windows. It indicates the same depth in each window view.



On the sonar screen, the depth line appears as a blue horizontal line. In the contour screen, the depth line shows as a semi-transparent rectangle, appearing to “float” directly beneath the vessel icon at the depth you selected.

### ***Moving the Depth Line***

When Maestro Navigator is equipped with sonar, the height of the depth line may be adjusted only in the sonar screen. You can drag the line up or down as you wish, depending on the depth you want it to represent. The rectangle in the contour window will move accordingly.

### ***Turning the Depth Line On and Off***

Touch **Setup, Contour, Depth Line** and select **ON** or **OFF**. You can also activate and deactivate the depth line from the sonar screen by pressing the **Depth Line** button on the sonar control panel.

### ***Targets***

Touch **Setup, Contour, Targets** to modify targets’ appearance in the contour window.

- **Hide All Targets:** Temporarily removes all fish targets from view on the contour screen.
- **Show Targets:** This is checked by default. This means that all fish targets are shown, but without any additional data. (You can still gauge fish size by the color and size of the fish target icon.)

- **Show Targets with depth:** Check here, and Maestro Navigator will note each fish target's depth next to the fish icon.
- **Show Targets with age:** Maestro Navigator will append a note to each fish icon, telling its age: how long it has been since that target was initially recorded. The age is given in minutes, hours, or days, depending on how much time has elapsed since the targets was acquired.
- **Hide Previous Targets:** Temporarily removes all previously acquired targets from view. This lets you focus only on the new targets, while still retaining the old targets in memory. This is useful for removing screen clutter without deleting historical target data.
- **Show Previous Targets:** Undoes the "Hide" command (described directly above), restoring historical fish targets to view.
- **Clear Previous Targets:** Permanently deletes all targets previously acquired, from both the contour display and the sonar history.

## Sonar-Related Depth Setup Options

When Maestro Navigator is equipped with sonar, some additional items appear in the depth setup menu. The Setup menu item itself is changed from "Depth" to "Depth/Sonar."

### *Sonar Colors*

Touch **Setup, Depth/Sonar** and select **Sonar Colors** to set the sonar to use a dark or light background.

### *Calibrate Temperature*

If you use a separate thermometer to check water temperature, and the reading differs from that displayed at the top of the sonar screen, you can calibrate the sonar temperature readout to match. For example, if your other thermometer shows two degrees warmer, select +2.0 deg. to adjust the sonar readout accordingly.

### *Water Type*

The water's salinity affects how efficiently the sonar can transmit and receive signals. Touch **Setup, Depth/Sonar** and set water type to either **Salt** or **Fresh**. (The default setting is salt.)

### *Scroll Speed*

Adjust the scroll speed of the sonar display: choose **Slow, Medium, Fast** or **Disable** scrolling.

### *How to Use the Sonar Control Panel*

When Maestro Navigator is configured with sonar, an additional control panel, with options for sonar adjustment, appears on the left side of the screen. The sonar control panel can be toggled on and off by pressing the **Sonar** button.



The control panel contains separate buttons for various settings. Each button is labeled with its present setting. To make adjustments to any of the items listed, touch that button and use the vertical slider control to adjust the setting. For coarse adjustments, touch a point on the slider, or use your finger to drag the lever up or down. Finer adjustments may be made using the up and down arrows. The button may dim momentarily as your changes are applied, then the button label will update to reflect the new setting.

The sonar control panel contains more buttons than can fit on the screen at one time. To view the additional buttons, press the sideways-facing arrow at the bottom of the panel. This will scroll to the second “page” of the panel.

To remove the control panel from the screen, press the **Close** button at the bottom of the panel. You can also just touch the screen anywhere outside the panel. To bring the panel back into view, press the **Sonar** button in the lower left corner of the screen.

### *Sea Clutter*

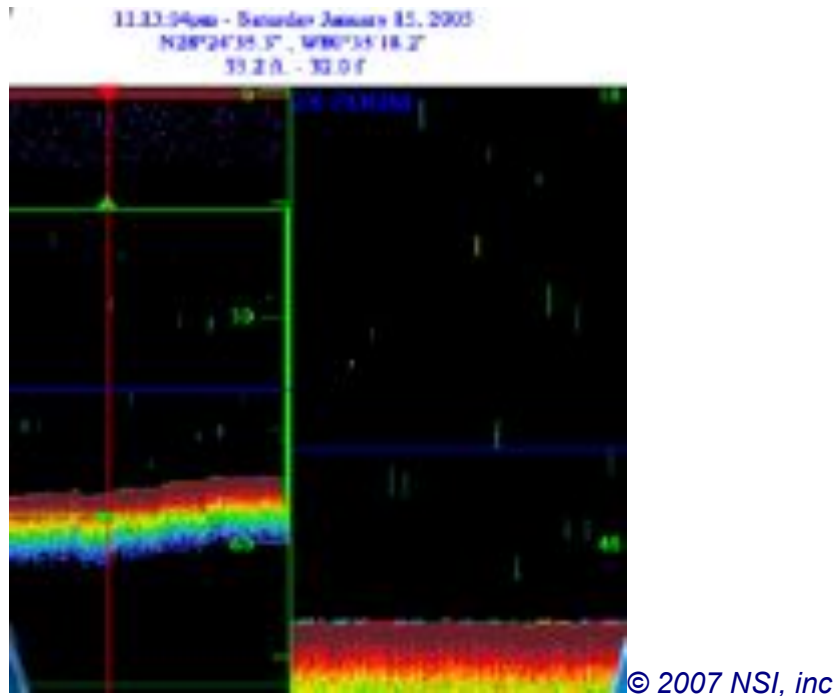
The *sea clutter* control filters surface noise from the sonar screen. This comes in handy in turbulent water, or if there is a lot of noise showing near the surface of the water column. In depths over 200 feet, excessive clutter may appear in the top 20% of the water column, and fish may be falsely identified. To clear this up, turn sea clutter on (touch the **Sonar** button, then touch the **Sea Clutter** button and set it to **ON**).

The light band across the top of the sonar screen represents the first few feet of depth below surface. Under certain conditions, this band will be more pronounced. To minimize distraction from surface noise, turn sea clutter on. This will tell the sonar to filter noise from water movement in the first several feet of depth.

Before and after sea clutter is turned on. Note that the surface band becomes less pronounced.

### *Zoom 2X*

The zoom 2X button lets you split the sonar screen in half. The left half shows the standard view, while the right half shows a zoomed-in view of a portion of the water column.



The right half is zoomed in by a factor of two, which means that half the amount of water column is shown, but the sonar images appear twice the size.

When you first press the Zoom 2X button, the zoom window automatically focuses on the bottom half of the water column. A green “bounding box” in the left side of the window indicates the area being zoomed. You can reposition the box by using the green arrows as handles: just touch either one of the arrows and drag the box up or down. As you move the green box, the right side of the window magnifies the selected area. This lets you zoom in on different parts of the water column.

The 2X Zoom screen on the right shows only the area from 16 to approximately 55 feet.

### *Gain*

Gain controls the sensitivity of the sonar receiver. Higher sensitivity lets you see more sonar detail, while lower sensitivity is helpful in reducing screen clutter for greater display clarity.

The higher the gain, the more sensitive the receiver. Lower the gain to clear any extra noise caused by murky water. If you are in a very clean freshwater lake, you may want to increase the gain to see more detail in the water column.

The factory default setting for gain is auto. The auto setting lets Maestro Navigator automatically adjust the gain based on speed and depth. This works well most of the time, but if you feel that you need to set the gain manually, touch the Gain button and

select a value from -9 to +9. Experiment until you find the best setting for the current water conditions.

Tip: If your sonar is showing more (or larger) fish than actually exist in the water, the gain might be set too high. This would cause the sonar to mistake normal water turbulence for fish or to mistake bait fish for large fish.

### *Depth Line*

The depth line is an optional, horizontal blue line that you may add to the sonar display. To activate the depth line, touch the **Depth Line** button and set it to **ON**.

#### **Why Use the Depth Line?**

The depth line is particularly helpful when trolling. Move the depth line so that it aligns with the targets you're interested in, and you can more easily see what depth to set your baits. It is also helpful when mid-water fishing (for trout, for example), once again serving as a visual aid so you can gauge the best depth for your tackle.

#### **Move the Depth Line**

When activated, the depth line first appears in the center of the screen. You can drag it up or down as you wish, depending on what depth you want it to indicate. (Be sure to drag directly up or down, because dragging horizontally will put the sonar screen into History mode. If this happens, just press the **Sonar** button to return to live mode and try again. Also, if you accidentally touch a fish target instead of the depth line, you'll get a target popup menu - just press **Cancel** to close the menu and try again.)

#### **Depth Line Appears as Rectangular Plane in Contour Window**

On a contour chart, the sonar window's 2D depth line is mirrored by a 3D translucent rectangle stationed underneath the vessel icon. This rectangle indicates the same depth as the depth line on the sonar screen. As you move the depth line up or down on the sonar screen, the rectangle on the contour screen also moves.

#### **Turn Depth Line On and Off**

There are two ways to activate or deactivate the depth line. On the sonar control panel, you can touch the **Depth Line** button and select on or off from the slider control. Or, you can press the **Setup** button on the right of the screen and select **Contour, Depth Line**. When you turn off the depth line, it disappears from both the sonar and contour windows.

### *Sonar Range*

The Auto Range, Upper Range, Lower Range buttons determine the upper and lower depth limits of the area to be displayed in the Sonar screen.

**Upper Range** indicates the shallowest depth to be shown. This user-defined setting remains in the memory as long as Maestro Navigator is running. It is reset to "btm" (bottom) when Maestro Navigator is restarted.

**Lower Range** sets the deepest depth to be shown. This user-defined setting remains in the memory as long as Maestro Navigator is running. It is reset to "srf" (surface) when Maestro Navigator is restarted.

Touch either button and set a specific depth. For example, to view only the area that is between 20 and 60 feet deep, you would set upper range to 20 feet and lower range to 60 feet. The Sonar screen would then only show you that portion of the water column, ignoring everything shallower than 20 feet or deeper than 60.



*If you move to water that is shallower than your Upper and/or Lower Range settings, Maestro Navigator will automatically adjust the Lower Range to 'btm' and the upper range to 'srf' as necessary, in order to avoid showing a blank area on the sonar screen.*

**Auto Range** is used to temporarily override the Upper and Lower range settings. When Auto Range is on, Maestro Navigator automatically shows the entire water column, from surface to bottom. Upper Range is set to **surface**, and Lower Range is set to **bottom**. When you turn Auto Range off, Maestro Navigator automatically reverts to the last Upper and Lower range settings that were manually set.

*If you specify a new Upper or Lower range while Auto Range is on, Maestro Navigator automatically turns Auto Range off and uses the new settings instead.*

### ***Ping Rate***

The Ping Rate setting controls how often the sonar transmits signals. The Ping Rate setting allows enough time for each signal to travel to the target and back before the next signal is sent.

The Ping Rate is given as a percentage of the maximum possible repetition rate. The higher the Ping Rate, the faster the data will scroll. At lower Ping Rates, the sonar returns may lose some detail, depending on the speed of the vessel.

In very deep water, more time is required to receive returning signals. Maestro Navigator will automatically lower the Ping Rate as necessary in deep water. (If you find it too low, you may want to increase it.)

You may also wish to lower the Ping Rate when drift-fishing, or whenever you only want to see the largest returns, without any other detail.

Note!

When viewing fish targets as arches, the Ping Rate affects the arches' appearance. The faster the Ping Rate, the bolder the arch.

### ***Auto Gain Preset***

Auto gain preset is an advanced adjustment affecting the auto gain setting. The default value is 0.

You may wish to boost or suppress the auto gain scale, depending on water conditions. For example, you might lower the auto gain preset to compensate for very salty, murky, or cold water.

The auto Gain preset gives the gain function a starting point for its automatic setting. For finer tuning, change the gain from auto to a specific number.

### ***Target Detail***

When target detail is activated, Maestro Navigator shows the fish targets and bottom surface in a bolder, wider range of color. It also increases the number of fish being identified.

**Tip:** If your Sonar is showing more fish than actually exist in the water, consider turning Target detail off. Also, the gain or auto gain preset might be set too high. This would cause the sonar to mistake normal water turbulence for fish.

### ***STC***

The STC setting attenuates the sonar gain as needed in shallow water. The gain is gradually decreased in shallow water, then increased again as the depth increases. In this way, the STC setting helps the sonar maintain clear tracking of the bottom.

The default STC setting is “auto.” This ensures adequate bottom tracking in nearly all conditions. In case of interference (for example, a large wake or a thermal layer), you can override the auto setting. Start with a low number and gradually increase until you have a clear view of the bottom. It is recommended that you restore this setting to “auto” once the temporary interference has subsided.

### ***Factory Defaults***

Maestro Navigator is shipped from the factory with a selection of default (original) settings. These factory default settings are designed to configure the sonar for optimal performance. If you want to return ALL of Maestro Navigator’s sonar controls to their original default settings, open the sonar control panel and press the **Factory Defaults** button.

The original, factory default settings are:

- Sea clutter: OFF
- Zoom 2X: OFF
- Gain: Auto
- Depth line: OFF
- Auto range: ON
- Upper range: Surface
- Lower range: Bottom
- Ping rate: 90
- Auto gain preset: 0
- Target detail: OFF
- STC: Auto
- Targets: Arches



## Cameras

Maestro Navigator can display video from security cameras. Up to four networked cameras can be individually or simultaneously displayed.

For access to camera view(s), touch the **Cameras** button.



The screen can split to show video signals from up to four cameras.

To select a particular camera view to fill the entire screen, tap that camera view.

Press the **All Cameras** button to return to the split-screen all-camera view. You can use your fingertip to drag any camera image and adjust the camera view (the camera lens will move after you lift your finger).

Two buttons, **Hide** and **Exit**, appear on the bottom of the screen.

Press Hide to return to the NavPanel. When you return to the video view, the screen will still show whatever camera you had been viewing.

Press Exit to end video transmission.

### **Note!**

*When you first enter video view, the hide and exit buttons will linger for about five seconds, then disappear from view. Just tap the screen and they will reappear.*



# ***Troubleshooting***

## ***Technical Support***

If you have any questions about Navigator, there are several ways you can find answers:

### ***Check the Help System***

This manual provides detailed descriptions of all program features. When you're using Navigator's chart plotter, just touch the **Help** button in the Navigator menu then select the **Help** option to open the Navigator's on-line Help guide. Click on the plus sign icons to expand the Table of Contents so you can quickly find what you're looking for.

### **Contact Faria**

If you still have questions, Faria's technical support staff will be happy to help. Registered users may contact our staff by telephone, fax, or e-mail, Monday through Friday, 9AM to 5PM Eastern Time. Telephone support is also available on weekends during daytime hours.

**Phone:** 877-405-1010

**Fax:** 860-848-2704

**E-mail:** [maestro@faria-instruments.com](mailto:maestro@faria-instruments.com)

**Website:** [www.fariamaestro.com](http://www.fariamaestro.com)

When contacting Faria, be ready to provide the following information:

- Navigator Product ID (found in your Owner's Kit)
- Vessel type
- Exact wording of any error messages
- the exact steps that led up to the error message

Please have all ChartKit DVD(s) and your Navigator Installer DVD available. Also, if your navigation system owner's kit includes a detachable keyboard and/or DVD drive, be sure that they will be available if needed by your support technician. If possible, please call from your vessel.

## **Troubleshooting: General**

### ***1. Computer does not turn on***

When the navigation computer does not turn on when the power button is pushed, first check that power is available from the vessel's DC power source.

For Type II units, make sure the power switch/breaker on the side of the power supply is pushed in. If it isn't, push the switch (found on the end of the power supply, which is located under the dash).

If the computer still does not power on, contact Faria for technical assistance.

### ***2. Computer Restarts itself***

When the navigation computer restarts itself whenever the vessel engine starts up it may mean that your vessel batteries need recharging. Each battery should function smoothly as long as its voltage is between eight and 28 volts. This symptom typically indicates that the battery's voltage has dipped below the required threshold.



### ***3. Computer does not shut down properly***

Every time I turn on the navigation computer I get an error message saying “computer was not shut down properly.” To avoid seeing this message, always shut down the computer by using the commands in the NavPanel or in the Navigator Chart Plotter Navigation Menu.

To shut down the computer from within the Navigator chart plotter:

Press **Exit, Shut Down Computer**.

To shut down the computer from the NavPanel: Press the **Shut Off** button.

#### ***Notes!***

*Always shut down your computer using one of these methods - do NOT turn off the computer by pressing the Power switch on the dashboard or turning off the navigation computer's circuit breaker on your vessel's electrical panel. Doing so can result in system errors.*

If absolutely necessary, you may shut down the navigation computer by pressing the Power button on the monitor and holding it for approximately five seconds until the navigation computer shuts down. This method, however, should not be used excessively.

### ***4. Computer clock resets itself***

The Navigation computer's clock resets itself each time the computer is turned on.

This indicates that the computer's battery needs replacement.

Contact Faria technical support to verify the problem and get instructions on removing the hardware and shipping it for replacement.

## **Troubleshooting: GPS**

### ***5. Navigator is not receiving a GPS signal.***

First, make sure that the GPS antenna wire is plugged into the back of the Maestro Computer NMEA adaptor Cable, Port 4 (White).

Also, check the GPS antenna and cable on top of the cabin for damage.

If the antenna wire is plugged in, and you find no damage, contact Faria from your vessel and a product support specialist will work with you to determine the problem.

Maestro Navigator is equipped with diagnostic software tools that may be used to verify GPS data output. Faria's technical staff can provide specific instructions for testing the GPS data feed.

#### ***Note!***

In order for the WxWorx Weather to be able to show the vessel, the Chart Plotter needs to be running. The Chart Plotter gets the GPS data and makes it available to the WxWorx application.

## **Troubleshooting: Radar**

### ***6. Error: Cannot detect radar unit***

Check to make sure that the radar switch in your dashboard or breaker is turned on. If it is, then recycle the radar by turning it off and back on again. If the problem persists, the radar has either lost power or has lost its connection to the Navigator. Contact Faria for further assistance.

### ***7. Error: Radar now restarting***

This usually means that when you attempted to start radar communication, operations already underway prevented Navigator from connecting. The error is also displayed whenever there is any type of communications error between the Navigator and the radar system.

The radar menu temporarily disappears, then automatically reappears in a few seconds.

Press the **Transmit** button to try connecting again.

This procedure may be attempted up to three times, after which you may receive the message “Error: Radar has stopped responding.” If this happens, close and then restart Navigator. You may also need to restart the radar system. This should solve the connection difficulty.

If the problem persists, or if it happens often, contact Faria for further assistance.

### ***8. It appears your radar hardware may need to be serviced***

This message indicates a fatal error in the radar firmware. The radar equipment will need to be serviced. To arrange for service, you may either contact your Maestro Navigator dealer, or contact Faria Technical Support.

#### ***Note!*** about Modifying Radar Setup Options

The last button in the radar menu leads to the radar setup submenu. While the main radar menu lets you control general items like gain, clutter and range, the options under radar setup let you make changes to the operation and calibration of the radar scanner itself. Do not make any setup changes unless you have a thorough understanding of the item(s) being adjusted and their impact on radar operation. If you do make any changes you wish to undo, you can always revert to the original factory settings by pressing the button labeled **Factory Default**.

#### ***Note!***

***This resets ALL settings.***

## **Troubleshooting: Depth**

### ***9. Depth data is not available.***

Verify that the transducer is present in the hull.

Clean the sensor surface if necessary (refer to transducer manufacturer’s instructions for proper cleaning technique).

The transducer must not only gather information, but also must transmit this information to the navigation computer. If the sensor is present and clean, the problem may be that the information is being gathered, but not transmitted.

Maestro Navigator is equipped with special software tools for verifying data output from depth sensors. Contact Faria from your vessel and a product support specialist will work with you to determine the problem and find a solution.

### ***10. Depth Warning: “Off”***

I set one of the Data Windows to depth warning, but the window just says “Off.” How can I activate this feature?

In order to use the Depth Warning Data Window option, you must first set a Depth Alarm. This tells Maestro Navigator the depth of which you want to be warned.

Touch **Setup, Depth, Depth Alarm** to specify a depth.

You can now use your Data Windows for any depth-related feature, including the Depth Warning and Look Ahead options.

## **Troubleshooting: Touch Screen**

### ***11. Cursor in wrong location.***

The cursor does not appear in the same location where the screen was touched.

The cursor should position itself directly at the point where you touch the screen.

If it consistently appears in the wrong location (for example, always slightly to the left of where you touch, or always slightly below), you can re-calibrate the touch screen.

From the Maestro Navigator NavPanel, press the **Touch Screen** button, choose **Calibrate**, and follow the instructions.

### ***12. The Touch Screen does not respond to touch***

Check to see if you can move the cursor by using the remote mouse on the dashboard.

If not, turn the computer off by pressing and holding the power button until the Navigator shuts down, then turn the power button on again to restart and clear the system.

### ***13. Adjusting screen brightness***

Is there any way to adjust the tint or brightness of the screen? Yes. To adjust the screen brightness, use the buttons on the monitor. The screen brightens (+) or darkens (-) a shade each time you press. Press multiple times if necessary to reach the desired brightness.

You can also adjust the screen colors for better visibility as lighting conditions change.

Touch **Setup, Chart Colors**, and choose from the following options:

- **Day:** The default setting (original factory setting).
- **Night:** Uses a darker color palette to portray chart details and controls. This darker color scheme helps preserve your night vision by keeping the display just bright enough for nighttime use. (During daylight the Night scheme may look almost completely black, but try it at night and you'll see the difference.)
- **High Contrast:** Helps details stand out in bright sunlight.

## **Troubleshooting: CD/DVD Drive**

The Drive included in your Maestro Navigator Owner's Kit is used only when installing charts from a Faria CD or DVD, or when applying a software update from a Faria-supplied CD.

The DVD drive must be powered from an external source. The Maestro Navigator computer is not configured to power a DVD drive. The DVD drive has a toggle switch to run off of the USB cable for power or a power cord connected to the DVD drive.

#### ***14. Drive door does not open***

The door on the CD/DVD drive does not operate unless the drive is receiving power. Ensure that there is power at the outlet where the CD/DVD drive is plugged in.

#### ***15. CD/DVD Drive is not responding***

I keep getting an error message saying “CD/DVD Drive not connected.”

When the CD/DVD drive is connected, it can take a minute or two for Navigator to detect the drive and reset the system ports. Give the system a moment while the drive stops spinning and resets itself. During this time, you cannot use the cursor. When the cursor is re-enabled, the drive is ready for use.

### **Troubleshooting: Vessel and Routes**

#### ***16. Vessel icon not visible***

I can't locate the vessel icon.

1. To bring the vessel icon into view, touch **View, Vessel**. The chart that contains your vessel location is opens and the vessel icon is displayed in the center of the screen.

If this does not work, it may be that the Navigator is not receiving a position signal from your GPS.

1. Check the GPS status in the lower left corner of the Navigator screen should say “GPS: On.” If it says “Off,” check your GPS antenna and cable on top of the cabin for damage.
2. Ensure that the antenna has a clear view of the sky, so that it can receive adequate signals from enough satellites to fix your position on the chart.

If you are still unable to get a good vessel position fix, contact Faria FROM YOUR VESSEL for technical assistance. Maestro Navigator is equipped with special diagnostic software tools for verifying GPS signal output. A member of Faria's technical staff can guide you in using these diagnostic tools to verify your GPS connection.

#### ***17. The vessel keeps leaving the screen***

You can configure Navigator so that it “follows” your vessel icon when it moves. To do this, use the Linking feature. This option “links” the screen view to your vessel icon location, so that when your vessel is moving, it is always visible on the screen.

To start Linking, touch the **Link: Off** button at the bottom of the screen and a pop up menu with the following options is displayed. A checkmark indicates the currently selected option.

- **Link Vessel Centered:** The vessel icon remains in the center of the screen and the chart scrolls by in the direction of travel. Once selected, the Link button is labeled “Link: Centered”
- **Link Vessel Look Ahead:** The stern of the vessel icon is locked at the at the screen's edge, and the chart scrolls by in the direction of travel. This lets you

see as much chart area as possible for your upcoming course. Once selected, the Link button is labeled "Link: Ahead"

- **Don't Link Vessel:** Linking is not presently turned on and the vessel icon might not always be visible. Once selected, the Link button is labeled "Link: Off"

Linking essentially "locks" the screen view to your vessel location, but you can still drag or scroll away from your vessel icon for short periods of time. Once you stop scrolling, you have 12 seconds before Navigator automatically refreshes the screen to display the vessel location as described above. You can see the 12 seconds as they are counted down on the Link button.

### *18. Cannot find route on chart*

I created a route earlier but now I don't see it on the chart. I thought all Routes were automatically saved.

Routes (except direct routes to instant Waypoints) are saved for future reference. However, a route is only visible on the chart if you are following that route.

To follow a route, touch **Go To, Stored Route**, and select it from the list.

A course is automatically set for the Route that you chose, and the Route is displayed on the chart image. To open the chart containing your route, touch **View, Waypoint/Mark**, and select the Route's starting Waypoint, shown in green.

## **Troubleshooting: Charts**

### *19. No detailed charts available*

I can't seem to find any high-resolution, detailed charts.

You may not have installed Faria coverage for the area in question. Each Faria nautical chart CD or DVD provides multiple scales of coverage in a given area. Often, the small-scale charts not only cover the specific area you purchased, but extend into areas for which you have not purchased detailed charts.

Press the **Scale** button at the lower right of the screen for a list of all chart scales available at your location. If the list is empty, no other scales are available.

If you have purchased additional coverage, see the Install Charts section under Chart Setup in this guide for instructions on installing charts onto your navigation computer.

For information on obtaining additional Faria charts, please call 877-405-1010 or visit [www.fariamaestro.com](http://www.fariamaestro.com).

### *20. View menu options missing*

I want to view a Contour (or photo) chart but the View menu doesn't let me select the option I want.

If you press the **View** button and the "Contour Chart" or "Navigation Photo" option is darkened, this means your system does not have access to that type of chart coverage for the area you're viewing. Either you do not own such Contour Chart or Navigation Photo coverage, or it has not been properly installed for use.

Contour Charts are available for sale in Faria's Contour Professional package.

Navigation Photo coverage, along with Nautical Charts, are obtained from selected chart packages.

For details on what is available in your area, contact Faria at 877-405-1010 or visit [www.fariamaestro.com](http://www.fariamaestro.com).

## ***21. No Navigation Photo available***

I followed the instruction for copying charts from my Navigation Photo CD, but the "Navigation Photo" option is still darkened on the Mode menu.

Navigation photos only cover the shoreline in coastal areas. You may be too far offshore, or too far inland, for your location to be covered by a navigation photo.

## ***22. Zooming and scaling***

When I press the + and - buttons in the Navigator menu, the program sometimes switches to a different chart and other times zooms on the chart that's already open. Why is this?

The plus and minus buttons (at the bottom of the Navigator Menu) let you go in for a closer view, or move back to see a larger area. When you press the plus (+) button, the display zooms in closer by a factor of approximately 50% (for a view that is roughly twice as close).

Press the minus (-) button to move farther out from the chart, also by a factor of approximately 50%. This shows more area on the screen. In each case, the point at the center of your screen remains the same.

In adjusting your view, the Navigator either zooms in and out on the current chart, or switches 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.

To adjust your view area with a little more precision, use the scale control, found at the lower right corner of the display. The scale button tells you the scale of the chart you're viewing.

Press the **Scale** button to choose from a list of all other charts available for the area shown on the screen.

## ***23. Chart text not level***

Some charts appear to be rotated - the text isn't straight on the screen.

Your Chart Orientation may be set to **North Up**. This setting keeps the display showing North on the chart positioned at the top of the screen. However, the paper originals of some charts, especially river charts, may not be printed according to the same north up orientation. The image is presented at a different orientation in order to fit it efficiently on the sheet of paper. Therefore, any text on the chart will appear skewed when the chart is rotated to north up.

The **Course Up** setting keeps the display of your vessel icon as always pointing towards the top of the screen, while the chart rotates as necessary.

You may wish to use **Chart Up** orientation when viewing this type of chart. To change your Chart Orientation setting, touch the **Link** button and choose either **North Up**, **Chart Up**, or **Course Up**.

Refer to the View Charts section of this manual for more information about Chart Orientation and other options under the Link button



#### ***24. North Up orientation.***

On some charts, the top of the screen isn't necessarily north. Can I change this so that north is always towards the top?

Absolutely. Touch the **Link** button, then choose **North Up**, and every chart you open is rotated so that its northern portion is shown at the top of the screen.

For more about chart-screen orientation and other options under the link button, refer to the View Charts section of this manual.

#### ***25. The contour chart moves too slowly when I try to adjust my viewpoint.***

To improve performance, zoom in so that less chart area is displayed.

You might also try using the green mesh contour display option: touch **Setup, Contour Colors** and choose **Green Mesh** from the list of display options. Displaying just the "wire frame" contour pattern, instead of opaque contours, may allow quicker repositioning of the contour chart image.

Another option is to zoom in to make angle adjustments, then zoom back out for a wider view.

#### ***26. The contour chart movement is "jumpy" when I try to adjust my viewpoint.***

Try dragging the cursor more slowly, giving the system a little more time to adequately portray each change in angle.

### **Troubleshooting: XM WX Satellite Weather**

#### ***Note!***

In order for the WxWorx Weather to be able to show the vessel, the Chart Plotter needs to be running. The Chart Plotter gets the GPS data and makes it available to the WxWorx application.

#### ***27. I have waited an hour and the account has still not been activated.***

The amount of time it takes to activate your WxWorx on Water account depends on how many XM activations are in queue. It can be as short as 15 minutes or as long as 1 hour. If an hour has passed and WxWorx is not activated, please call (800) 985 9200. Before you call, confirm that the ID in the main XmLink window is the one you gave the XM Listener Care representative in your original call. This ID should match the one on the receiver and on the packing box.

#### ***28. Some data products are displaying, but not others. Some buttons are red and do not turn blue/green.***

The receiver may have poor satellite signal strength.

Open the XmLink and check the Radio status area.

Touch **Tools, Counters** to check how many errors there have been in your reception. If there are any errors in the counters window, check your antenna connection and location. Make sure you have a clear view of the southern sky.

If your reception seems ok, the receiver may not be fully activated.

Open the XM Link and select **Tools, Activation Mode**. Let the window stay open until the Service Level window indicates the package that you requested from XM Listener

Care. If it does not appear, or the Service Level stays as “None Defined,” contact XM Listener Care at (800) 985 9200 and request a refresh.

When the refresh is being sent, leave the receiver in activation mode until the Service Level matches your request, then touch the Done button. The receiver should then begin to display all the data products that are part of the package.

### ***29. The antenna signal on the XM Link says >999 on Sat1, Sat 2 and Ground.***

Touch the XmLink button to open the XmLink window. If the message “No Antenna Detected” under “Signal Quality” is present, check the connections between antenna and the XM Receiver. Make sure the antenna is in a location with an open view of the southern sky.

The XM antenna may be located too close to another antenna. If they are next to each other, move them further apart until the XM signal lock becomes solid.

If the problem persists, or if you still see “No Antenna Detected” under “Signal Quality,” contact Faria Customer Support at 877-405-1010.

### ***30. The WxWorx software not displaying radio serial number/ giving error.***

Check both ends of the USB cable to make sure they are securely connected.

### ***31. “GPS error com X” message appears when the application is started.***

The WxWorx software is a special version designed to run on the Maestro Navigator platform. In order to receive the GPS data from Navigator, the WxWorx software must be set to get the GPS data from the WxWorx simulator and the chart plotter must be running.

To verify the WxWorx software setup, do the following:

Press the large Navigator button on the NavPanel.

Once the chart plotter has loaded, choose **Mode, Weather**.

After the XM Wx Satellite Weather software starts, select **Setup, GPS**.

Verify that the “Active” check box is checked under the “GPS Sim” group and that the “Port” is set to 0 and the “Rate” is 4800 under the “GPS Com Port Settings” group.

If the settings are correct, or you have adjusted the setting to the correct values, press **OK**. After the GPS Settings window closes, exit out of the XM WX Satellite Weather software.

Open the XM WX Satellite Weather software and verify you are receiving the GPS data.

If the GPS box is green, the software is receiving the GPS data.

If it is still red, contact Faria Customer Support at 877-405-1010.

### ***32. The WxWorx Weather has stopped updating while the correct service and responder level are being displayed.***

With the WxWorx software running, disconnect the power to the radio.

Shut the WxWorx software down. (This may take up to 30 seconds).

Reconnect the power to the radio.

Power the radio back on.

Start the WxWorx weather software back up.

***33. Will WxWorx come up in activation mode when I bring the system back up after not being used for a month or so?***

If the receiver has been inactive for several months then you may need to get a refresh from XM Listener Care at 1-800-985-9200.

***34. How long does it take for the WxWorx to become activated?***

This depends on how many XM activations are happening when you call. It can be as short as 15 minutes or as long as 1 hour. If it takes longer than an hour then please call back. Before you call confirm that the ID in the main XmLink window is the one you are requesting activation for. This ID should match the one on the box. If it will take longer than 1 hour then the XM Listener Care representative should make you aware of this when you call.

***35. Do I need to have WxWorx open to view weather data?***

Yes, the WxWorx must be open, the receiver must be connected, the antenna must have a view of the Southern sky and the receiver must be activated through XM Listener Care.

***36. Do I need to have the Navigator Chart Plotter running to receive GPS data in WxWorx?***

Yes. The WxWorx software is a special version designed to run on the Maestro Navigator platform. In order to receive the GPS data from Navigator, the WxWorx software must be set to get the GPS data from the WxWorx simulator and the Navigator chart plotter must be running.

***37. “Xm2Nr Error” appears when I try to start the XM WX Satellite Weather software or “Stop installation” was chosen when installing hardware.***

Press **OK**. Touch **Cancel** when prompted with the “Error” window.

Touch **No** in the XmLink window as if you want to “Setup communications.”

Contact Faria Customer Support at 877-405-1010. They will walk you through the driver reinstallation for the device.

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Without limiting the generality of the foregoing, you agree that, except as expressly authorized herein, you shall not transfer, publish, disclose, display or otherwise make available to any third party any portion of the Product.

As used herein, the term "Confidential Information" shall not be deemed to include any information which (i) is or becomes publicly known through no wrongful act of you or any Related Party, (ii) is rightfully received by you or any Related Party without similar restrictions and without breach of this or any similar agreement, (iii) is furnished to a third party by Faria without a similar restriction and the rights of the third party, (iv) is approved for release by a written authorization of Faria, (v) is disclosed pursuant to an order of any court of competent jurisdiction, provided that you give Faria prompt notice of such order and comply with any protective order or similar order which may be imposed in connection with such disclosure, or (vi) is developed independently by you or any Related Party without access to any Confidential Information.

Faria's licensors shall be third party beneficiaries to the terms of this Section and shall have the right to enforce directly against you and related parties the terms of this Section.

**Remedies.**

You agree that damages alone would not adequately compensate Faria if you use the Product in violation of the terms of this Agreement, and that in any such event injunctive relief shall be essential for the protection of the legitimate interests of Faria. Accordingly, you agree that if you or any Related Party shall use the Product in violation of the terms hereof, then Faria shall be

entitled to obtain injunctive relief against you or any Related Party, without bond but upon due notice, in addition to such other relief as may appertain at law or in equity.

To the extent that any restriction contained in this Agreement may be deemed unenforceable by virtue of its scope in terms of geographical area, length of time or otherwise, but may be made enforceable by the imposition of limitations thereon, then you agree that such restrictions may be modified and enforced to the fullest extent permissible under the laws and public policies of the jurisdiction in which such enforcement is sought. You hereby authorize any court of competent jurisdiction to modify or reduce the scope of any such restriction to the extent necessary to make such restriction enforceable.

#### **Indemnification.**

You agree to indemnify, defend and hold Faria and its licensors harmless from and against any and all loss, cost, damage, liability and expense (including without limitation reasonable attorneys' fees, court costs, and other reasonable litigation and arbitration expenses) which Faria or its licensors may suffer, sustain or incur as a result of, arising out of, or relating to your breach of any of your representations, warranties or agreements contained herein.

#### **Arbitration.**

If any dispute or controversy shall arise between Faria and you with respect to the Product, this Agreement, or any rights or obligations hereunder, and if such dispute or controversy shall not have been resolved within ten (10) business days next following the date upon which such dispute or controversy shall have arisen, then except as otherwise provided in this Paragraph, such dispute or controversy shall be submitted to the **[Hartford, Connecticut or Boston, Massachusetts]** office of the American Arbitration Association for arbitration by one arbitrator in accordance with the American Arbitration Association's commercial arbitration rules as then in effect. The arbitrator shall be experienced in technology licensing and intellectual property law. The arbitrator shall be authorized to award any relief which he or she may deem proper in the circumstances, without regard to the relief that would otherwise be available in a court of law or equity, including without limitation an award of money damages, equitable relief, attorneys fees, and other arbitration and litigation costs and expenses.

Any such award, and the findings of such arbitrator, shall be conclusive and binding upon the parties hereto, and judgment upon such award may be entered in any court of competent jurisdiction, which is described below. Notwithstanding the foregoing, Faria shall have the right to file an action in a state or federal court described below, without submitting such dispute or controversy to arbitration, if in good faith Faria seeks a remedy in nature of a temporary restraining order or a temporary or permanent injunction.

#### **Severability.**

The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision hereof, and except as otherwise expressly provided herein any such provision which is adjudicated to be invalid or unenforceable by a court of competent jurisdiction shall be severed from this Agreement.

#### **Assignment.**

Your rights and obligations hereunder are personal to you and you may not voluntarily or involuntarily alienate, transfer, delegate or assign them. **[For purposes hereof, your rights and obligations hereunder shall be deemed to be alienated, transferred, delegated or assigned if you shall be merged or consolidated with or into any other entity, or if you shall be**

**controlled by any person or entity other than the persons and entities which control you as of the date hereof.]** The rights and obligations of Faria hereunder shall inure to the benefit of and be binding upon Faria's successors and assigns.

**Waiver.**

Failure to insist upon strict compliance with any of the terms or conditions hereof shall not be deemed a waiver or relinquishment of such term or condition, nor shall any waiver or relinquishment of any right or remedy hereunder at any one or more times be deemed a waiver or relinquishment of such right or remedy at any other time or times.

**Entire Agreement.**

This Agreement contains the entire agreement between Faria and you with respect to the subject matter hereof, and all prior negotiations, understandings and agreements are merged herein. This Agreement may not be amended or rescinded except pursuant to a written instrument signed by the party against whom enforcement is sought.

This Agreement and the rights and obligations of the parties hereto shall be governed by and construed in accordance with the laws of the State of Connecticut without regard to its conflicts of laws provisions. Except as otherwise provided above, any litigation regarding the interpretation, breach or enforcement of this Agreement or of any arbitration award issued pursuant to the terms above shall be filed in a state court of appropriate jurisdiction located in Hartford, Connecticut or in a federal court of appropriate jurisdiction in the U.S. District Court for the District of Connecticut, and each of the parties hereto hereby submits itself to the exclusive jurisdiction of such courts for such purposes.

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