HDS-5, HDS-7, HDS-5m & HDS-7m
Operation Manual
Lowrance® and Navico® are registered trademarks of Navico.

Fishing Hot Spots® is a registered trademark of Fishing Hot Spots Inc.

Navionics® is a registered trademark of Navionics, Inc.

NMEA 2000® is a registered trademark of the National Marine Electronics Association.

Points of Interest Data in this unit are by infoUSA, copyright© 2001-2010, All Rights Reserved. infoUSA is a trademark of infoUSA, Inc.

Additional mapping data: copyright© 2010 by Transas Ltd.; Copyright© 2010 by Maptech Inc.

Navico may find it necessary to change or end our policies, regulations and special offers at any time. We reserve the right to do so without notice. All features and specifications subject to change without notice.

Software updates for your unit

Occasionally check the Lowrance website for free software upgrades for your unit. Go to www.lowrance.com for the software upgrades. Select the Downloads option from the grey menu bar near the top of the Lowrance website homepage. The Downloads screen will appear. Select Products Software Updates from the list on the left side of the screen. The Products Software Updates screen will appear. Scroll through the Product list and select your unit to download the software update.

IMPORTANT NOTE ABOUT RESTRICTED OPERATION OUTSIDE OF THE AMERICAS

Units designed for sale in the Americas will have limited Language and Units functionality outside of a zone defined as 30 degrees West longitude on the East and the International Date Line on the West. Language options will be restricted to English (US) only and Units will be restricted to non-metric measures.

Units sold with Enhanced US Basemap, Nautic Insight, Lake Insight or Insight USA units are impacted and will not have this functionality outside of the defined region. Units sold with WorldWide Basemap will function without these restrictions.
## Table of contents

### Introduction

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

### Getting Started

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

- Turning on the Unit: 6
- Setup wizard: 6
- Keypad: 6
- Backlight: 6
- Cursor: 6
- Language: 7
- Menus: 7
- Selecting Chart Data: 8
- Selecting a Fishing Mode: 8
- Entering Letters in Text Boxes: 9
- Restore Defaults: 9

### Pages

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
</tr>
</tbody>
</table>

- Pages Screen: 10
- Data Overlay: 11
- Configuration menu: 14
- Sonar Page (Sonar units only): 15
- Chart Page: 15
- Radar Page (optional): 16
- Info Page: 16
- Utilities: 21
- Displaying Combo Pages: 23

### Sonar Operation (HDS-5 & 7 only)

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
</tr>
</tbody>
</table>

- Viewing Sonar History: 26
- Sonar Menu: 27
- Sonar Options: 30
Alarms........................................................................................................... 100
Units............................................................................................................. 101
Network....................................................................................................... 102
Vessels (only available if connected to AIS receiver)................................. 108
Simulator...................................................................................................... 110

Specifications: HDS-5/5m & HDS-7/7m.................................................113

Unit Care ......................................................................................................114

Troubleshooting..........................................................................................115

Index............................................................................................................. 123
Introduction

About this manual
Thank you for purchasing from Lowrance, the industry leader in marine technology. This manual documents how to adjust features and options in your display unit. The information in each section follows the same sequence as your display unit’s menus. If you would like information on how to get the most out of your unit, visit our web site, www.lowrance.com; click on the Support tab and select Tips and Tutorials.

HDS-5/7 and HDS-5m/7m
The Sonar Operation section and all other sonar references, only apply to the HDS-5 and HDS-7 sonar/GPS combo units. Sonar references do not apply to the HDS-5m and HDS-7m GPS only units.

Manual Conventions
When you are instructed to press a button in this manual, the button will be shown in all caps and bold text like — MENU, EXIT, ENTER, etc. If you are instructed to select an item from a menu, the item to be selected will be listed in bold like — Brightness, Key beeps, etc.
For example: Press MENU, select Language and press ENTER.

WARNING: When a GPS unit is used in a vehicle, the vehicle operator is solely responsible for operating the vehicle in a safe manner. Vehicle operators must maintain full surveillance of all pertinent driving, boating or flying conditions at all times. An accident or collision resulting in damage to property, personal injury or death could occur if the operator of a GPS-equipped vehicle fails to pay full attention to travel conditions and vehicle operation while the vehicle is in motion.

Lowrance Customer Service
US (800) 324-1356
Canada (800) 661-3983 or (905) 629-1614
Lowrance HDS-5/7 & HDS 5m/7m

**ZOUT:** Zoom out to see more of the map with less detail

**ZIN:** Zoom in to see less of the map with more detail

**MOB:** Pressing ZOUT and ZIN at the same time will set a man overboard waypoint

**KEYPAD:** move the cursor, scroll through menus, adjust features, view sonar/GPS history

**EXIT:** cancels entries, closes menus & windows; toggles between cursor position and chart location on Chart page

**MENU:** opens context & settings menus

**ENTER:** confirms menu selections; shortcut key for functions like saving a waypoint at cursor position

**PAGES:** opens Pages menu; hold down the Pages key to switch active panels when viewing combo pages

**LIGHT/POWER:** controls backlight level & turns the unit on/off

**WPT/FIND:** saves a waypoint at current position; accesses searching tools

**MMC/SD Card slot:** insert MMC/SD and high-detail mapping cards here
Getting Started

Turning on the Unit
Press the POWER/LIGHT key to turn on the unit. To turn off the unit, press the POWER/LIGHT key, select Power Off and press ENTER.

Setup wizard
The Setup wizard will appear when unit is turned on for the first time. To choose your own settings, do not run the setup wizard. To restart the Setup wizard, restore defaults.

Keypad
This unit’s keypad can be used in two ways. Pressing the arrow symbols on the keypad will move the cursor in the corresponding direction on the screen and allow you to scroll through menus.

Backlight
Tap the LIGHT/POWER key to make adjustments to the backlight level and open the Backlight Menu. To turn on Night Mode from the menu, highlight Night Mode and press ENTER. Night mode optimizes the display for low light conditions.

Cursor
Use the unit’s keypad to move the cursor around the display, select onscreen objects, highlight data items and view sonar history. Press EXIT to remove the cursor from the screen.
Language
Selects language used for menus, text boxes and messages.

To select a language:
1. Press MENU twice.
2. Select System and press ENTER
3. Highlight Language and press ENTER.
4. Use the keypad to select a language and press ENTER.

Menus
This unit has a Settings menu, a Pages screen and several context menus. The Settings menu provides access to the settings menus for the three main operation modes: Sonar, Chart and Radar. The Settings menu is accessed by pressing MENU twice.

The Pages screen allows you to select a page to be shown on the display. Utilities are also accessed from the Pages screen. Press the PAGES key to select a page.

Each page has its own context menu which allows you to access functions for that page. Context menus are accessible only when its corresponding page is displayed. The Sonar Menu, for example, will only be available when the Sonar Page is on the display. To access a context menu, select the desired page and press the MENU key.

Closing Menus
Press the EXIT key to close a menu. Repeatedly pressing EXIT will close all menus, taking you back to the main screen.
Selecting Chart Data
This unit supports Lowrance and Navionics map data. Chart data is selected from the Chart Settings menu.

To select Chart data:
1. Press **MENU** twice.
2. Highlight **Chart** and press **ENTER**.
3. Select **Chart Data** and press **ENTER**.
4. Select the desired map data option and press **ENTER**.

Selecting a Fishing Mode
Fishing modes enhance the performance of your unit by providing preset packages of sonar settings geared to specific fishing conditions.

To select a fishing mode:
1. Press **MENU** twice.
2. Select **Sonar** and press **ENTER**.
3. Highlight **Fishing Mode** and press **ENTER**.
4. Select the desired fishing mode and press **ENTER**.

<table>
<thead>
<tr>
<th>Fishing Mode</th>
<th>Depth</th>
<th>Settings</th>
<th>Palette</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Use</td>
<td>≤1,000 ft</td>
<td>50% Ping speed</td>
<td>Bottom brown/ blue background</td>
</tr>
<tr>
<td>Shallow Water</td>
<td>≤ 60 ft</td>
<td>75% Ping speed</td>
<td>bottom brown/white background</td>
</tr>
<tr>
<td>Fresh Water</td>
<td>≤ 400 ft</td>
<td>50% Ping speed</td>
<td>bottom brown/white background</td>
</tr>
<tr>
<td>Deep Water</td>
<td>≥ 1,000 ft</td>
<td>50% Ping speed</td>
<td>Deep Blue</td>
</tr>
<tr>
<td>Slow Trolling</td>
<td>≤ 400 ft</td>
<td>50% Ping speed</td>
<td>Bottom brown/white background</td>
</tr>
<tr>
<td>Fast Trolling</td>
<td>≤ 400 ft</td>
<td>Lower chart speed</td>
<td>Bottom brown/white background</td>
</tr>
<tr>
<td>Clear Water</td>
<td>≤ 400 ft</td>
<td>50% Ping speed</td>
<td>Bottom brown/white background</td>
</tr>
<tr>
<td>Ice Fishing</td>
<td>≤ 400 ft</td>
<td>Settings optimized to reduce interference from other sonar units</td>
<td></td>
</tr>
</tbody>
</table>
Entering Letters in Text Boxes
This unit has some features and functions that may require you to enter data in a text box.

To enter data in a text box:
1. Highlight the text box and press ENTER. A keyboard will appear on the screen.
2. Use the keypad to highlight the first character and press ENTER. Repeat this step until all characters have been entered.
3. Highlight OK and press ENTER.

Restore Defaults
The Restore Defaults command switches the unit back to the settings it had when you purchased it (default).

To Restore Defaults:
1. Press MENU twice.
2. Select System and press ENTER.
3. Highlight Restore Defaults and press ENTER.
4. Select each item you want to restore or delete and press ENTER.
5. Select OK and press ENTER.
Pages Screen
Consists of page icons that scroll horizontally around the Pages menu. To view the pages screen, press the PAGES key.

Selecting Pages
Pressing the keypad left or right will move the page icons around the menu. To select a page, move the desired page icon to the center of the screen.

When selected, the page name will be highlighted in blue at the top of a list of combo display options. Its icon, will be framed by a blue border below the list. To display the page, press ENTER.

NOTE: Hold down the PAGES key to switch active panels when viewing combo pages.
**Data Overlay**

Data overlay is information you can display on top of the page screen, allowing you to customize each page with desired data.

**Data Overlay menu**

Every page option has its own Data Overlay menu. The menu allows you to edit, add or remove overlay data from the display. To access Data Overlay menu, select a page option and press **MENU**.

**Edit Overlay menu**

Accesses data overlay options for all the unit’s page screens.

**To access Edit Overlay menu:**

1. Select *Edit data overlay* from the Data overlay menu and press **ENTER**.
2. Press **MENU**. The Edit overlay menu will appear.

**Edit Mode**

When a gauge is added to the display it will be shown in edit mode. Analog and bar gauges are shaded in blue when they are in Edit Mode. Digital Gauges will be shown with a blue border.

*Analog gauge in edit mode*  
*Digital gauge in edit mode*
**Move or Placing a Gauge**

The Move gauge command allows you to move data overlay to any position on the screen. When you use the Place gauge command, the gauge will be locked in its current position.

**To move/place a gauge:**

1. Press the **ENTER** key when the gauge is in edit mode. Four directional arrows will appear.
2. Use the keypad to move the gauge into the desired location.
3. Press **ENTER** to place the gauge.

**Select Data**

Used to select data that will be shown on the data overlay display. When selecting data you first will open a main data category and then choose data to be displayed from the a data subcategory.

**Type**

Switches data overlay display between analog, digital and bar gauge formats, provided the format is appropriate for the selected data type.

**To change the gauge type:**

1. With the gauge in edit mode, press **MENU**.
2. Select **Configure** and press **ENTER**.
3. Select **Type** and press **ENTER**.
Size

Selects the size of the data overlay display. Data overlay can be displayed in four sizes.

With the gauge in edit mode (shaded in blue) press the ZOOM OUT key to increase overlay size; press the ZOOM IN key to decrease overlay size.

Limits

Controls the number scale used on data overlay gauges and selects warning thresholds.

Changing the limits on an analog or bar gauge removes unnecessary numbers from the gauge, making them easier to read. Warnings help you stay within selected warning thresholds.

Limits are configured by inputting analog or bar gauge limits in the Limits text boxes — minimum and maximum. Warnings thresholds are entered in the Low and High text boxes.
Configuration menu

Allows you to Add/Remove sources and adjust Bezel, Caption and Invert Text Settings. Other configuration menu options are covered previously in the section.

To access the Configuration menu, highlight Configuration on the Edit Overlay menu and press ENTER.

<table>
<thead>
<tr>
<th>Configuration Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bezel</strong></td>
</tr>
<tr>
<td><strong>Caption</strong></td>
</tr>
<tr>
<td><strong>Invert Text</strong></td>
</tr>
</tbody>
</table>

Add Source

Displays the same type of data from different sources on the same analog gauge.

If, for example, you have multiple engines, you could select port engine RPM as your data type and then display starboard engine RPM using the Add source command.

Both data sources could be displayed simultaneously on an analog gauge with two needles; one dedicated to each source.

To **add a source:**

1. Select *Add source* from the Edit Overlay menu and press ENTER.
2. Highlight a category and press ENTER. A list of subcategories will appear.
3. Select the desired subcategory and press ENTER.

To **remove add source data:**

1. Highlight *Remove source* on the Edit overlay menu and press ENTER.
2. Select the source you want to remove and press ENTER.
**Sonar Page (Sonar units only)**

Displays the water column moving from right to left on your unit’s screen. On the right side of the screen, the Amplitude Scope bar previews echoes about to appear on the display.

The sonar page supports multiple splitscreen views and 14 color palette settings. Sonar display options are covered in more detail in the Sonar Operation section.

**On the Sonar Page you can:**

- Move the cursor to any location on the screen to get a depth reading
- Show fish echoes as fish symbols with fish depths
- Adjust Range to view only desired portion of the water column

To access the Sonar Page, use the keypad to highlight **Sonar** on the Pages menu and press **ENTER**.

---

**Chart Page**

Consists of a Map that moves in real time as you move. By default, the map is shown from a birds-eye view with North at the top of the screen.

This page has three map orientation options (North Up, Track Up & Course Up) and two ways to view the map: 2D and Shaded Relief (only available on select models). The cursor is used to scroll the map, select objects and find the distance between objects. The Chart page is covered in more detail in the Chart Operation section.

**On the Chart Page you can:**

- Save Waypoints
- Find points of interest (POI)
- Navigate routes; navigate to cursor and waypoints

To access the Chart page, use the keypad to highlight **Chart** on the Pages menu and press **ENTER** to access the Chart Page.
Radar Page (optional)
Displays the PPI (Position Plan Indicator) screen, Range Rings and the cursor.

The PPI can be shifted to show more of a desired portion of the screen (Look Ahead, Center & Offset) and the color palette can be changed to show returns in white, yellow, black or green. The radar page is covered in more detail in the Radar Operation section.

On the Radar Page you can:

- Overlay compass data, range rings and EBL/VRMs on display
- Choose screen orientation from Head Up, Course Up & North Up
- Make radar targets more visible via Target Expansion

Use the keypad to highlight Radar on the page screen and press ENTER to access the Radar Page.

NOTE: You will only be able to see the Radar page if your unit is connected to a radar.

Info Page
Consists of multiple gauges — Analog, Digital and Bar — that can be customized to display selected data. Customizing the info page allows you to monitor several types of desired data at the same time.

On the Info Page you can:

- Select data to be displayed in analog gauge or digital formats
- Change the page layout using one of three templates
- Select the range (scale) of analog gauges

To access the Info Page, use the keypad to select Info on the pages screen and press ENTER.
**Info menu**

Controls Info page data, page layout and data display format selection. To access the Data menu, press **MENU** while on the Info page.

**Dashboards**

Layout templates that are customized with selected data and saved for on-the-water viewing. You can customize a different layout template for each dashboard or add custom data to the same layout template and save it as a different dashboard each time.

![Dashboard Templates](image.png)

**Vessel layout**  
**Navigation Layout**  
**Angler Layout**

**NOTE:** You can toggle through the dashboard templates on the screen by pressing the keypad left/right.

**Edit**

Used to select information displayed on the Info page. To switch the screen to Edit Mode, select **Edit** from the Info menu and press **ENTER**. The active gauge will be shaded in blue (analog) or surrounded by a blue border (digital and bar).
To edit gauge display:

1. Use the keypad to select the gauge you want to edit and press ENTER. The Select Info menu will appear.

2. Use the keypad to select a data category and press ENTER. A list of subcategories will appear.

3. Select the desired subcategory and press ENTER.

4. Press MENU. The Edit Info menu will appear.

5. Select Save and press ENTER.

---

Edit Info menu

Changes Info Page gauge data, allowing you to display desired data on analog, digital and bar gauges. It also controls gauge limits.

To access the Edit Info menu, switch the screen to Edit mode and press MENU.

---

To select info:


2. Use the keypad to select the desired category and press ENTER. A list of subcategories will appear.

3. Select the desired subcategory and press ENTER.
To add source:

1. Select *Add Source* from the Edit Info menu and press **ENTER**.
2. Use the keypad to select the desired category and press **ENTER**. A list of subcategories will appear.
3. Select the desired subcategory and press **ENTER**.

To remove a source:

2. Select the source you want to remove and press **ENTER**.

To Configure Limits:

2. Select the desired text box and press **ENTER**.
3. Use the keypad to enter the desired limit or warning threshold.
4. Select **OK** and press **ENTER**.

NOTE: The Limits portion of the Configure Limits menu will only be shown when configuring analog gauge limits.
**Change Layout**

Controls the gauge layout of dashboard templates and customized dashboards. That allows you to select a desired gauge layout template for all dashboards.

**To change layout:**

1. Highlight the desired dashboard and press ENTER.
2. Select *Change Layout* from the Info menu and press ENTER.
3. Use the keypad to choose a gauge layout template and press ENTER.

**Add Dashboard**

Allows you to customize and save multiple dashboard templates. Desired data can be added to the gauges on each dashboard, allowing you to create custom dashboards for a variety of fishing conditions. You can even use the same gauge layout template for each dashboard.

When you have created all desired dashboards, press the keypad left/right to toggle through your dashboards.

**To add a dashboard:**

2. Select the desired gauge layout and press ENTER. Refer to the previous Edit segment to customize the dashboard.
To remove dashboards:

1. Select the number of the dashboard you want to delete from the numerical dashboard list.
2. Highlight *Remove Dashboard* and press ENTER. A confirmation message will appear.
3. Select *Delete* and press ENTER.

**Settings**

Opens the Settings menu. Settings information is covered in detail in the Settings menu section.

**Utilities**

Allows you to set alarms, view sonar logs and access other system settings.

To access Utilities:

1. Use the keypad to center the utilities icon on the screen.
2. Scroll down the list of utilities until the desired option is highlighted.
3. Press ENTER.

<table>
<thead>
<tr>
<th>Utilities</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waypoints, Routes/Trails</td>
<td>Access Waypoint, Route and Trails screen; covered in the Chart Operation Section</td>
</tr>
<tr>
<td>Find</td>
<td>Search for POIs, Vessels, Coordinates, Trails, Waypoints and Routes; covered in Chart Operation Section</td>
</tr>
<tr>
<td>Alarms</td>
<td>Access alarm history, status and change settings</td>
</tr>
<tr>
<td>Vessels</td>
<td>View status and messages from vessels in the area</td>
</tr>
<tr>
<td>Sun/Moon</td>
<td>Displays time when sun and moon will rise/set</td>
</tr>
<tr>
<td>Trip Calculator</td>
<td>Keeps running tally/total of engine hours</td>
</tr>
<tr>
<td>Files</td>
<td>Access, copy and delete data files and sonar logs</td>
</tr>
</tbody>
</table>
Data files/Sonar logs

To copy data files/sonar logs:

1. Highlight *Files* from the Utilities menu and press ENTER.
2. Select the desired File category and press the keypad to the right. A list of subcategories will appear.
3. Select a subcategory and press the keypad to the right. Highlight the desired data file/sonar log.
5. Select a place to copy the file, like an MMC card. Press ENTER.

To delete data files/sonar logs:

1. Highlight *Files* from the Utilities menu and press ENTER.
2. Select the desired File category and press ENTER. A list of subcategories will appear.
3. Select a subcategory and press ENTER. Highlight the desired data file/sonar log.
4. Press Menu, select *Delete* and press ENTER. A confirmation message will appear.
5. Select *Yes* and press ENTER.
Displaying Combo Pages

You can display multiple pages at the same time by scrolling the desired page’s icon to the center of the screen and then choosing a secondary page from the list of combo page display options.

To display a combo page:

1. Use the keypad to select the first page for the combo display. This is the primary page, which will be displayed in the left panel.

2. Select another page from the primary page’s combo display list. This is the secondary page. It will be displayed in the right panel.

3. Press ENTER. The selected combo page will be displayed.

Selecting an Active Panel

When combo pages are displayed only one panel can be active at a time. The panel outlined with an orange border is the active panel. You will only be able to access the context menu of the active panel. Pressing the MENU key will open the active panel’s context menu.

To switch the active setting to the other panel, hold down the PAGES key for 1 second.
Displaying Multiple Panels (Sonar units only)

Multiple panels can be displayed by setting up a combo display using a page that supports the Split feature. By displaying multiple panels, you can view more information on the screen at one time.

1. Select a Split view for the sonar page. (Accessing the Split feature is covered in detail in the Sonar section.)

2. Press the PAGES key and use the keypad to center the Sonar icon on the screen.

3. Use the keypad to select Info Page from the combo page display list. Press ENTER. The combo page will be displayed with the Sonar split view on the left; the Info page on the right.

Adjust Panel Sizes

Controls the size of panels when combo pages or multi-panels displays are in use. Adjusting the size of the panels, allows you to emphasize the panel you want to see more clearly.

Panels can only be adjusted left/right, so the panels on the side with the split view can not be adjusted vertically.
To adjust panel sizes:

1. With the combo page or multi-panel display on the screen, press the PAGES key.
2. Press MENU. Highlight Adjust Panel Sizes from the Data Overlay menu and press ENTER.
3. Press the keypad left/right to adjust the panels to a desired size and press ENTER.
Sonar Operation (HDS-5 & 7 only)

To access the Sonar Page:
1. Press the PAGES key.
2. Use the keypad to select Sonar and press ENTER.

Viewing Sonar History
You can review your recent sonar history by moving the cursor to the left until the screen starts to move in reverse.

To resume normal operation, move the cursor all the way to the right of the screen or press EXIT.
Sonar Menu
Accesses features ranging from Auto Sensitivity and Depth Range to Frequency and Stop Sonar.
From the Sonar Page, press MENU to access the Sonar Menu.

Sensitivity
Controls the level of detail shown on the display. Increasing Sensitivity will show more detail on the screen; decreasing Sensitivity displays less. Too much detail will clutter the screen. Conversely, desired echoes may not be displayed if Sensitivity is set too low.

NOTE: By default, Sensitivity is set to auto mode. You may have to turn off Auto Sensitivity to set sensitivity to a desired level. Auto Sensitivity is covered in more detail later in this section.

Auto Sensitivity
Keeps sensitivity at a level that works well under most conditions, reducing the need for adjustments. You can make minor changes to sensitivity with Auto Sensitivity turned on, but you will have to turn it off to make significant adjustments.

Auto Sensitivity can be turned on/off by selecting Auto Sensitivity from the Sonar menu and pressing ENTER.
**Colorline**

Distinguishes strong sonar echoes from weak sonar echoes. That makes it easier for you to distinguish fish or structure from the bottom.

A hard return will be shown as a wide, bright yellow line, whereas a soft return will be a narrow reddish-blue line.

**Range**

Used to select the section of the water column — from surface to bottom — shown on the display. When there is a portion of the water column you want to focus on, select a range from the Depth Range menu that includes the desired area.

The values on the Range menu determine the depth shown on the display. If you selected 20m from the range menu the unit will display 0-20m of the water column, regardless of the water depth. There are 21 depth ranges, including automatic and custom settings. The automatic setting will set the range from the water surface to water depth.

**Frequency**

This unit supports three transducer frequencies; two of which are supported by your transducer. 200 kHz has the highest sensitivity and best target discrimination in shallower water; 83 kHz offers a wider cone angle for greater water coverage and 50 kHz provides the best depth penetration. You can view both available frequencies at the same time by setting up a sonar split screen.

**Split**

Adjusts the configuration of sonar page display using one of four options: No Split, Zoom, Bottom Lock and Flasher.
Sonar

- **No Split** — displays full sonar screen
- **Zoom** — splits display with a zoomed-in panel on the left (press ZOOM key to increase zoom) and a normal sonar view on the right
- **Bottom Lock** — splits the display with a 2X zoom on the left; a normal sonar view on the right. Keeps the bottom on the screen at all times.
- **Flasher** — splits the display with a flasher-style sonar on the left; a normal sonar view on the right

**Stop Sonar**

Pauses the sonar chart, allowing you to get a closer look at sonar echoes.

**Adjust**

Sensitivity and Colorline can also be adjusted from the Sonar menu by using the Adjust command.

**To Adjust Sensitivity and Colorline:**

1. Highlight *Adjust* on the Sonar menu and press ENTER. Press the keypad up/down to select the Sensitivity or Colorline scrollbar.
2. Press the keypad left/right to make adjustments.
3. Press EXIT.
Custom — Upper and Lower Limits

Controls not only the depth range (lower limit), but also lets you choose the upper limit. So, instead of selecting a range that includes the water surface, you can choose upper and lower limits anywhere along the water column.

To set Upper and Lower Limits:

1. Select Range and press ENTER.
2. Highlight Custom and press ENTER. The Upper and Lower Limit window will appear.
3. Select the Upper or Lower Limit dialog box. Press ENTER. The numerical keypad will appear.
4. Use the keypad to enter the desired value in the corresponding upper or lower limit dialog box. Press ENTER.
5. Repeat Steps 3 and 4 to input the desired limit in the other dialog box.

Ping Speed

Ping Speed controls the rate the transducer uses to send sonar waves into the water. A higher ping speed will yield the best results when you are moving across the water at a high rate of speed or fishing from a dock. The reverberation of too much ping speed can cause interference on the screen.

When using two units on your boat, lowering the ping speed of one of the units will prevent interference (cross-talk) caused by one transducer detecting pings from the other transducer. The default setting is suitable for most conditions. Highlight Ping Speed on the Sonar menu and press the keypad left/right to make adjustments.

Sonar Options

Adjusts display settings and the configuration of the display. The Sonar Options menu allows you to split the screen between two sonar views, change the color of the display, use Fish ID and add graphical elements to screen that will enhance your sonar experience.

To access the Sonar Options menu, select Sonar Options from the sonar menu and press ENTER.
To select a Split option:

1. From the Sonar Options menu, highlight Split and press ENTER. The Split menu will appear.
2. Use the keypad to select the desired option and press ENTER.

Palette

Sonar display color templates with varying degrees of color and brightness. On the Palette menu, you can select a sonar display template suited for your fishing conditions from 14 palette options.

To select a Palette:

1. From the Sonar Options menu, highlight Palette and press ENTER.
2. Use the keypad to select the desired palette and press ENTER.
**Temperature Graph**

Uses a red line graph with digital display at the top of the screen to illustrate changes in Temperature. The Temperature graph makes it easier to recognize temperature trends.

To turn the Temperature Graph on/off, highlight *Temperature Graph* on the Sonar Options menu and press **ENTER**.

**Depth Line**

Displays a dark line over the bottom surface, making it easier to distinguish the bottom from fish, trees and other objects.

To turn on/off the Depth Line, select *Depth Line* and press **ENTER**.

**Amplitude Scope**

Allows you to see the amplitude of real-time echoes as they appear on the display. The Amplitude Scope displays live returns even when you are viewing your sonar history. To turn off the Scope, highlight *Amplitude* scope on the Sonar Options menu and press **ENTER**.

**Zoom Bars**

When your unit is in Split Zoom mode, zoom bars show which echoes will be displayed on the screen when the display is zoomed in to a particular zoom range. Only echoes shown between the top and bottom of a zoom bar will be displayed at that selected zoom range.

To turn on/off Zoom Bars, highlight *Zoom Bars* on the Sonar Options menu and press **ENTER**.

NOTE: When the screen is zoomed, you can use the Zoom Pan feature to scroll up and down the water column. That allows you to see portions of the water column not visible at the selected zoom range. When turned on, Zoom Bars will appear when the Zoom in key is pressed.
**Fish ID**
Displays fish echoes as fish symbols instead of fish arches with or without depth. This makes it easier to recognize fish on the sonar display.

**Symbols** — places a fish symbol where a fish is detected.

**Depths** — places depths above each fish detected; helps gauge the distance from each fish symbol to the boat.

**Both** — turns on both Symbols and Depths.

**To select a Fish ID option:**
1. Highlight *Fish ID* and press **ENTER**.
2. Select *Symbols, Depths* or *Both* and press **ENTER**.

**Fish ID Beeps** — sounds a tone when the system detects a fish.

**Measure Distance**
Used to measure the distance from one location to another on the sonar display.

**To Measure distance:**
1. Move the cursor to the starting location.
2. Select *Measure distance* on the Sonar menu and press **ENTER**.
3. Move the cursor to the second location. The Measure distance line will appear with the distance between the two locations shown in the cursor dialog box.
4. To measure another position, press **ENTER** and move the cursor to the desired location.

**Log Sonar Data**
Used to save sonar chart data to your unit’s internal memory or to an MMC/SD card.

To access the Sounder Logging menu, select *Log Sonar Data* from the Sonar menu and press **ENTER**.
**Log Sonar Menu**

<table>
<thead>
<tr>
<th><strong>Filename</strong></th>
<th>Input the desired name for the sonar log file</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Save to</strong></td>
<td>Selects location where sonar log will be saved/stored</td>
</tr>
<tr>
<td><strong>Bytes</strong></td>
<td>Controls number of bytes per sounding. More bytes yields better resolution/shorter logging time; conversely, fewer bytes produces longer sonar logs/lower resolution</td>
</tr>
<tr>
<td><strong>Log All Channels</strong></td>
<td>Saves returns from all active sonar frequencies and from both StructureScan modes – Downscan &amp; Sidescan – in a single sonar log (StructureScan sold separately)</td>
</tr>
<tr>
<td><strong>Time Remaining</strong></td>
<td>Recording time left until memory storage runs out</td>
</tr>
</tbody>
</table>

To input filename:

1. Highlight the Filename text box and press **ENTER**. A keyboard will appear on the screen.
2. Use the keypad to input the desired filename.
3. Select **OK** and press **ENTER**.

![Filename keyboard](image)

To select Save to or Bytes per Sounding:

1. Highlight **Save to** or **Bytes per Sounding** from the Sounder Logging menu and press **ENTER**.
2. Use the keypad to select the desired option and press **ENTER**.
**Start Logging**

A sonar log is a recording of sonar activity displayed on the sonar page.

To record a sonar log, highlight the *Start Logging* button and press **ENTER**.

When a sonar log is being recorded, a blinking red circle will be displayed in the upper left-hand corner of the screen and a logging message will appear periodically at the bottom of the screen.

**To stop logging:**

1. Select *Stop* from the Sounder Logging menu and press **ENTER**. The Stop Logging menu will appear.
2. Highlight the *Stop Logging* button and press **ENTER**.

**Source**

Allows you to select the sonar source for your unit. You can select your unit as the source, or choose another unit on your ethernet network, allowing you to share sonar returns from one unit with other units on the network.

**To share/receive sonar data:**

1. Press **MENU** twice, select *Sonar* and press **ENTER**. Make sure the units sharing sonar have network sonar turned on.
2. Press **EXIT** twice.
3. Access the Sonar page, on the unit that will be sharing its sonar (master).
4. Press **MENU**, select *Source* and press **ENTER**.
5. Select *This unit* and press **ENTER**.
6. Press **EXIT**.

**NOTE:** To stop receiving shared sonar, turn off network sonar on the desired units.
To access the Chart page:
1. Press the PAGES key.
2. Use the keypad to select the Chart icon and press ENTER.

The previous image shows items you will see on the chart page:

- **Point of Interest (POI):** A position represented by a symbol or character.
- **Cursor:** Used to view specific areas on the Chart page, select POIs, create waypoints and measure distances. When the cursor is on-screen, pressing the EXIT key will toggle between the cursor's location on the Chart page and your actual position.
- **Chart orientation indicator:** Indicates the current direction the Chart page is facing.
- **Cursor coordinates:** Displays the coordinates of the cursor.
- **Waypoint:** An electronic address based on the latitude and longitude of a selected location.
- **Map Scale:** Represents the relationship between the distance on the Chart page and the real distance on the earth's surface.
- **Current position icon:** Represents your current position.
Find Current Position

Power on the unit and display the Chart page. The current position icon represents your current position on screen. The icon always points to your heading. If the current position icon displays a question mark then the unit has not achieved a satellite lock and is not tracking your current position. When sufficient satellites are received to determine a position, the icon's movement will correspond with your movement.

Chart menu

Use the Chart menu to adjust settings and enter commands. From this menu you have access to routes, waypoints, info, chart options and screen settings.

To open the Chart menu, go to the Chart page and press the MENU key. The following features are listed in the order they appear on the Chart menu, top to bottom:

- **New Waypoint**: Creates a new waypoint.
- **New Route**: Creates a new route.
- **Go to Cursor**: Navigates to the cursor position on the Chart page.
- **Find**: Opens the Find menu. From the Find menu you can search for items by select categories.
- **Info**: Shows a list of items close to the cursor.
- **Measure**: Used to measure the distance between current position and another point on the Chart page or between two different points.
- **Overlay**: Toggles weather and radar overlay on or off (Radar and Weather module sold separately)
- **Chart options**: Opens the Chart options submenu which contains the Map Orientation, Look Ahead, Chart categories and Imagery features.

Chart Options menu

Controls chart features and options including Map Orientation, Chart Detail, Look Ahead, Chart categories and Imagery.
<table>
<thead>
<tr>
<th>Chart Options</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>Controls the way the Chart page moves in relation to your movement. (North Up, Heading Up and Course Up)</td>
</tr>
<tr>
<td>Chart detail</td>
<td>Controls level of map detail (Full, Medium, Low)</td>
</tr>
<tr>
<td>Look ahead</td>
<td>Shows more of the map area in front of you</td>
</tr>
<tr>
<td>Categories</td>
<td>Opens chart categories display settings list</td>
</tr>
<tr>
<td>Imagery</td>
<td>Toggles 2D and Shaded Relief map display settings (only available on select US models)</td>
</tr>
</tbody>
</table>

Go To Cursor

The Go To Cursor command is a quick and easy way to navigate to anything you see on the Chart page.

To go to cursor:

1. Move the cursor over the desired location.
2. Press MENU, select Goto and press ENTER.

Selecting POIs on Chart page with Cursor

To select a Chart page POI:

1. From the Chart page use the Arrow keypad to center the cursor over a POI. A pop-up box will appear describing the POI. The POI's coordinates are displayed in the lower left hand corner of the Chart page.

Waypoints

A waypoint is the latitude and longitude of a specific position on the earth's surface. You can quickly create a waypoint at your current position or you can create a waypoint at the cursor's position on the Chart page. You also can create a waypoint at any location by manually entering the position's latitude and longitude.
Waypoints are important because they can be saved in the unit and later used to find your way back to a specific location, such as a favorite fishing spot or an important geographical feature. To quickly save a waypoint at the vessel's current position press the WPT/FIND key.

Create Waypoint from Chart page

To create a Waypoint at the cursor's position:

1. Place the cursor on the Chart page where you want to set the waypoint and press ENTER twice. The New Waypoint menu will appear.
2. Select Save from the New Waypoint menu.

To create a Waypoint at the Vessel’s position:

1. Press the MENU key. From the Chart menu select New Waypoint.
2. When the New Waypoint at Vessel menu appears, select Save.

NOTE: You can also create a waypoint at the vessel's position by pressing the WPT key.

To Navigate to a Waypoint from the Waypoints screen:

1. From the Pages screen select Waypoints, routes, trails, press ENTER. When the Waypoints screen appears select the waypoint you want to navigate to from the waypoints list and press MENU. The Waypoints screen menu will appear. From the Waypoints screen menu select Go to.
Waypoints screen

To view stored waypoints go to the Waypoints screen in the Utilities page. From the Waypoints screen you can view and edit stored waypoints.

Waypoints screen menu

To open the Waypoints screen menu, press the MENU key from the Waypoints screen.

<table>
<thead>
<tr>
<th>Waypoints Screen menu</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit</td>
<td>Opens the Edit Waypoint menu</td>
</tr>
<tr>
<td>New</td>
<td>Opens the New Waypoint menu</td>
</tr>
<tr>
<td>Show</td>
<td>Shows selected waypoint on the chart</td>
</tr>
<tr>
<td>Go to</td>
<td>Navigates to selected waypoint</td>
</tr>
<tr>
<td>Delete</td>
<td>Deletes the selected waypoint</td>
</tr>
<tr>
<td>Sort</td>
<td>Controls how waypoints are sorted on the waypoints screen</td>
</tr>
<tr>
<td>Delete All</td>
<td>Deletes all waypoints</td>
</tr>
<tr>
<td>Find</td>
<td>Use to search for waypoints from the waypoints screen</td>
</tr>
</tbody>
</table>

Waypoint name
Waypoint icon
Distance and Bearing
Waypoint latitude and longitude
Time and date the waypoint was created
Waypoint icon
Waypoint name
Distance and Bearing
Waypoint latitude and longitude
Time and date the waypoint was created
**Waypoints screen, Search for Waypoint by name**

If the waypoint list contains too many waypoints to search through manually, you can search for a specific waypoint by name.

**To Search for Waypoint by Name:**

1. From the Waypoints screen press the **MENU** key. The Waypoints screen menu will appear.
2. From the Waypoints screen menu select **Find**. A keypad will appear. Use the keypad to enter the name of the waypoint you are searching for and press **OK**.

**Waypoints screen, Sort Waypoints**

You can choose how waypoints are sorted in the Waypoints list by selecting **Sort** from the Waypoints screen list menu.

Waypoints can be sorted by **Name**, **Nearest** or **Icon**. By default the unit stores waypoints by name.

**Waypoint Information screen**

When a waypoint is saved to the Chart page, you can view detailed information about that saved waypoint.

**To view waypoint information:**

1. Place the cursor over the waypoint and press the **MENU** key.
2. Select **Info** and press **ENTER**.
Editing a Waypoint on the Chart page

To Edit a Waypoint from the Chart page:

1. Place the cursor over the waypoint and press the ENTER key. The Edit Waypoint menu will appear.

Edit Waypoint menu

The Edit Waypoint menu is used to edit waypoint settings and coordinates. Use this menu to change the name, icon, color and description of a waypoint.

Select More from the Edit Waypoint menu and the following edit options will appear:

<table>
<thead>
<tr>
<th>Edit waypoint — More options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td><strong>Position</strong></td>
</tr>
<tr>
<td><strong>Icon</strong></td>
</tr>
<tr>
<td><strong>Color</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Display</strong></td>
</tr>
<tr>
<td><strong>Depth</strong></td>
</tr>
<tr>
<td><strong>Alarm Radius</strong></td>
</tr>
<tr>
<td><strong>Delete</strong></td>
</tr>
<tr>
<td><strong>Save</strong></td>
</tr>
<tr>
<td><strong>Cancel</strong></td>
</tr>
</tbody>
</table>
Edit Waypoint name, description, position or depth

To Edit Waypoint name or description:

1. From the Edit Waypoint menu, select the Name or Description text box and press ENTER. The Waypoint keypad will appear.
2. Use the keypad to enter the desired waypoint name and select **OK**.

To Edit Waypoint position:

1. From the Edit Waypoint menu select the latitude/longitude and press **ENTER**.
2. Use the Arrow keypad to input the desired latitude or longitude and select **OK**.

To Edit Waypoint depth or alarm radius:

1. From the Edit Waypoint (More) menu select the Depth or Alarm radius text box and press **ENTER**. A numerical keypad will appear.
2. Input the desired depth or alarm radius and press **ENTER**.

Edit Waypoint icon and color

You can change the default waypoint icon and color from the Edit Waypoint menu.

Use the Edit Icon menu and Edit Icon Color menu to change the appearance of icons on the Chart page.
**Routes**
Routes make it easier to plan trips to desired destinations and backtrack to a previous location. A route is a series of waypoints linked together to mark a course of travel. A route must have at least two waypoints. The route segment between two waypoints is called a leg. A route gives you the ability to navigate to several waypoints in an ordered sequence without having to manually select the next waypoint in the series.

**Create Route from Chart page**
To create a new route open the Chart menu and select *New Route*. You can use the cursor on the Chart page to create a route.

*To Create a New Route from the Chart page:*

1. Press the **MENU** key and select *New Route* from the Chart menu, press **ENTER**.

2. Move the cursor to the start of the route and press **ENTER** to set the first waypoint. Move the cursor to the next location and press **ENTER** to set a second waypoint.

3. Repeat Step 2 until you have set all the desired waypoints along the route.

4. Press the **MENU** key to open the Edit route menu. Select **Save** and press **ENTER**. The route will be saved to the Routes screen.
5. From the Routes screen highlight the route and select **Start**. The Start Route message box will appear, select **Forward**.

**Routes screen**

To view stored routes go to the Routes screen in the Utilities page. From the Routes screen you can view and edit stored routes.
From the Routes screen menu you can create a new route, edit a route or start a route.

To open the Routes screen menu, from the Routes screen, press the MENU key.

<table>
<thead>
<tr>
<th>Routes Screen menu</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Edit</strong></td>
</tr>
<tr>
<td><strong>New</strong></td>
</tr>
<tr>
<td><strong>Show</strong></td>
</tr>
<tr>
<td><strong>Start</strong></td>
</tr>
<tr>
<td><strong>Delete</strong></td>
</tr>
<tr>
<td><strong>Delete All</strong></td>
</tr>
<tr>
<td><strong>Find</strong></td>
</tr>
</tbody>
</table>

**To Edit Route:**

1. From the Routes screen select the route to be edited and press ENTER. The Edit Route screen will appear.

2. From the Edit Route screen you can edit the route name, display and waypoints in the route.

3. Use the Arrow keypad to select which route feature you want to edit and press ENTER.

**To Display / Hide Route:**

1. From the Routes screen select the route from the routes list, press ENTER. The Edit Route screen will appear.

2. Highlight the Display check box and press ENTER to either Display or hide the route from the Chart page.
To Insert, Edit or Remove Waypoints from a Route:

1. From the Routes screen select a route from the route list, press ENTER.

2. The Edit Route screen will appear. Select a waypoint from the Waypoint list, press MENU. A small submenu will appear with the options: Insert, Edit and Remove.

3. Select Insert and press ENTER to insert a waypoint into the route. To remove a waypoint select Remove. Selecting Edit will bring up the Edit Waypoint dialog.

To Navigate Route from Routes screen:

1. Select the route you want to navigate and press MENU. The Routes screen menu will appear.

2. Select Start from the Routes screen menu. The Start Route dialog will appear. Select Forward to navigate the route forward or Reverse to navigate the route in reverse.

To Search for Route by Name:

1. From the Routes screen press MENU. The Routes screen menu will appear.

2. From the Routes screen menu select Find. A keypad will appear. Use the keypad to enter the name of the route you are searching for and press OK.
**Trails**

A trail is a record of the path you have traveled. Trails not only show you where you have been, they can be used to retrace your path back to your starting point. On the Chart page a trail is presented by a solid line extending from the back of the current position icon.

From the factory, the unit is automatically set to create and record a trail when the unit is turned on and you are navigating. The unit will continue to record a trail until the trail length reaches the maximum trail point setting.

When the unit reaches the maximum trail point number it will automatically begin recording the trail over itself. By default, the unit places a dot (trail point) on the Chart page every time you change course.

---

**Trails screen**

To view stored trails go to the Trails screen in the Utilities page. From the Trails screen you can view and edit stored trails.

**Trails screen menu**

From the Trails screen menu you can create a new trail, edit a trail or delete a trail. To open the Trails screen menu, press the **MENU** key from the Trails screen.
<table>
<thead>
<tr>
<th>Trails screen menu</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Edit</strong></td>
<td>Opens the Edit Trail menu</td>
</tr>
<tr>
<td><strong>New</strong></td>
<td>Opens the New Trail menu</td>
</tr>
<tr>
<td><strong>Show</strong></td>
<td>Displays the trail on the chart</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>Turns on/off trail display on Chart</td>
</tr>
<tr>
<td><strong>Record</strong></td>
<td>Select or deselect to actively record a trail</td>
</tr>
<tr>
<td><strong>Delete</strong></td>
<td>Deletes a selected trail</td>
</tr>
<tr>
<td><strong>Delete All</strong></td>
<td>Select to delete all trails</td>
</tr>
<tr>
<td><strong>Find</strong></td>
<td>Use to search for trails in the Trails screen</td>
</tr>
</tbody>
</table>

**New Trail menu**

You can edit a trail from the New Trail menu or from the Edit Trail menu once a trail is created.

**To Create a New Trail:**

1. From the Pages screen, select *Utilities* and press **ENTER**. The Waypoints and Routes screen will appear.

2. From the Waypoints and Routes screen select *Trails*. The Trails screen will appear.


**Edit Trail menu**

The Edit Trail menu is used to edit trail settings and coordinates. Use this menu to change the trail name, trail color and description of a trail.

**To edit a Trail name:**

1. From the Trails screen select the desired trail and press **ENTER**. The Edit Trail menu will appear.

2. Select the trail name box and press **ENTER**.

3. Enter the trail name and select *OK*. 

![New Trail Menu](image1.png)

![Edit Trail Menu](image2.png)
Trail line Color options

You can change the default trail line color from the Edit Trail More menu by selecting the Trail line color palette option.

NOTE: If you record several overlapping trails, changing the color of the different trail lines is a good way to keep them separate when viewing them on the Chart page.

Measuring Distances on Chart page

Use the Measure feature to measure distances between your location and another position on the Chart page, or between two different positions.

To select/deselect Measure feature:

1. Move the cursor to the starting location.
2. Select Measure on the Chart menu and press ENTER.
3. Move the cursor to the second location. The Measure Distance line will appear with the distance between the two locations shown in the cursor dialog box.
4. To measure the distance to another position, press ENTER and move the cursor to the desired location. Press Exit to return to normal operation.
Search by Coordinates
To search for Chart page POI using coordinates:

1. From the Chart page press the **MENU** key. The Chart menu will appear, select **Find**. The Find menu will appear.

2. From the Find menu select **Coordinate**. The Find Coordinate keypad will appear. Use the keypad to enter the desired coordinates and select **OK**.

Find Chart item
To search for specific Chart page item:

1. From the Chart page press the **MENU** key. The Chart menu will appear, select **Find**. The Find menu will appear.

2. From the Find menu select **Chart Items**. The Find - Chart Items screen will appear. Select **Name**, a keypad will appear. Use the keypad to enter the name of the chart item and select **OK**.

To view a list of specific Chart POI search options select Category from the Find - Chart Items screen. A drop down list will appear. Select the specific category from the drop down list.
Map Orientation
To change Chart page orientation:

1. From the Chart page press the MENU key. The Chart menu will appear, select Chart options. The Chart options submenu will appear.
2. From the Chart options submenu select Map Orientation. The three Map Orientation options are: North Up, Heads Up and Course Up.

<table>
<thead>
<tr>
<th>Map Orientation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Up</td>
<td>Displays the Chart page with North always at the top of the screen</td>
</tr>
<tr>
<td>Heading Up</td>
<td>Displays the Chart page in the direction the boat is facing</td>
</tr>
<tr>
<td>Course Up</td>
<td>Displays the Chart page at the same orientation as your initial bearing to a destination</td>
</tr>
</tbody>
</table>

Look Ahead
Keeps your current position at the bottom of the Chart page to display more map area in front of you.

To select / deselect the Look Ahead feature:

1. From the Chart page press the MENU key. The Chart menu will appear, select Chart options. The Chart options submenu will appear.
2. From the Chart options submenu select or deselect Look Ahead to turn this feature on or off.
Chart categories
Use the Chart Categories screen to control what you want to see on the Chart page.

To select / deselect Chart Categories:

1. From the Chart page press MENU. The Chart menu will appear; select Chart options. The Chart options submenu will appear.

2. From the Chart options submenu select Chart categories. The Chart Categories screen will appear. Select or deselect the chart options you want to display on screen.

2D and Shaded Relief
(Shaded Relief only available on U.S. Insight models)

To select between 2D and Shaded Relief:

1. From the Chart page press the MENU key. The Chart menu will appear. From the Chart menu select Chart options. The Chart options submenu will appear.

2. From the Chart options submenu select Imagery. The Imagery drop down menu will appear with two map options: 2D and Shaded Relief. Make your selection and press ENTER.
Chart page Icons, Tides and Currents

Use the cursor on the Chart page to view detailed information about selected icons, including Tides and Currents.

The image, at left, shows a Current icon selected on the Chart page. To view detailed information about an icon, press the MENU key then select Info from the Chart menu. From the Chart Info screen, press Details.

Detailed information also can be viewed for Tide icons.

Radar Overlay

Places radar returns on top of the map. That gives you greater awareness of your surroundings by allowing you to see radar returns aligned with actual radar targets.

To turn on radar overlay:

1. Highlight Overlay on the Chart menu and press ENTER.
2. Select Radar and press ENTER.

NOTE: You must have a NMEA 2000 or NMEA 0183 heading sensor to enable Radar overlay.
Radar Options

The Radar Options menu appears when Radar Overlay is turned on. It allows you to customize the radar overlay settings from the Chart Page.

To access the Radar Options menu, select **Radar Options** from the Chart menu and press **ENTER**.

<table>
<thead>
<tr>
<th>Radar Options menu</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Radar State</strong></td>
</tr>
<tr>
<td>Selects radar transmission mode</td>
</tr>
<tr>
<td><strong>Adjust</strong></td>
</tr>
<tr>
<td>Adjusts Gain, Sea Clutter, Rain Clutter, Interference Rejection and Target Boost</td>
</tr>
<tr>
<td><strong>Auto Gain</strong></td>
</tr>
<tr>
<td>Automatic Gain setting that is suitable for a variety of conditions</td>
</tr>
<tr>
<td><strong>Sea Clutter</strong></td>
</tr>
<tr>
<td>Selects Sea Clutter setting from auto (harbor, offshore) and manual settings.</td>
</tr>
<tr>
<td><strong>Transparency</strong></td>
</tr>
<tr>
<td>Controls the transparency of radar overlay on the map To make adjustments, highlight <strong>Transparency</strong> and press the arrow keys left/right</td>
</tr>
</tbody>
</table>

**NOTE:** Radar State, Adjust, Auto Gain and Sea Clutter are covered in more detail in the Radar Operation section.

Navionics

Your unit offers an unprecedented level of 2D and 3D mapping detail and numerous mapping options, including support for Navionics Platinum, Gold, HotMaps and high definition Fish'n chip electronic charts.

**To view Navionics data:**

1. Insert your Navionics card in the unit's MMC/SD card slot.
2. Press **MENU** twice, select **Chart** and press **ENTER**.
3. Highlight **Chart data** and press **ENTER**.
4. Select **Navionics** and press **ENTER**.
Navionics Settings menu

Use to customize the way Navionics data will be displayed on the Chart page, allowing you to adjust the features best suited for your fishing conditions.

To change Navionics Settings:

1. Select Chart options from the Chart menu and press ENTER.
2. Highlight Settings and press ENTER.
3. Select a setting and press ENTER.
4. Highlight the desired option and press ENTER.

Navionics Settings and Options

- **Safety Depth** — Allows you to display the depth areas corresponding to the safety contour desired. Available options are:

  - Off: No depth area displayed.
  - Other numeric depth values: The areas with depths up to value selected are displayed in shades going from darker blue (for lower depths) to lighter blue (for higher depths). The areas whose depths are over the selected value, and therefore navigable under safety conditions, will be displayed in white. The dryline areas are displayed in green.

- **Contours Depth** — Used to select the display of depth contours. Available options:

  - -5m: display depth contours up to 5 meters (16 feet)
  - -10m: display depth contours up to 10 meters (33 feet)
  - -20m: display depth contours up to 20 meters (66 feet)
  - All: all depth contours are displayed

**NOTE:** When Night mode is selected, depth areas are displayed from lighter blue (for lower depths) to darker blue (for higher depths). Depth areas over the value set are displayed in black.
• **Texture Type** — Enables (on) or disables (off) the 3D shading feature. *Photo overlay* allows you to enable (full) or disable (off) the aerial photography overlay chart feature.

**NOTE:** These features are only applicable with *Navionics Platinum™ or Platinum Plus™ charts.*

• **Annotation** — Allows you to display "Main" names (i.e. city names) only or the "Full" set of names on the Chart page.

• **Presentation Types** — Is used for the selection of the symbols and colors of the navigation chart "look and feel"; either U.S. or International "paper chart" presentation types can be selected.

• **Chart Details** — This menu is used to select which object types and information layers are displayed on-screen.

Available options:

*Standard:* Equivalent to standard display settings as defined in ECS (Electronic Charting System) regulations.

*All:* Enables the display of all the object types and information layers on the Chart page.

*User:* Allows selection of individual object types and information layers on-screen.
Radar Operation (optional)

To access the Radar Page:

1. Press the PAGES key.
2. Use the keypad to select the Radar Icon and press ENTER.

**NOTE:** You will only be able to see the Radar page if your unit is connected to a radar.
**Radar menu**

Use the Radar menu to make adjustments to radar display settings and features that not only change the appearance of the display, but also make navigation easier.

To access the Radar menu, press the **MENU** key when the Radar page is on the display.

**Radar State**

Controls radar transmission modes: Off, Transmit and Standby. Off turns off the radar. Transmit broadcasts a radar signal and standby leaves the radar on, but does not broadcast a signal.

**To select Radar State:**

1. Press **MENU**, highlight **Radar State** and press **ENTER**.
2. Select the desired state and press **ENTER**.

NOTE: *It can take 90 seconds or more to transition from Off to Standby.*

**Adjust menu**

From the Adjust menu you can make adjustments to Gain, Sea clutter, Rain clutter, Interference rejection and Target boost.

**To access the Adjust menu:**

1. From the Radar menu select **Adjust** and press **ENTER**. The Adjust menu will appear.
2. Highlight the desired setting and press the Arrow keypad left/right to make adjustments.
<table>
<thead>
<tr>
<th><strong>Adjust menu options</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gain</strong></td>
<td>Controls the sensitivity of the radar receiver. Increasing gain will show more detail on the screen; decreasing gain will show less detail. Too much detail will clutter the screen. Conversely, desired returns may not be shown if gain is too low.</td>
</tr>
<tr>
<td><strong>Sea Clutter</strong></td>
<td>Reduces or eliminates onscreen clutter caused by wave action near your vessel.</td>
</tr>
<tr>
<td><strong>Rain Clutter</strong></td>
<td>Precipitation reflects radar signals, cluttering the screen. Rain Clutter reduces or eliminates returns caused by rain, hail, sleet or snow.</td>
</tr>
<tr>
<td><strong>Interference Rejection</strong></td>
<td>Reduces interference from other active radars near your vessel. If another ship is operating radar near you, interference from its radar signals can appear on your display. Increase interference rejection until radar interference is eliminated from your display. Interference Rejection has four settings: Off, Low, Medium and High.</td>
</tr>
<tr>
<td><strong>Target Boost</strong></td>
<td>This feature increases the size of radar targets, making them easier to see on the display. Target Boost has four options: Off, Low, Medium and High.</td>
</tr>
</tbody>
</table>

**Auto Gain**

Selecting *Auto gain* from the Radar menu will automatically set the sensitivity of the receiver to a level that works well under most conditions, reducing the need for adjustments. If you make adjustments to the Gain level when Auto gain is on, Gain will switch to manual mode.

**To select Auto Gain:**

1. Press the **MENU** key. The Radar menu will appear
2. Select *Auto gain* and press **ENTER**.
Sea Clutter

Allows you to select the Sea Clutter adjustment mode — Auto or Manual. If you make changes to Sea Clutter when it is in auto mode (Harbor or Offshore), Sea Clutter will switch to Manual mode.

<table>
<thead>
<tr>
<th>Sea Clutter Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manual</strong></td>
</tr>
<tr>
<td>Switches Sea Clutter from Auto to Manual mode</td>
</tr>
<tr>
<td><strong>Harbor</strong></td>
</tr>
<tr>
<td>Auto setting optimized for harbor-like environment</td>
</tr>
<tr>
<td><strong>Offshore</strong></td>
</tr>
<tr>
<td>Auto setting designed for offshore conditions</td>
</tr>
</tbody>
</table>

Acquire Targets

Used to select MARPA (Mini Automatic Radar Plotting Aid) targets. Refer to the Radar Settings segment in the Settings section for information on using MARPA.

Position

You can move the PPI (Plan Position Indicator) to different locations on the radar display. There are three Position options: Center, Look Ahead and Offset.

![Center: PPI centered on the display](image1)

![Look Ahead: PPI moves down, allowing you to see more of what is in front of you](image2)

To change the PPI position:

1. Select Position from the Radar menu and press ENTER.
2. Select the desired position and press ENTER.
Position

<table>
<thead>
<tr>
<th>Position</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center</td>
<td>Default setting, will position the PPI in the center of the screen</td>
</tr>
<tr>
<td>Look Ahead</td>
<td>Shifts the PPI to the bottom of the screen, allowing you to see more of the area in front of your vessel</td>
</tr>
<tr>
<td>Offset</td>
<td>Allows you to move the PPI to any location on the display. If you shift the PPI to the right, you will see more of what is to the left of your boat; if you move the PPI forward, you will be able to see more of the area behind you</td>
</tr>
</tbody>
</table>

Symbology

Used to turn on/off symbols displayed on the PPI screen, including range rings, range markers and compass overlay. Rather than turn off each display feature individually, the Symbology feature allows you to remove them all at once.

To toggle Symbology on/off highlight Symbology on the radar menu and press enter.

![Symbology on](image1) ![Symbology off](image2)

EBL/VRM

An Electronic Bearing Line (EBL) is a radial line used to show the bearing of a radar target to your vessel. A Variable Range Marker (VRM) is a range ring used to measure the precise distance to a radar target. Selecting EBL/VRM from the Radar Menu allows you to place up to two EBL/VRMs on the PPI display.
EBL/VRM menu

Places selected Electronic Bearing Line and Variable Range Marker on the display.

To select an EBL/VRM:

1. Press the **MENU** key.
2. Use the keypad to select the **EBL/VRM** and press **ENTER**.
3. Use the keypad to move the EBL and increase/decrease the size of the VRM. Press **EXIT**.

Adjust

Adjusts size and location of active EBL/VRM.

To adjust an EBL/VRM:

1. From the Radar menu highlight **EBL/VRM** and press **ENTER**.
2. Select **Adjust** and press **ENTER**.
3. Use the keypad to make adjustments to the EBL/VRM. Press **EXIT**.
**Data Box**

Turns on/off on screen EBL/VRM information box.

To turn on/off the EBL/VRM information box, highlight *Data box* on the EBL/VRM menu and press **ENTER**.

**Guard Zones**

A zone or zones near or around your vessel that alert you if a radar target enters or leaves a zone. That makes it easier to be aware of the movement of radar targets around you, which improves collision avoidance.

There are two guard zones: Guard Zone 1 and Guard Zone 2.

You can control the shape, range, depth, bearing, width and sensitivity of guard zones.

---

*NOTE:* We recommend a 70-75% Guard Zone sensitivity setting for the BR24 to see smaller targets. Adjust as needed for your situation.
To turn on a Guard Zone:
1. Press MENU, select Guard Zones and press ENTER.
2. Highlight Guard Zone 1 or Guard Zone 2 and press ENTER.

To change the shape of Guard Zones
1. Select Shape and press ENTER.
2. Select the desired shape and press ENTER.

Using the Adjust menu:
1. Select Adjust and press ENTER.
2. Press the keypad up/down to select the desired setting.
3. When the desired setting is selected, press the keypad left/right to make adjustments.
4. After adjustments are completed, press ENTER.

To choose alarm trigger (vessels entering or exiting zones):
1. Select Alarm when and press ENTER.
2. Select the desired option and press ENTER.

Radar Overlay
Radar Overlay places radar returns on top of the map on the Chart Page.
That gives you greater awareness of your surroundings by allowing you to see radar returns aligned with actual radar targets.
More information on Radar Overlay is available in the Chart Operation section of this manual.

NOTE: You must have an NMEA 2000 or NMEA 0183 heading sensor to enable Radar overlay.
The Settings Menu provides access to installation and advanced configuration settings for your unit. To access the Settings menu, press **MENU** twice.

### Settings Menu Options

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System</strong></td>
<td><strong>Sonar (if applicable)</strong></td>
<td><strong>Units</strong></td>
</tr>
<tr>
<td><strong>Page</strong></td>
<td><strong>Radar (if applicable)</strong></td>
<td><strong>Network</strong></td>
</tr>
<tr>
<td><strong>Navigation (if applicable)</strong></td>
<td><strong>Fuel</strong></td>
<td><strong>Vessels</strong></td>
</tr>
<tr>
<td><strong>Chart (if applicable)</strong></td>
<td><strong>Alarms</strong></td>
<td><strong>Simulator</strong></td>
</tr>
</tbody>
</table>

### System

Used to change system settings like units, language and key beeps.

**To access the System menu:**

1. Press **MENU** twice.
2. Highlight **System** and press **ENTER**.

### Language

Selects the language used on menus and dialog boxes. US units will be geofenced to English only if operated beyond 30 degrees West or beyond the international date line to the East.

**To select a language:**

1. Select **Language** from the System menu and press **ENTER**.
2. Highlight the desired language and press **ENTER**. A window will appear indicating the unit must restart to switch languages.
3. Select **Yes** and press **ENTER**. The unit will restart.

### Text Size

This unit will display text in two sizes: Small and Normal. The Text Size menu allows you to select the size of menu text.
To change Text Size:

1. Highlight Text Size from the System menu and press ENTER.
2. Use the keypad to select the desired text size and press ENTER.

Key Beeps

By default, a tone (key beep) will sound when any key is pushed on the unit. You can change key beep volume or turn them on or off from the Key Beep menu.

To change Key Beep settings:

1. Highlight Key Beeps on the System menu and press ENTER.
2. Select the desired setting and press ENTER.

Time (optional)

Used to change local time to offset differences in time zone and to select the way time and date will be displayed.

To set Time or Date format:

2. Select the Time format or Date format dropdown menu and press ENTER.
3. Use the keypad to select the desired format and press ENTER.
4. Highlight OK and press ENTER.

To set Local Time:

1. Select Local Time on the Time menu and press the keypad left/right to select the desired offset.
2. Highlight OK and press ENTER.
**Datum**

A model of the earth’s surface based on a network of surveyed ground features (points). This unit’s default datum is WGRS-84.

**To select a Datum:**

1. Select *Datum* from the Chart settings menu and press ENTER.
2. Use the keypad to select the desired datum. Press ENTER.

**Coord System**

Controls the coordinate system used when position coordinates are entered and displayed.

**To change Coordinate System:**

1. Select *Coord System* from the Chart settings menu and press ENTER.
2. Highlight the desired option and press ENTER.

**Magnetic Variation**

Converts magnetic north data to true north, increasing the accuracy of navigation information. The Magnetic Variance Auto setting, automatically converts magnetic north to true north. When using manual mode, you will have to input the magnetic variance.

**To change magnetic variation settings:**

1. Highlight *Magnetic Variation* on the System menu. Press ENTER.
2. Select *Auto* or *Manual* and press ENTER.
Satellites

Monitors the location of satellites in view and the quality of the unit’s satellite lock-on. The Satellite page has two display options.

The Satellite screen displays a circular graphic that shows where satellites are located and a bar graph that monitors the strength of satellites within range of your unit. Your unit is locked on to satellites shown with blue bars.

To access the Satellite screen select **Satellites** from the System menu and press **ENTER**.
Settings

Screen Capture

Saves images of your unit’s screen to your unit. That allows you to capture images of everything from underwater structure and fish to routes, map areas and radar targets.

To take a screen capture:

1. Select Screen Capture from the System menu and press ENTER.
2. Press the LIGHT/POWER key to capture the current screen. Repeat this step to take additional screen captures.

To save screen captures to MMC/SD card:

1. Select Files from the Utilities list on the Pages menu. Press ENTER.
2. Highlight My Files and press the keypad to the right. Select screen shots and press the keypad to the right.
3. Highlight the desired screenshot(s). Press MENU. The screenshot menu will appear.
4. Select Copy or Copy All and press ENTER.
5. Your MMC/SD card will be listed on the screen. Select your MMC/SD card and press ENTER.

Screenshot selected

Screenshot menu

MMC/SD card selected
**Restore Defaults**

The Restore Defaults command switches the unit back to the settings it had when you purchased it (default). Instructions on Restoring defaults are covered in the Getting Started section.

**Advanced**

A fine tuning adjustment for advanced users that allows you to turn on/off features and control settings like duplicate waypoint names and slider hold off.

---

**To access Advanced Settings:**

1. Select *Advanced* on the Settings menu and press ENTER.

2. Highlight a desired setting and use the right/left arrow keys to open (—) or close (+) the setting.

---

**To adjust Waypoint, Hardware and Radar settings:**

1. Open the desired setting (—).

2. Highlight the setting information and press Enter to turn it on/off. The center circle will be filled when the setting is on; empty when it is turned off.
To adjust cursor settings:

1. Highlight the desired cursor setting and press ENTER. A dialog box will appear.

2. Use the arrow keys to select the desired value and press ENTER.

About

Used to view your unit’s current software version. To check the unit’s software version, highlight About on the System menu and press ENTER.

Pages

Used to make adjustments to overlay data, combo page panels and to turn on/off SIRIUS radio (if applicable). Overlay data setting adjustments are covered in the Pages section.

Navigation

Allows you to make adjustments to arrival radius, cross-track error, trail and loran settings.

Arrival Radius

Arrival radius settings is the distance at which you will be alerted when approaching your destination.

XTE limit

The cross-track error setting, is the distance at which you will be alerted when you are drifting off course.

To adjust Arrival radius and XTE limit:

1. Select the desired option from the Navigation menu and press ENTER.

2. Follow the onscreen instructions.
**Trails**

Controls the way trails are logged (updated). Trails mark your movement as you travel, placing points along your path using one of three logging types: Time, Distance or Auto.

You can save up to 10 trails with up to 9,999 points per trail. If a trail exceeds 9,999 points, each new point will overwrite a point at the beginning of the trail.

**Logging Type**

Controls the method used for updating a trail. Trails can be updated using Time, Distance or the default automatic setting.

<table>
<thead>
<tr>
<th>Logging Types</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>A point is placed along the trail after a selected amount of time</td>
</tr>
<tr>
<td>Distance</td>
<td>A point is placed along the trail after you travel a selected distance</td>
</tr>
<tr>
<td>Auto</td>
<td>A point is placed along the trail every time you change direction</td>
</tr>
</tbody>
</table>

**To select a Logging Type:**

1. Highlight *Logging Type* on the Trails menu and press **ENTER**.

2. Use the keypad to select *Auto*, *Distance* or *Time* and press **ENTER**.

**Distance Period**

Controls how far you will travel before a point is placed along the trail.

**To set Distance period:**

1. Highlight *Distance Period* and press **ENTER**. The distance period keypad will appear.

2. Input the desired distance and select *OK*. Press **ENTER**.


**Time Period**

Controls how much time will pass before a point is placed along the trail.

**To set Time Period:**

1. Highlight *Time Period* and press **ENTER**. The distance period keypad will appear.
2. Input the desired distance and select **OK**. Press **ENTER**.

**Phantom Loran**

Uses GPS and Loran coordinates to calculate Loran position.

**To set up phantom loran:**

1. Select *Phantom loran* on the Navigation menu and press **ENTER**.
2. Highlight *Loran Settings* and press **ENTER**. The Loran settings menu will appear.
3. Select the desired **GRI** (Group repetition interval) and press **ENTER**.
4. Select the *Preferred Station* and press **ENTER**.
5. Highlight **Save** and press **ENTER**.
**Chart Settings Menu**

Contains Chart settings ranging from display options like Range Rings and Grid Lines to map settings like Chart Data and Datum.

**To access the Chart Settings Menu:**

1. Press MENU twice.
2. Highlight Chart and press ENTER.

**Chart Data**

This unit can use mapping data from Lowrance and Navionics. The Chart Data menu allows you to select the desired map data (Shaded relief mapping data available in US only).

**To select chart data:**

1. Highlight Chart Data on the Chart Settings menu and press ENTER.
2. Select the desired map data and press ENTER.

**Range Rings**

A navigation aid used to estimate distances. Centered around your location, Range Rings are placed a preset distance from your location, allowing you to quickly estimate distances while navigating.

To turn Range Rings On/Off, highlight Range Rings on the Chart Settings menu and press ENTER.

**Heading Extension**

A line extending from the front of the current position icon that is used to estimate distance and time of arrival. The distance and estimated time of arrival is based on the time interval selected from the Heading Extension menu. Heading Extension works with both Lowrance and Navionics chart data.
To use Heading Extension:
1. Highlight Heading Extension from the chart settings menu and press ENTER.
2. Select the desired time interval and press ENTER.

**NOTE:** Range Rings and Heading Extension may not be available in all chart data.

**Popup Information**

Turns on information windows that appear when the cursor is centered on a point of information. That allows you to identify POIs without having to zoom in to see it on the screen.

To turn on/off Popup Information, highlight Popup Information on the Chart Settings menu and press ENTER.

**Grid Lines**

Displays base values for latitude and longitude, making it easier to get a general idea of your location on the latitude/longitude scale.

To turn Grid Lines On/Off, select Grid Lines from the Chart Settings menu and Press ENTER.

**Waypoints**

Turns on/off waypoint display properties. When a large number of waypoints are on the display, turning off waypoints will provide a better view of the map. To turn on/off waypoint display properties, select Waypoints from the Chart menu and press ENTER.
Routes

Turns on/off route display properties. When several routes are on the display, turning off routes will give you a better view of the map.

To turn on/off route display properties, select **Routes** from the Chart menu and press **ENTER**.

Trails

Turns on/off Trail display properties. When several trails are on the display, turning off routes will give you a better view of the map.

To turn on/off trail display properties, select **Trails** from the Chart menu and press **ENTER**.

Hide Chart

Removes mapping data from the display, making it easier to view routes, waypoints and the cursor.

To turn on/off the map data, highlight **Hide Chart** on the Chart Settings menu and press **ENTER**.
Sonar Settings (HDS-5 & 7)
The Sonar Settings Menu is used to modify Sonar options and display settings like Sonar Source, Noise Rejection and Fishing Mode.

To access the Sonar Settings:
1. Press MENU twice.
2. Select Sonar and press ENTER.

Network Sonar
Allows your unit to send/receive sonar data from another sonar unit on an ethernet network. To turn on/off network sonar, highlight Network sonar on the Sonar Settings menu and press ENTER. Sonar sharing is covered in the Sonar section.

Noise Rejection
Interference from bilge pumps, engine vibration, air bubbles, etc, can clutter your unit’s display. Noise Rejection uses ASP (Advanced Signal Processing) to automatically clear interference from the display.

To adjust Noise Rejection:
1. Highlight Noise Rejection on the Sonar Settings menu and press ENTER.
2. Use the keypad to select the desired option and press ENTER.

Surface Clarity
Wave action, boat wakes and temperature inversion are some of the sources that can cause onscreen clutter near the surface. Surface Clarity reduces surface clutter by decreasing the sensitivity of the receiver near the surface.
To adjust Surface Clarity:

1. Select Surface Clarity from the Sonar Settings menu and press ENTER.
2. Use the keypad to choose the desired option.

Scroll Speed

Controls how fast the sonar chart scrolls across the screen. A slower scroll speed is best suited for ice fishing or fishing while at anchor. It is also useful when you want to record a higher quality sonar log in deep water. By default, Scroll Speed is set to normal.

To make adjustments, select Scroll Speed from the Sonar Settings menu and use the keypad to make adjustments.

Manual Mode

Advanced user mode that bypasses digital depth to give you greater control of ping settings. Digital depth causes the unit to search for the bottom regardless of the portion of the water column you are targeting. While you still will get good results using digital depth, it prevents you from getting optimum performance in certain situations, like fishing for suspended targets.

In Manual Mode the unit sends sonar signals (pings) only to the depth range you select. Adjustments made to the range setting will be reflected in your unit’s ping speed. That makes it easy to get the best scrolling speed and the best screen resolution for a selected range.

Select Manual Mode from the Sonar Settings menu and press ENTER to turn on/off Manual Mode.
Fishing Modes

Enhances the performance of your unit by providing preset packages of sonar settings geared to specific fishing conditions.

Settings optimized for fishing modes include: Color Palette, Sensitivity, Interference Rejection, Surface Clarity and Ping Speed, among others. Fishing modes allow you to spend more time fishing and less time adjusting settings.

<table>
<thead>
<tr>
<th>Fishing Mode</th>
<th>Depth</th>
<th>Settings</th>
<th>Palette</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Use</td>
<td>≤1,000 ft</td>
<td>50% Ping speed</td>
<td>Bottom brown/ blue background</td>
</tr>
<tr>
<td>Shallow Water</td>
<td>≤ 60 ft</td>
<td>75% Ping speed</td>
<td>bottom brown/white background</td>
</tr>
<tr>
<td>Fresh Water</td>
<td>≤ 400 ft</td>
<td>50% Ping speed</td>
<td>bottom brown/white background</td>
</tr>
<tr>
<td>Deep Water</td>
<td>≥ 1,000 ft</td>
<td>50% Ping speed</td>
<td>Deep Blue</td>
</tr>
<tr>
<td>Slow Trolling</td>
<td>≤ 400 ft</td>
<td>50% Ping speed</td>
<td>Bottom brown/white background</td>
</tr>
<tr>
<td>Fast Trolling</td>
<td>≤ 400 ft</td>
<td>Lower chart speed</td>
<td>Bottom brown/white background</td>
</tr>
<tr>
<td>Clear Water</td>
<td>≤ 400 ft</td>
<td>50% Ping speed</td>
<td>Bottom brown/white background</td>
</tr>
<tr>
<td>Ice Fishing</td>
<td>≤ 400 ft</td>
<td>Settings optimized to reduce interference from other sonar units</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Use Shallow Water Fishing mode when fishing in less than 60 feet of water.

*Shallow Water Fishing Mode*  *Brackish Water Fishing Mode*
To select a Fishing Mode:

1. Select Fishing Mode from the Sonar Settings menu and press ENTER.
2. Use the keypad to select the desired mode and press ENTER.

Reset Fishing Mode

Resets selected fishing mode to default settings. That is useful when you want to clear settings adjustments made while using a fishing mode. To restore fishing mode defaults, select Reset Fishing Mode and press ENTER.

Installation Menu

Controls unit settings like Keel Offset, Water Speed Calibration and Transducer Type only for components connected to this display unit through the blue sonar connector. You can not adjust settings of network components through the Installation menu.

To access the Installation menu, highlight Installation on the Sonar Settings menu and press ENTER.

Keel Offset

All transducers measure water depth from the transducer to the bottom. As a result, water depth readings do not account for the distance from the transducer to the keel or from the transducer to the water surface. You can use Keel Offset to factor those distances into the unit’s depth calculations.

Accounting for the distance from the transducer to the keel will prevent you from striking underwater objects or running aground, which could damage the keel. Offsetting the distance from the transducer to the water surface will give you a more precise depth reading.
Before setting keel offset, measure the distance from the transducer to the lowest part of the keel. If, for example, the keel is 3.5 feet below the transducer, it will be input as –3.5 feet.

**NOTE:** To input a keel offset that accounts for the distance from the transducer to the water surface, you will enter a positive number. If the transducer is 1.5 feet below the waterline, it will be input as +1.5 feet. That will give you a more precise depth reading.

To set Keel Offset:

1. Highlight the Keel Offset text box on the Installation menu and press ENTER.
2. Use the keypad to enter the desired keel offset. Select OK and press ENTER.

**Water Speed Calibration**

When there are differences in speed data, Water Speed Calibration calibrates data from a paddlewheel with GPS data. That ensures the accuracy of speed data from your paddlewheel.

To calibrate Water Speed:

2. Use the arrow keys to enter the percentage difference in speed data. Select OK and press ENTER.

**NOTE:** If the paddlewheel is reading a slower speed than the GPS unit, you will input a positive (+) percentage. Conversely, a negative (–) percentage will be entered if the paddlewheel is reading a faster speed than the GPS unit.
Water Speed Averaging

Averages water speed by measuring your speed at a selected interval. Water speed intervals range from one to 30 seconds. If you select five seconds, your water speed will be recorded every five seconds, then averaged.

To select a Water Averaging interval:

1. Highlight the Water Speed Averaging box on the Installation menu.
2. Press the keypad left/right to select the desired interval.
3. Highlight OK and press ENTER.

Temperature Calibration

When there are differences in temperature data, Temperature Calibration calibrates data from one temperature sensor with data from another temperature source. That ensures the accuracy of temperature data from the selected temperature sensor.

To calibrate Temperature:

2. Use the arrow keys to enter the percentage difference between temperature sources. Select OK and press ENTER.

NOTE: If the temperature sensor is reading a lower temperature than the other temperature source, you will input a positive (+) percentage. Conversely, a negative (–) percentage will be entered if the temperature sensor is reading a higher temperature than the other temperature source.

Temperature Averaging

Averages temperature by measuring temperature data at a selected interval. Temperature intervals range from one to 30 seconds.

If you select five seconds, your temperature will be averaged using measurements taken every five seconds.
To select a Temperature Averaging interval:

1. Highlight the Temperature Averaging box on the Installation menu.
2. Press the keypad left/right to select the desired interval and press ENTER.

Transducer Type

Selects the transducer model connected to your display unit. In some transducers with built-in temperature sensors, the temperature may not be accurate if the correct transducer is not selected from the Transducer Type menu.

To select a Transducer Type:

1. Highlight Transducer Type box on the Installation menu and press ENTER. The Select Transducer menu will appear.
2. Use the keypad to your transducer type and press ENTER.
3. Highlight OK and press ENTER.
**Radar Settings Menu (optional)**

Controls Radar options and display settings like Target Expansion, Orientation and Bearings.

To access the Radar settings menu:

1. Press **MENU** twice.
2. Select **Radar** and press **ENTER**.

**Target Expansion**

Increases the size of radar targets, making them easier to see on the radar display. To turn on/off Target Expansion, highlight **Target Expansion** and press **ENTER**.

**Target Trails**

Creates an onscreen history of the movement of radar targets, making it easier to monitor the direction and position of targets in relation to your vessel.

To set Target Trails:

1. Highlight **Target Trails** on the Radar Settings menu and press **ENTER**.
2. Use the arrows to select an interval and press **ENTER**.

**Palette**

Radar echoes can be displayed in black, white, green or yellow. The Palette feature allows you to select the color that suits your viewing preferences.

To change the Palette:

1. Highlight **Palette** on the Radar Settings menu and press **ENTER**.
2. Use the keypad to select the desired color palette and press **ENTER**.
Orientation

Controls the way the map moves in relation to the movement of your vessel. That allows you to select a desired method for viewing your surroundings on the radar display.

- **Course Up** — map stays at same orientation as the initial bearing to the selected waypoint.
- **Heading Up** — unit keeps your heading at the top of the screen, regardless of the direction you are traveling.
- **North Up** — North is always shown at the top of the screen.

**To change Map Orientation:**

1. Highlight *Map Orientation* on the Radar Settings menu and press **ENTER**.
2. Use the keypad to select the desired option and press **ENTER**.

Threshold

Controls the level of radar returns. That allows you to unclutter the display by removing unwanted signals. To make adjustments, select *Threshold* and press the keypad left/right.

North Indicator

The North indicator is shown on the outer circle of the radar display. To turn on/off North Indicator, select *North Indicator* from the Radar Settings menu and press **ENTER**.
Range Rings

Allows you to quickly estimate the distance from your vessel to another radar target.

To turn on/off Range Rings, highlight Range Rings on the Radar Settings menu and press ENTER.

Range Markers

Located below each Range Ring, Range Markers display the distance from your position to each range ring.

To turn on/off Range Markers, select Range Markers from the Radar Settings menu and press ENTER.

Compass

A Compass overlay can be displayed on the background of the radar page. To turn on/off the Compass overlay, select Compass and press ENTER.

Bearings

Bearings allows you to choose if you want the direction you are headed to show as True Magnetic (TM) or Relative (R). T/M or True/Magnetic will show your direction based on magnetic north. R or Relative will show your direction based on your relative heading.
**Settings**

*To set T/M or R:*

1. Press **MENU** twice.
2. Select **Radar** and press **ENTER**.
3. Highlight **Bearings** and press **ENTER**.
4. Use the arrows to select a bearing and press **ENTER**.

**MARPA**

MARPA automatically tracks selected radar targets, making it easier to avoid collisions. You can track up to 10 targets simultaneously. MARPA uses default or selected CPA (closest point of approach) and TCPA settings (Time to closest point of approach) to determine if a selected target is safe, dangerous or lost.

- **Safe** — not on an approaching path to your vessel
- **Dangerous** — on an approaching path to your vessel; when a target breaches the selected CPA or TCPA thresholds the target will be classified as dangerous
- **Lost** — selected target moves out of MARPA range

You can change CPA and TCPA values on the Dangerous vessels dialog.

**NOTE:** To use Radar overlay or MARPA, an RC42 heading sensor and a valid GPS fix is required. Your display, radar system and RC42 heading sensor need to be connected to the NMEA2000 network. Please refer to the HDS installation manual.

![Dangerous vessels dialog](image)
To adjust CPA and TCPA settings:

1. Press MENU twice
2. Select Vessels and press ENTER.
3. Select Dangerous Vessels and press ENTER.
4. Select the CPA or TCPA text box and press ENTER.
5. Follow the onscreen instructions and press ENTER.
6. Select Save and press ENTER.

Selecting MARPA targets:

1. From the Radar page, press MENU.
2. Select Acquire Targets and press ENTER.
3. Move the cursor over a desired target and press ENTER.
4. Repeat Step 3 to select more targets.
5. Press EXIT to remove the cursor from the display.

Canceling MARPA targets

You can cancel MARPA targets individually or all at once.
To cancel individual targets:

1. Press the keypad to activate the cursor.
2. Move the cursor over a target you are tracking and press MENU.
3. Select Cancel Target and press ENTER.

To cancel all targets:

1. From the radar page, press MENU.
2. Select Cancel All MARPA Targets and press ENTER.

MARPA Settings

There are two settings on the MARPA menu: History Length and Safe Ring.

Similar to the target trails features, history length controls the length of trails on selected targets making it easier to follow target movement.

The Safe Ring provides a graphical representation of CPA settings.

To select history length:

1. Select MARPA and press ENTER.
2. Select History Length and press ENTER.
3. Select the desired settings and press ENTER.
**Target Alarms**

You can be alerted when a MARPA target breaches CPA or TCPA thresholds by setting an alarm.

**To set MARPA target alarm:**

1. Press **MENU** twice.
2. Select **Alarms** and press **ENTER**.
3. Select **Settings** and press **ENTER**.
4. Select **Vessels** and press **ENTER**.
5. Select the desired alarm and press **ENTER**.

**Viewing MARPA targets on Vessels list**

You can view a list of MARPA targets by selecting Vessels from Utilities on the Pages menu.

**Installation**

Provides access to the Radar Installation menu. Your installation menu will vary depending on the type of radar you have connected to your HDS unit.

**To access Radar Installation menu:**

1. Press the **MENU** key twice.
2. Highlight **Radar** and press **ENTER**.
3. Select **Installation** and press **ENTER**.
**Installation Adjustment Menu**

The installation adjustment menu is used to make adjustments to bearing alignment, range offset, antenna height and open array park angle.

When the installation adjustment menu is accessed, press the keypad up/down to select a feature. Press the keypad left/right to make adjustments to a selected feature.

Press EXIT to return to the Radar Installation menu. To remove the Radar Installation menu from the screen, select Close and press ENTER.

**Bearing alignment**

Used to align the bow of your vessel with the heading line (zero point). Bearing alignment is also referred to as zero bearing.

To make adjustments to bearing alignment, switch the radar state to Transmit and set radar orientation to Heading Up.

**To select Heading up orientation:**

1. From the Radar Page, press MENU.
2. Select Orientation and press ENTER.
3. Use the keypad to select Heading Up and press ENTER.
4. Press EXIT.

![Before Bearing Alignment](image1.png)  ![After Bearing Alignment](image2.png)

*Bow of ship is lined up with the tip of a peninsula; the bearing line is not.*

*Bearing line aligned with peninsula, matching the alignment of the bow.*
**To Adjust Bearing Alignment:**

1. Line up the bow of your vessel with a stationary target (lighthouse, pier, etc) at least 1 nm away.
2. Select *Adjust Bearing Alignment* from the Radar Installation menu and press **ENTER**. The Installation Adjustment menu will appear.
3. Press the keypad left/right to rotate the radar image so the reference target is at 0° or 12 o’clock from the radar center.

**Range offset**

Eliminates the time lag between real radar returns and the time it takes data to be processed by the radar software. Range Offset is also referred to as zero range and trigger delay.

![Range Offset Sequence. The circle shrinks as range is increased.](image)

**To Adjust Range Offset:**

1. Use the **ZOOM IN**/ **ZOOM OUT** keys to set range to 1/8 nm.
2. Highlight *Adjust range offset* from the Radar Installation menu and press **ENTER**. The installation adjustment menu will appear.
3. Press the keypad to the left set range offset to 0. Press **ENTER**.
4. If there is a blank, black circle around the center or a solid circle of color at the center, increase the range offset until the circle disappears or almost disappears.
5. If you increase the range offset too far, decrease it until the circle appears again.
**Antenna Height**

Antenna height is the distance from the waterline to the Antenna (scanner). It is important to correctly input antenna height to prevent problems with the Sea Clutter feature.

**To Adjust Antenna Height:**

1. Select *Adjust Antenna Height* from the Installation menu and press ENTER.
2. Press the keypad left/right to input the distance from the antenna to the water surface. Press EXIT.

**Tune**

You should not have to adjust Tune for the life of this unit. This feature is intended for use by only trained technicians.

**Fast scan mode (BR24 Radar only)**

Increases the speed of the radar scanner when the range is set to 1.5nm or less. That aids in collision avoidance by giving you more updates on the movement of targets in your vicinity.

**To use Fast Scan mode:**

1. Press MENU twice.
2. Select *Radar* and press ENTER.
3. Select *Installation* and press ENTER.
4. Highlight *Fast scan mode* and press ENTER.
5. Press EXIT twice to return to the display.
6. Zoom in the radar display to 1.5nm or less and BR24 scanning speed will increase.
Sidelobe suppression (BR24 only)

Sidelobes are false returns caused by the reflection of your radar signal. Sidelobe suppression helps reduce the impact of sidelobes on your radar display. The default Auto mode will work well under most conditions.

To make manual adjustments Sidelobe suppression:

1. Press MENU twice.
2. Select Radar and press ENTER.
3. Select Installation and press ENTER.
4. Highlight Sidelobe suppression and press ENTER.
5. Highlight Sidelobe suppression and press the keypad left/right to make manual adjustments.
6. Press EXIT.

Reset Radar to Factory Defaults

Resets radar to factory default settings.
**Fuel**

Used to input fuel data like engine/tank configuration, fuel tank capacity and engine calibration. Your unit uses that data to calculate the overall fuel performance of your vessel. To access the Fuel menu, select **Fuel** from the Settings menu and press **ENTER**.

**Refuel**

Controls engine calibration and is used to input the amount of fuel added to the tank(s). Engines must be calibrated with your fuel tanks to get correct readings on fuel economy, fuel used, etc.

It is important to enter the amount of fuel added to your tank(s) each time fuel is added. That ensures the correct fuel data is used in the unit’s fuel performance calculations.

**To input fuel added:**

1. Select **Refuel** from the Fuel menu and press **ENTER**.
2. Use keypad to select the Amount Added window and press enter. The *Amount Added text box* will appear.
3. Use the keypad to input the amount of fuel added and press **ENTER**.
To set tank to full:

1. Highlight the Set to full checkbox on the Refuel screen and press ENTER.
2. Highlight OK and press ENTER. The calibration options screen will appear. You are ready to calibrate.

To calibrate engine(s):

1. With the calibration options screen displayed, select the checkbox next to the engine you would like to calibrate.
3. Use the keypad to highlight the Actual amount used window and press ENTER.
4. Input the amount of fuel used in the Actual amount used dialog box and press ENTER.
5. Highlight the Next button and press ENTER. The Confirm calibration screen will appear.
6. After confirming calibration data, highlight OK and press ENTER.
**Fuel Used**

Data information screen that displays fuel consumption data including fuel used since last fill up, fuel used on the current trip and fuel used during a season.

To access fuel used information, select **Fuel Used** from the Fuel menu and press **ENTER**.

Highlight the **Reset** button and press **ENTER** to set corresponding fuel data values (trip and seasonal) to zero.

**Vessel Setup**

Controls vessel configuration, which includes selecting the number of engines/fuel tanks and inputting the capacity of each fuel tank. Vessel Setup data must be configured before you can calibrate your engine(s).

To access the Vessel Setup menu, highlight **Vessel Setup** on the Fuel menu and press **ENTER**.
**Engine/Tank Configuration**

Used to input the number of engines and fuel tanks on your vessel. Your unit must have that information to be able to calibrate you engine(s).

**To select engine-tank configuration:**

1. Highlight the vessel configuration drop-down menu and press ENTER.
2. Select a engine/tank configuration and press ENTER.
3. Highlight the *Save* button and press ENTER.

**To input tank size:**

1. Highlight the *Tank size text box* and press ENTER.
2. Use the keypad to input the size of the selected tank and press ENTER.
3. Repeat Step 2 for each tank on your vessel.
4. Select the *Save* button and press ENTER.

**Calibrate**

Launches engine calibration information window referring you to your fuel sensor’s installation manual.
**Alarms**

This unit has alarms covering everything from depth and water temp rate to fuel and waypoint radius. The alarms list has three tabs: Active, History and Settings.

- **Active** — used to view alarms that have been enabled
- **History** — shows log of alarm activity, which includes data like when alarms were triggered and when they were cleared
- **Settings** — provides access to Alarms list, allowing you to enable alarms and set alarm limits

**NOTE:** Some alarms will not work unless a corresponding sensor is connected to the unit or the network.

To enable/disable an Alarm:

1. Select *Alarms* from the Settings menu and press **ENTER**.
2. Highlight *Settings* and press **ENTER**.
3. Select the desired alarm from the alarms list and press **ENTER**.

![Alarms Interface Diagram]
**To silence an alarm:**

When an Alarm is triggered, a tone will sound and an alarm window will appear on the screen. Press **ENTER** to silence the alarm and close the alarm window.

After alarm is silenced its corresponding alarm bell will continue to flash in the bottom left corner of the screen. To remove the bell from the screen, disable the alarm and then enable it again. The bell will not reappear unless the alarm is triggered.

**Set Limit**

Sets thresholds (limits) that will trigger the alarm when met or exceeded. If a threshold can be set for a particular alarm, the Set Limit button will appear at the bottom of the screen when that alarm is highlighted on the alarm list.

**To set alarm limit:**

1. Highlight the desired alarm on the alarm screen and press **MENU**.

2. Select **Set Limit** and press **ENTER**. The Alarm Limit keypad will appear.

3. Input the desired alarm threshold and press **ENTER**.

**Siren Enabled**

When the Siren is enabled, a tone will sound when an alarm is triggered. To enable sirens, highlight **Siren Enabled** on the Alarms menu and press **ENTER**.

**Units**

Controls the unit of measure used for unit data. Only Imperial and Nautical units will be shown if the unit is operated outside of a zone defined by 30 degrees west longitude and the International Date Line.

To access the Units menu, select **Units** from the Settings menu and press **ENTER**.

**To change a unit of measure:**

1. Select a unit from the Units menu. Press **ENTER**.

2. Select the a unit of measure and press **ENTER**.
Network
Controls network configuration, data sources, serial port settings, waypoint sharing and allows you to monitor network performance (NMEA 2000 and ethernet) and network devices.

To access the Network menu, select Network from the Settings menu and press ENTER.

Auto Configure
Resets all Data Sources to default settings and removes all instances on networked HDS units.

To auto configure a network:
1. Select Auto Configure from the Network menu and press ENTER.
2. Highlight Yes and press ENTER.

Data Sources
An advanced feature that allows you to use data from a network data source or data from a sensor connected to your unit.

If, for example, you do not want to use your unit’s internal GPS antenna, you could use an external GPS antenna connected to an ethernet or NMEA 2000 network.

To access the Data Source Selection Screen, highlight Data Sources on the Network menu and press ENTER.

To select a data source:
1. Select a data category and press the keypad to the right. A subcategory list will appear.
2. Select a subcategory and press the keypad to the right. A list of sources will be displayed.
3. Highlight a desired data source and press ENTER.
**Data Source menu**

Allows you to change the name and scope of a source and add/remove sources from a NMEA 2000 or ethernet network. To access a Data Source menu, highlight a desired source and press **MENU**.

**Rename**

Used to rename a Data Source. That makes it easier to recognize one data source from another when they are the same type of source.

**To Rename a data source:**

1. Select **Rename** from the desired data source menu and press **ENTER**. A keyboard will appear.
2. Input the desired name and select **OK** and press **ENTER**.

**New**

Allows you to create a new instance of a data source.

**To create new data source instance:**

1. Select **New** from the desired source menu and press **ENTER**. A keyboard will appear.
2. Input the name of the new instance, select **OK** and press **ENTER**.

**Remove**

Removes an instance from the Data Source Selection list.

To remove an instance, select **Remove** from the desired data source menu and press **ENTER**. The data source is removed from the Data Source Select list.

**Scope**

Controls the way data source settings are shared/not shared on an ethernet network. Scope lets you select a mode that allows data source settings to be shared by HDS units on an ethernet network (Global). You can also select a mode that allows each HDS unit to have individual data source settings (Local).

<table>
<thead>
<tr>
<th>Scope Settings</th>
<th>Global</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data source settings will apply to all HDS units on an ethernet network.</td>
<td>Data source setting will apply only to the unit with the local setting.</td>
<td></td>
</tr>
</tbody>
</table>
Settings

To select a scope:

1. Highlight Scope on the selected device’s data source menu and press ENTER.
2. Use the keypad to select Global or Local and press ENTER.

Reset Global and Reset Local

Selecting Reset Global will reset all the source selections to default settings and removes all instances on all networked HDS units.

Reset Local is used to change all source selections on your HDS unit from Local to Global.

To reset global or local sources:

1. Highlight Reset Global or Reset Local and press ENTER. A confirmation message will appear.
2. Select Yes and press ENTER.

Device List

Displays a list of devices connected to a NMEA 2000 network.

To access the device list, Select Device List from the Network menu and press ENTER.

From the Device List you can:

- View device data
- Change the device instance
- Configure device alarms
- Configure devices
- Calibrate devices
- Enable/disable WAAS/EGNOS/MSAS for GPS antenna by configuring HDS iGPS

Device Menu

Controls the way data is displayed on the Device list. To access the Device menu, highlight the desired device and press MENU.
### Configuring Devices

Devices have different configuration options. Name, tank size and location can be configured on some devices; only the name can be configured on others. Some devices like a fuel flow, can be calibrated from the device list.

#### To configure a device name or device tank size:

1. Select a device from the device list and press **ENTER**. The Device Information screen will appear.
2. Highlight the *Configure button* and press **ENTER**. The Device Configuration screen will appear.
3. Highlight the *Name* or *Tank Size text box* and press **ENTER**. A keypad will appear.
4. Use keypad to input the desired information. Select **OK** and press **ENTER**.

![Device List](image1)

![Device Information Screen](image2)

![Device Configuration Screen](image3)

**NOTE:** For more information on device configuration refer to the documentation that came with your device.
**To configure device location:**

1. Select a device from the device list and press **ENTER**. The Device Information screen will appear.
2. Highlight the **Configure button** and press **ENTER**. The Device Configuration screen will appear.
3. Highlight the **Location** dropdown menu and press **ENTER**.
4. Select the desired location and press **ENTER**.

**Instance**

You can change a device instance from the Device Configuration screen. This, however, should only be attempted by a qualified technician.

**Calibrating devices**

Several devices can be calibrated from the devices list including Fluid Levels, Fuel Flows and Trim Tabs. Every device that can be calibrated from the devices list, will have a calibrate button on the Device Information screen. The calibrate button opens the Device Calibration screen, which has onscreen calibration instructions for the device.

**To access calibration instructions:**

1. Select the desired device from the device list and press **ENTER**.
2. Highlight the **Calibrate button** on the Device Information screen and press **ENTER**. Follow the onscreen calibration instructions.

**NOTE:** For more information on device calibration, refer to the documentation that came with your device.
Diagnostics

Displays diagnostic information on NMEA 2000 networks displays the status of information shared between units (UDB). From the UDB tab, you also can select a unit to be used as the master (primary) unit when sharing information. To access the Diagnostics screen, select Diagnostics from the Network menu and press ENTER.

NMEA 2000 receive/send waypoint

Turns on/off the unit’s ability to send and receive waypoints across a NMEA 2000 network. NMEA 0183 receive waypoint controls the unit’s ability to receive waypoints over a NMEA 0183 network.

To turn on/off NMEA send/receive waypoint commands, highlight the desired NMEA send/receive option and press ENTER.

Serial Ports

Configures communication ports to send or receive data with another electronic device, like an autopilot.

To configure serial ports:

1. Highlight Serial Ports on the Network menu and press ENTER.
2. Select the desired setting and press ENTER.
3. Use the keypad to select the desired option and press ENTER.
4. Highlight OK and press ENTER.
**NMEA 0183 Output**

Controls NMEA 0183 sentences used, allowing you to select the type of messages your unit will transmit when communicating with other NMEA 0183 devices.

To access NMEA 0183 Output screen:

1. Select **NMEA 0183 Output** from the Network menu and press **ENTER**.
2. Select **NMEA 2000 output sentences** and press **ENTER**.
3. Select the desired category and press **ENTER** to reveal the NMEA 0183 sentences.
4. Highlight the desired sentence to turn it on/off.
5. Press **EXIT**.

**Vessels (only available if connected to AIS receiver)**

Controls settings used to monitor vessels transmitting AIS information in your area. That makes it easier to navigate safely through high traffic areas.

To access the Vessels menu, select **Vessels** from the Settings menu and press **ENTER**.

**MMSI (Maritime Mobile Service Identity)**

You need to have your own MMSI number entered into the HDS system to be able to receive addressed messages from AIS vessels.

![NOTE: To display MMSI messages, you must turn on the “Vessels message” option in the Alarm Settings menu.](image)

To input MMSI number:

1. Highlight **MMSI** on the Vessels menu and press **ENTER**.
2. Use the keypad to input the MMSI number and press **ENTER**.
**Icon Filters**

Allow you to select what vessels will be shown on the display.

**To select a Display option:**

1. Select *Icon Filters* on the Vessels menu and press **ENTER**.
2. Use the keypad to select the desired display setting and press **ENTER**.
3. To select a value for *Hide further than* or *Hide slower than*, highlight the dropdown menu and press **ENTER**.
4. Use the keypad to select the desired value and press **ENTER**.
5. Select *Save* and press **ENTER**.

**Course Extension**

A line extending from each vessel on the chart screen used to estimate where a vessel will be in a selected amount of time, if it maintains its current course.

**To use Course Extension:**

1. Select *Course Extension* from the Vessels menu and press **ENTER**.
2. Select the desired duration and press **ENTER**.

**Dangerous Vessels**

Allows you to set the dangerous vessel threshold via CPA (Closest point of approach) and TCPA (Time to closest point of approach) settings.

**To adjust CPA or TCPA settings:**

1. Select *Dangerous Vessels* from the Vessels menu and press **ENTER**.
2. Select the CPA or TCPA text box and press **ENTER**.
3. Follow the onscreen instructions and press **ENTER**.
4. Select *Save* and press **ENTER**.
**Simulator**

Accesses all simulation types including default demo and simulator modes as well as advanced custom simulations.

To access the Simulator menu, highlight **Simulator** on the Settings menu and press **ENTER**.

**Simulate**

Turns on/off your unit’s simulator. Simulate must be turned on to view a simulation, whether you are using the default mode or a custom simulation.

To turn on the simulator, select **Simulate** from the Simulator menu and press **ENTER**.

**Demo Mode**

Rotates simulations from each of the unit’s operation modes with screens detailing some of the unit’s most popular features.

*To choose a Demo Mode:*

1. Highlight **Demo Mode** from the Simulator menu and press **ENTER**.
2. Use the keypad to select the desired mode and press **ENTER**.

**Advanced**

Allows you to set up a customized simulation using sonar, GPS, radar and weather data files (where applicable).

To access the Advanced menu, select **Advanced** from the Simulator menu and press **ENTER**.
Source Files

Controls source files used in radar, sonar, AIS (Chart) and Weather simulations. Source files allow you to use your own data while running a simulation.

To select a source file:

1. Highlight the desired source file category on the Advanced menu and press ENTER. A window will appear with a list of available files.
2. Use the keypad to select a source file and press ENTER.
3. Select Save and press ENTER.

GPS Source

Selects the data source that will be used in a GPS simulation. That allows you to use navigation data from sonar, radar, simulated course or simulated routes as GPS data during a simulation.

To select a GPS Source:

1. Select GPS Source from the Advanced menu and press ENTER.
2. Use the keypad to select the desired source and press ENTER.

Speed and Course

Allows you to select the speed and course to be used during a simulation.

To input Speed and Course

1. Select Speed or Course from the Advanced menu and press ENTER.
2. Use the keypad to input the desired value and press ENTER.
**Route**

Allows you to select a route to be used during a simulation.

**To select a route:**

1. Select *Route* from the Advanced menu and press **ENTER**. A Route List will appear.
2. Use the keypad to select the desired route and press **ENTER**.

**Set Start Position**

Sets the starting point of a GPS Simulation to the cursor position.

**To set start position:**

1. Move the cursor into the desired position and access Simulator advanced menu.
2. Highlight *Set Start Position* and press **ENTER**.
3. Select the *Set button* and press **ENTER**.
4. Highlight *Save* and press **ENTER**.

**Restore Defaults**

Switches Advanced simulator options back to defaults settings. To restore defaults, select *Restore Defaults* from the Advanced menu and press **ENTER**.
Specifications: HDS-5/5m & HDS-7/7m

General

Case Size:
- **HDS-5**: 5.8” H x 7.3” W x 4” D (14.6 x 18.4 x 10.2 cm), 2.30 lbs
- **HDS-7**: 6.4” H x 8.8” W x 3.5” D (16.3 x 22.4 x 8.8 cm), 3.10 lbs

Display:
- **HDS-5**: 5.0” (12.7 cm) diagonal high contrast 16-bit color TFT, 480 x 480 pixel resolution
- **HDS-7**: 6.4” (16.3 cm) diagonal high contrast 16-bit color TFT, 640 x 480 pixel resolution

Backlighting:
- **HDS-5**: Florescent (CCFL) backlit screen, LED keypad backlight
- **HDS-7**: LED backlit screen and keypad

Supply voltage: 10 to 18 volts DC

Supply current:
- **HDS-5**: 0.7A at 13VDC with backlight on, 0.4A with backlight off
- **HDS-7**: 0.8A at 13VDC with backlight on, 0.4A with backlight off

Operating temperature: -15°C to 55°C (5°F to 130°F)

MMC slots: One with waterproof door. Reads SD and MMC

Audible alarms: Local and networked alarms available for included and optional components, including sonar, GPS/navigation, battery voltage, weather, engine/transmission, tank level, AIS and DSC.

Communications: NMEA 0183 input and output up to 38,400 baud, NMEA 2000, Navico Ethernet

Standards compliance:
- Waterproofing: IPX7 with card door closed
- EMC: IC RSS-310; FCC Part 15 Class B; IEC60945

Compliance:
The Lowrance HDS complies with the following regulations:
- CE compliant under R&TTE directive.
- CCS Type approval.

HDS also meets the technical standards in accordance with Part 15.103 of the FCC rules. For more information please refer to our website: www.lowrance.com.

Sonar

Frequency: 50/200 kHz or 83/200 kHz

Power output: 250W Peak to Peak (31W RMS) actual, 30,000W Peak to Peak analog equivalent

Depth capability: 5,000 ft dependent on transducer configuration and installation, bottom composition and water conditions

Built-in sonar recording capacity: 10min to 2hrs internal memory depending on depth range and ping speed

Surface water temperature: Available built into transducer or via external network

Paddlewheel speed log: Available with optional speed sensor

Audible alarms: Shallow, Deep, Temperature change

GPS

Receiver/antenna:
- Built in 16 parallel channel internal antenna
- External antennas supported via NMEA 0183 and NMEA 2000

Satellite DGPS: WAAS, EGNOS, MSAS supported

Compass Safe Distance: 20cm (8 inches)

Charting: Contains built-in Lowrance or Navionics basemap; Navionics Gold, Platinum, and Platinum Plus supported via SD/MMC card

Position updates: 1 second with internal antenna

Chart scale: 50ft (20m) to 2,500 nautical miles (3,000 miles)

Built-in GPS recording capacity: 32MB internal memory capacity for up to 5,000 user-definable waypoints, 10 tracks, and 200 routes

Audible alarms: Arrival, off-course, anchor
Unit Care

Cleaning the screen
Clean the screen with a mixture of distilled water (50%) and white distilled vinegar (50%) or Windex® Vinegar Multi Surface. Do not use any type of abrasive cleaners. They will remove the Anti-Reflection coating from the glass.

Inspect the buttons
Make sure that no buttons are stuck in the down position. If one is stuck, wiggle the button to free it back to the normal position.

Debris in the keyboard contacts
In case there is dirt or other debris covering the contacts inside the keypad, press down on the button in question and wiggle it to try to restore its function.

Clean the connections
Corrosion or oxidation could occur on the power cable connector pins and fuse-holder. This can prevent sufficient power from flowing to the unit. Clean the connections to be sure. Sometimes the substance is clear and not easily seen.

Contact & Service Information
For spare parts or service information, please contact one of our local sales offices or visit our website:

www.lowrance.com
Troubleshooting

If your unit is not working, or if you need technical help, use the following troubleshooting section before contacting the customer service department.

Unit won’t turn on

1. Check the power cable’s connection at the unit.
2. Make sure the power cable is wired properly. The red wire connects to the positive battery terminal, black to negative or ground.
3. Check the fuse.
4. Measure the battery voltage at the unit’s power connector. You will measure the two biggest pins. It should be at least 10 volts. If it isn’t, the wiring to the unit is defective, the battery terminals or wiring on the terminals are corroded, or the battery needs charging.

Unit freezes, locks up, or operates erratically

1. Electrical noise from the boat's motor, trolling motor, or an accessory may be interfering with the sonar unit. Rerouting the power and transducer cables away from other electrical wiring on the boat may help. Route the sonar unit’s power cable directly to the battery instead of through a fuse block or ignition switch.
2. Inspect the transducer cable for breaks, cuts, or pinched wires.
3. Check the transducer and power connector. Make sure it’s securely plugged into the unit.

Weak bottom echo, erratic readings or no fish returns

1. Make sure face of the transducer is parallel to the ground. (Refer to the installation manual for more information.)
2. If the transducer is mounted inside the hull, be sure it is shooting through only one layer of fiberglass, that it is securely bonded to the hull and DOES NOT have air
bubbles. (See the Installation Section for how to install the transducer.)

3. When attaching a transducer to the inside of a hull, ONLY use epoxy available from LEI (see inside back cover for order information).

4. Do NOT use RTV silicone rubber adhesive or any other type of epoxy. The LEI epoxy is specially formulated so that it will cure properly for shoot-through applications.

5. Clean the face of the transducer. Oil, dirt and fuel can cause a film to form on the transducer, reducing its effectiveness.

6. Electrical noise from the boat’s motor or trolling motor can interfere with the sonar. This causes the sonar to automatically increase its discrimination or noise rejection feature. This can cause the unit to eliminate weaker signals such as fish and can display lines across the screen.

7. The water may be deeper than the sonar’s ability to find the bottom. If the sonar can’t find the bottom signal while it’s in the automatic mode, the digital sonar display will flash continuously. It may change the range to limits far greater than the water you are in. If this happens, place the unit in the manual mode, then change the range to a realistic one, (for example, 0-100 feet) and increase the sensitivity. As you move into shallower water, a bottom signal should appear.

8. Check the battery voltage. If the voltage drops, the unit’s transmitter power also drops, reducing its ability to find the bottom or targets.

Bottom echo disappears at high speeds, erratic reading or weak bottom echo while boat is moving

1. This is likely due to cavitation (turbulence) in the water surrounding the transducer. You may need to move the transducer lower in the water or to another location. The transducer cannot send or receive signals through air bubbles.

2. Electrical noise from the boat’s motor or trolling motor can interfere with the sonar. This causes the sonar to automatically increase its discrimination or noise rejection feature. This can cause the unit to eliminate weaker signals such as fish or even structures from the display. Try using resistor spark plugs or routing the sonar unit’s power and
transducer cables away from other electrical wiring on the boat.

3. When trolling over weed beds in 20ft of water or less, you may experience vertical bars, loss of the chart picture, or the digital depth. First, do a soft reset of the unit. Then go to the Full Sonar Chart screen. Press Menu and select Sonar Features. Now turn the Chart Manual Mode to On. This will leave everything in Automatic Mode except depth. Now go back to the main menu and set the depth range for the depth you are in such as 0-20 feet.

4. It can sometimes be difficult for a high-powered unit to capture the lightning-fast return in shallow water. Turn off the automatic sensitivity setting and manually reduce the sensitivity until the unit locks onto the bottom.

5. If two or more sonar units using the same frequency are operating at the same time, one or more of them may lose the depth reading due to the interference. It is like two radio stations trying to both broadcast on 97.3FM. In shallow water, if the transducers are far enough apart, you may be able to operate them together. However, the deeper the water, the wider the beams spread out. When they cross each other, the interference occurs.

No fish arches when Fish I.D. is turned off

1. If you are using a transom-mounted transducer, the angle of the transducer may prevent a fish arch from displaying properly. If the arch slopes up but not down, then the front of the transducer is too high and needs to be lowered. If only the back half of the arch is shown, the nose of the transducer is angled too low and needs to be raised. This is the most common problem if a partial arch is displayed.

2. The sensitivity may not be high enough. For the unit to display a fish arch, it has to be able to receive the fish’s echo from the time it enters the cone until it leaves. If the sensitivity is not high enough, the unit shows the fish only when it is in the center of the cone.

3. Use the Zoom feature. It is much easier to display fish arches when zoomed in on a small range of water than a large one. If your boat is in water deeper than 20ft, try setting the upper and lower limits to a 20ft depth section, such as 40ft
to 60ft or whatever depth you expect the fish to appear at. This will maximize the screen resolution to show small objects larger on the screen. It is unlikely you will see averagesized fish display as arches in a 100ft deep water column.

4. The boat must be moving at a slow trolling speed to see fish arches. If the boat is motionless, fish stay in the cone and show as horizontal lines on screen. This is especially applicable to ice fishing.

**Noise**

1. A major cause of sonar problems is electrical noise. This usually appears on the sonar’s display as random patterns of dots or lines. In severe cases, it can completely cover the screen with black dots, or cause the unit to operate erratically, or not at all.

2. To eliminate or minimize the effects of electrical noise, try to determine the cause. With the boat at rest in the water, turn all electrical equipment on the boat off including the engine. Turn on your sonar unit. Sensitivity should be set at 70-75 percent. There should be a steady bottom signal on the display. Now turn on each piece of electrical equipment on the boat and view the effect on the sonar’s display.

3. If you find noise interference is from an electrical instrument, trolling motor, pump, or radio, you can usually reroute the sonar unit’s power cable and transducer cable away from the wiring causing the interference. VHF radio antenna cables radiate noise when transmitting, so be sure to keep the sonar’s wires away from it. You may need to route the sonar unit’s power cable directly to the battery to isolate it from other wiring on the boat.

4. If no noise displays on the sonar unit from electrical equipment, then make sure everything except the sonar unit is turned off, then start the engine. Increase the RPM with the gearshift in neutral. If noise appears on the display, the problem could be one of three things; spark plugs, alternator, or tachometer wiring. Try using resistor spark plugs, alternator filters, or routing the sonar unit’s power cable away from engine wiring to help eliminate noise problems. Make sure to use the in-line fuse supplied with the unit when wiring the power cable to the battery.
5. When no noise appears on the sonar unit after all of the above tests, then the noise source is probably cavitation. Many people make sonar installations which function perfectly in shallow water, or when the boat is at rest. In most cases, the cause of the malfunction is the location and/or angle of the transducer. The face of the transducer must be placed in a location that has a smooth flow of water at all boat speeds. Read your transducer owner’s manual or the Installation instructions in this manual for the best mounting position.

GPS Not Accurate

1. Lowrance Electronics obtains its mapping data from government agencies. Mapping is not an exact science. A unit’s GPS position (Latitude/Longitude) can be extremely accurate, but the location of a cartographic item such as a street, highway, or point-of-interest may be slightly inaccurate. In most cases, we have found the mapping detail in our products to be very accurate. We encourage the reporting of inaccuracies or omissions so that we can consider them for future revisions. Please consider that our products are designed to be aids to navigation and not the sole means of navigation. A prudent navigator will also have several items necessary for safe navigation.

2. The accuracy of your position could look different at various zoom ranges. For example, at a 5 mile range, the cursor representing your position may appear to be in the center of a highway you are driving on. However, if you zoom into a much closer .1 mile range, the position may appear off-center due to the variables mentioned above.

3. Try this simple method to verify that the GPS receiver in your unit is accurate. Have your unit lock onto GPS position in a known location like your driveway, boat slip, or campsite. Save that location in the unit as a waypoint. Now travel away from the known location. Stop and recall the saved waypoint in the unit. Select GO TO to start the unit navigating back to that location. Observe the Distance To Go data as you travel back to that location. When you arrive at your waypoint, the Distance To Go should be close to 0.
**Troubleshooting**

---

**Cards not Read by Unit**

1. Before purchasing a pre-loaded mapping card for a unit, go to our Mapping Index at http://www.lowrance.com/Products/Mapping/default.asp Click on the type of card you are interested in and look at the list of units that are compatible with that card.

2. When zooming in to see more detail, be sure the cursor is located within the area covered by the mapping card.

3. In the Chart menu, select Chart Options and then Chart Categories. Make sure all the categories you want to see have a check mark beside them.

4. If the card is not recognized by the unit, make sure the card contacts and corresponding unit pins are clean and free of obstructions. Verify that the card is securely seated in the card port.

5. If it is a card for a MapCreate map or saved GPS data, it may need to be formatted. Do not format pre-loaded cards such as Nautic-Path, Fishing Hot Spots Pro, Lake Master Pro, Freedom Maps, or Navionics. The information will be deleted from the card. Please be aware that Lowrance GPS products will only read cards that are FAT formatted. MMC cards formatted using FAT 32 or NTFS will not work with our products.

---

**Current Position not on the Screen**

1. First, make sure the unit is locked onto the satellites and shows a fix on the satellite status screen. Then check for cross-hairs on the screen (or for an automotive unit, a red box with an X). If this is on the screen, it means that you had pressed one of the arrow buttons. If that is the case, the unit thinks that you want to scroll to a location on the screen or zoom in or out to see more detail. Press the EXIT button to clear the crosshairs and your current position will show in the middle of the display.

2. To determine your current position, the GPS receiver must “lock” onto at least 3 GPS satellites. For the best signal reception, an external GPS antenna/receiver should be located where it can receive as many signals as possible. There
should be nothing around or above the antenna. However, GPS antennas can receive signals well through many types of glass and fabric. It is recommended to try various locations before making a permanent installation.

3. If you are using a NMEA 2000 network, both branches of the power cable with red and black wires need to be connected to a 12volt power source. Be sure all cable connections are clean and solid. Check to be sure power is reaching the GPS receiver. Also, check the power to the blue connector network and the red connector network.

**Update the Software**

Make sure your unit has the latest software version. Go to the Software Update page on Lowrance.com. You can download updates for free.

**Reset the Unit**

Sometimes resetting your unit can solve unusual issues. Go to Lowrance.com to access a list of reset procedures for Lowrance products. Locate the one that applies to the model you own. Try a Soft Reset first, this will return your settings to factory defaults. If you decide to try a Hard Reset, save any important stored data to an MMC or SD card or write the information down. The data will be deleted during this process.

**Radar won’t Start Up**

If the radar, does not start up, try the following steps:

1. Verify head unit has the latest code that supports radar.
2. Verify that the communication port is set to RADAR
3. Turn the unit, radar and network off, then turn everything back on. On power up the Radar should start initializing. Change over to the Radar Page and see if the unit is initializing or giving the count down indication.
   a. If you are getting a countdown: allow it to complete and then try to power on the Radar. If the Radar does not start rotating then the Radar will need to be sent in for service.
   b. If you are NOT getting a countdown, press MENU, select RADAR INFORMATION and press ENT.
Highlight FORCE STATUS UPDATE and press ENT. Pay attention to the RX/TX buttons.

c. If the TX is not lighting up then either you do not have the com port set to RADAR or the GPS unit is defective. Verify that the Com Port is set properly, if it is then the Lowrance unit will need to be sent in for repair.

d. If the TX is blinking but the RX is not then you are not getting any information from the RIM, the processor or the Radar. There is a fuse inside the processor that has more than likely blown. Remove the front left black screw, then remove the grounding post on the right side of the front of the unit. Gently slide the front cover off, the fuse is located on the left side of the board. This fuse is very tight and difficult to remove, you may need to use a pair of pliers to get a good grip on it and gently try to pull it out. Replace the fuse, the faceplate, and the screws, making sure that the front face is securely seated so not to lessen the water seal.

4. If the communication is hooked up properly and all information fields are properly displayed on the “radar information” page, but the unit starts to warm up but you never see a count down to standby on the screen and then radar communication is lost after one minute. The voltage supply to the Radar Antenna or the gauge wire supplying the voltage may be to small.
## Index

### Symbols
- 2D and Shaded Relief 53

### A
- Acquire targets 61
- Active cursor 9
- Active panel 23
- Add dashboard 20
- Adjusting colorline 29
- Adjusting sensitivity 29
- Adjusting text size 66
- Adjust panel sizes 24
- Advanced settings 71
- Alarm Limits 101
- Alarms 100
  - Enable/Disable 100
- Amplitude scope 32
- Antenna height 94
- Arrival radius 72
- Auto gain 60
- Auto Sensitivity 27

### B
- Backlight 6
- Bearing alignment 92
- Bearings 87

### C
- Calibrate engine 97, 99
- Calibrating devices 106
- Cancel individual MARPA targets 90
- Canceling MARPA targets 89
- Chart categories 53
- Chart data 75
- Chart icons 54
- Chart icons, tides and currents 54
- Chart look ahead 52
- Chart options 37
- Chart page 15
- Chart popup information 76
- Chart settings 75
  - Grid lines 76
  - Heading extension 75
  - Range rings 75
- Closing menus 7
- Colorline 28
- Compass 113
- Compass overlay 87
- Configure device location 106
- Configure device name 105
- Configuring devices 105
- Configuring device tank size 105
- Configuring network devices 105
- Coord System 68
- Copy files to MMC/SD 22
- Course extension 109
- Cross-track error 72
- Current position 37
- Currents 54
- Cursor 6
- Custom range 30

### D
- Dangerous vessels 109
- Dashboards 17
  - Add/Removing source 19
  - Change layout 20
  - Configure limits 19
  - Editing 17
- Data files 22
- Data overlay
  - Add/Remove source 14
  - Editing 11
  - Move/Place 12
  - Select data 12
- Data overlay configuration 12, 13, 14
- Data overlay edit mode 11
- Data source scope 103
- Datum 68
Delete data files 22
Delete sonar logs 22
Demo mode 110
Depth line 32
Device list 104
Displaying combo pages 23
Displaying multiple panels 24

Index

E
EBL/VRM 62
EBL/VRM adjust menu 63
EBL/VRM menu 63
Engine/Tank configuration 99
Ethernet 113
ENET 113

F
Fast scan mode 94
Find current position 37
Finding chart items 51
Fish ID 33
Fish ID beeps 33
Fishing mode 8
Fishing modes 80
Flasher 29
Frequency 28, 113
Fuel 96
Fuel used 98

G
Gain 60
Global source 103
Go to cursor 38
GPS source 111
Guard zone configuration 65
Guard zones 64

H
Hide chart 77

I
Icon filters 109
Info page 16

K
Keel offset 81
Key beeps 67
Keypad 6
Keypad functions 5

L
Language 66
Local source 103
Log sonar data 33

M
Magnetic Variation 68
Manual Conventions 4
Map orientation 52
MARPA 88
MARPA acquire targets 61
MARPA settings 89, 90
MARPA targets 89
Measuring distances on chart 50
MMSI 108
Multiple panels 24

N
Navigation settings 72
Navionics 55
Navionics settings 56
Network 102
Network auto configuration 102
Network data source 102
Network data source settings 103
Network device list 104
Network diagnostics 107
Network sonar 78
New data source 103
NMEA
Index

NMEA 0183 113
NMEA 2000 113
NMEA 0183 output 108
NMEA 2000 receive/send waypoint 107

P
Page settings 72
Pages screen 10
Phantom Loran 74
Ping Speed 30
Point of interest (POI) 36
Position 113

R
Radar adjust menu 59
Radar compass overlay 87
Radar installation adjust menu 91
Radar installation menu 91
Radar interference rejection 60
Radar menu 59
Radar North indicator 86
Radar options 55
Radar orientation 86
Radar overlay 54, 65
Radar page 16
Radar palettes 85
Radar position 61
Radar range markers 87
Radar range offset 93
Radar range rings 87
Radar settings 85
Radar state 59
Radar target trails 85
Radar threshold 86
Rain clutter 60
Range 28
Refuel 96
Remove data source 103
Rename data source 103

Reset Fishing Mode 81
Reset global source 104
Reset local source 104
Reset radar 95
Restore defaults 71
Restore simulator defaults 112
Routes 44
Create 44
Editing 46
Navigate 47
Search 47
Turn on/off 77

S
Satellites screen 69
Saving screen captures 70
Scope 103
Screen capture 70
Sea clutter 60, 61
Search by coordinates 51
Selecting active panel 23
Selecting POIs 38
Sensitivity 27
Serial ports 107
Set local time 67
Set start position 112
Sidelobe suppression 95
Silencing alarms 101
Simulate route 112
Simulator 110
Simulator advanced settings 110
Simulator demo mode 110
Simulator GPS source 111
Simulator source files 111
Simulator speed and course 111
SIRIUS radio 72
Sonar adjust menu 29
Sonar depth line 32
Sonar flasher 29
Sonar frequency 28
Sonar installation menu 81
Sonar logging 33
Sonar logs 22
Sonar log settings 34
1. This License Agreement applies to the one or more databases that your product may contain. We refer to these singly as a "Database" and together as the "Databases." Your product may thus include the "WBS Database" which contains worldwide background surface mapping data, the "SmartMap Database" which contains inland mapping data, or other Databases.

2. The Databases that your product may contain are licensed, not sold. We grant to you the nonexclusive, nonassignable right to use these Databases for supplemental navigation reference purposes, but only as long as you comply with the terms and conditions of this License Agreement. We reserve the right to terminate this license if you violate any aspect of this License Agreement. You are responsible for using official government charts and prudent navigation for safe travel.

3. The Databases housed in your product are protected by the copyright notices appearing on the product or its screen(s). You may NOT modify, adapt, translate, reverse engineer, decompile, disassemble, rent, lease, or resell any Database, and you may NOT create derivative works based upon any Database or its contents. Any unauthorized reproduction, use, or transfer of a Database may be a crime and may subject you to damages and attorney fees.

4. This License Agreement will terminate immediately without prior notice from us if you fail to comply with or violate any of the provisions of this Agreement. Upon termination, you will promptly return all products containing one or more Databases to us.

5. Prices and programs are subject to change without notice.

6. This License Agreement shall be governed by the laws of the State of Oklahoma and comprises the complete and exclusive understanding between you and us concerning the above subject matter.
Databases Limited Warranty

"We", "our", or "us" refers to Navico, the manufacturer of this product. "You" or "your" refers to the first person who purchases the product as a consumer item for personal, family, or household use. The Databases Limited Warranty applies to the one or more databases that your product may contain. We refer to each of these as a "Database" or together as the "Databases." Your product may thus include the "WBS Database" which contains worldwide background surface mapping data, the "SmartMap Database" which contains inland mapping data, or other Databases.

We warrant to you that we have accurately compiled, processed, and reproduced the portions of the source material on which the Databases are based. However, we are under no obligation to provide updates to the Databases, and the data contained in the Databases may be incomplete when compared to the source material. WE MAKE NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND ABOUT THE ACCURACY OF THE SOURCE MATERIAL ITSELF, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

If there is a defect in any Database, your exclusive remedy shall be, at our option, either a refund of the price you paid for the product containing the defective Database or a replacement of such product. WE WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO ANYONE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR OTHER INDIRECT DAMAGE OF ANY KIND. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty does NOT apply in the following circumstances: (1) when the product has been serviced or repaired by anyone other than us; (2) when the product has been connected, installed, combined, altered, adjusted, or handled in a manner other than according to the instructions furnished with the product; (3) when any serial number has been effaced, altered, or removed; or (4) when any defect, problem, loss, or damage has resulted from any accident, misuse, negligence, or carelessness, or from any failure to provide reasonable and necessary maintenance in accordance with the instructions of the owner’s manual for the product.

We reserve the right to make changes or improvements in our products from time to time without incurring the obligation to install such improvements or changes on equipment or items previously manufactured. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

Your remedies under this warranty will be available so long as you can show in a reasonable manner that the defect occurred within one (1) year from the date of your original purchase, and we must receive your warranty claim no later than 30 days after such 1-year period expires. Your claim must be substantiated by a dated sales receipt or sales slip.