

LOWRANCE®



Mark-4 HDI & Elite-4 HDI

Operation manual

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Compliance Statements

Lowrance Mark-4 & Elite-4 HDI

- complies with CE under RTTE directive 1999/5/EC
- complies with the requirements of level 2 devices of the Radiocommunications (Electromagnetic Compatibility) standard 2008

The relevant Declaration of Conformity information is available on the this unit's product page at www.lowrance.com.



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 or boating 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.








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Introduction

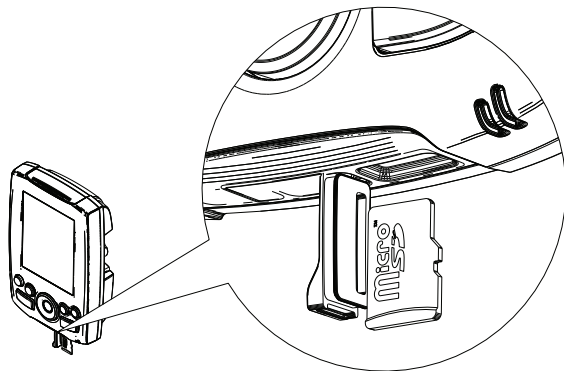
Unit Controls	
	LIGHT/POWER: controls backlight level and turns unit on/off
	KEYPAD: controls cursor & selects items on menus
	PAGES: allows you to select a page to view
	MENU: opens settings, context and page menus
	ENTER: finalizes menu selections; save waypoint at cursor position
	MOB: press and hold both Zoom keys to create a Man Overboard waypoint
	ZOOM KEYS: (+) used to zoom in; (-) used to zoom out
microSD slot: insert a blank microSD card to save screen captures, sonar logs, waypoints, routes and trails; or insert a microSD mapping card to use mapping data	

Getting Started	
Turn unit on/off	To turn on/off the unit, press and hold the LIGHT/POWER key for three seconds.
Man Overboard waypoint	Press the ZOOM IN and ZOOM OUT keys at the same time to set a Man Overboard waypoint. Your system will automatically create an active route back to the MOB waypoint. You must cancel navigation to terminate the function.
Adjusting the backlight	This unit has 11 backlight levels. Press the LIGHT/POWER key to switch backlight levels.
Muting Audio	Select <i>Audio</i> from the System menu. Select <i>Mute</i> and press ENTER .

Inserting microSD cards

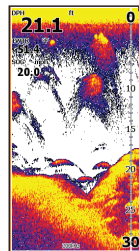
Carefully slide the microSD card into the slot until it clicks into place.

To remove, carefully push in the card until it clicks out of place.

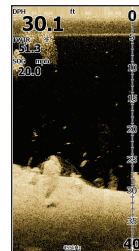


Conventional sonar and DownScan

This unit supports two types of sonar: Conventional and DownScan.



Conventional



DownScan

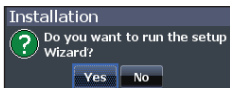
Refer to the “Sonar Operation” section for information about conventional sonar features and settings.

DownScan features and settings are covered in the “DownScan Operation” section.

Basic Operation

Setup wizard

The Setup wizard will appear when the 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.

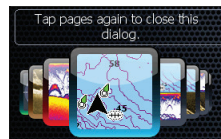


Pages

This unit has eight pages: Steer, DownScan, Sonar, Chart, Chart/Sonar, Chart/DownScan, Sonar/DownScan and Chart/Sonar/DownScan.



Pages dialog



Selecting Pages

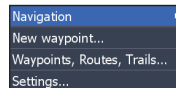
To select a page, press the keypad in the direction of the desired page and press **ENTER**.

Page menus

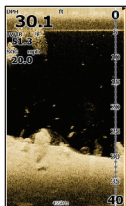
The Steer, DownScan, Sonar and Chart pages have menus that can only be accessed when those pages are displayed.



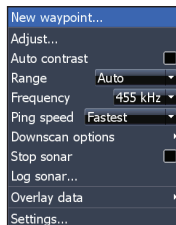
Steer page



Steer menu

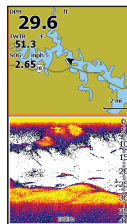


DownScan page

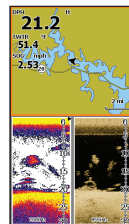


DownScan menu

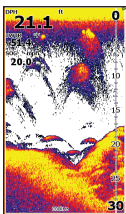
Combo pages



Two-panel page



Three-panel page



Sonar page



Sonar menu

Press the **PAGES** key twice to switch active panels. The page menu for the active page will be displayed when the **MENU** key is pressed.

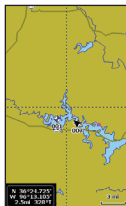


Chart page

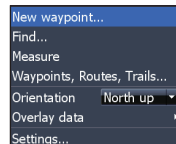
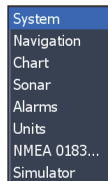
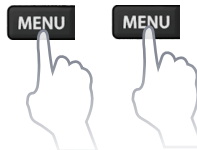


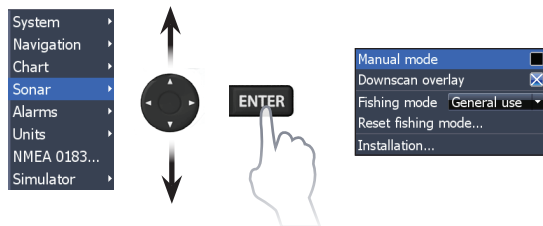
Chart menu

Accessing the Settings menu



Accessing menu items

The keypad and **ENTER** key are used to select menu items and open submenus. Use the keypad to highlight the desired item and press **ENTER**.



Working with menus

There are several menu types used to make adjustments to options and settings, including scrollbars, on/off features and dropdown menus.

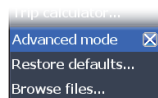
Scrollbars

Select the scrollbar and press the keypad left (decrease) or right (increase).



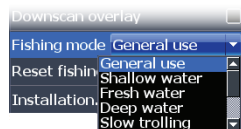
On/Off features

Select an on/off menu item and press **ENTER** to turn it on/off.



Dropdown menus

Access the dropdown menu and press the keypad up/down to select the desired item and press **ENTER**.



NOTE: Press the **MENU** key to exit menus.

Dialogs

Dialogs are used for user input or for presenting information to the user. Depending on the type of entry, different methods are used to confirm, cancel or close the dialog.



Entering text

Some functions, like naming a waypoint, route or trail, will require you to input text.

To input text:

1. Use the keypad to select the desired character and press **ENTER**.
2. Repeat Step 1 for each character.
3. When entry is completed, highlight **OK** and press **ENTER**.



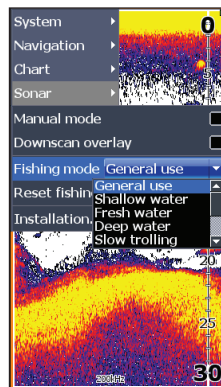
Switches letters
to uppercase/
lowercase

Switches keyboard
between ALPHA and
QWERTY layout

Fishing Modes

(Conventional sonar only)

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



Fishing Mode Options		
General Use	1000ft or less	Coastal
Shallow Water	60ft or less	Shallow weedy bottoms
Fresh Water	400ft or less	Inland/Near coastal
Deep Water	1000ft or more	Offshore
Slow Trolling	400ft or less	Inland/Coastal
Fast Trolling	400ft or less	Inland/Coastal
Clear Water	400ft or less	Inland/Coastal
Brackish Water	400ft or less	Fresh-Saltwater mix
Ice	400ft or less	Ice fishing

Cursor

The keypad moves the cursor around the display, allowing you to scroll the map, select map items and review sonar history.

Press **MENU** and select *Return to vessel* or *Exit cursor mode* to clear the cursor.

Goto cursor

Used to navigate to the cursor.

1. Move the cursor to a desired location and press **MENU**.
2. Select *Goto cursor* and press **ENTER**.

Advanced Mode

Enables advanced features and settings.

The following features are enabled when Advanced mode is turned on:

- Navigation (Enables arrival radius, off-course distance and Bearings setting)
- Alarms (Enables arrival, off course and anchor alarm options)
- NMEA 0183 configuration options
- Units (Enables distance, speed, depth, temperature and bearings configuration options)

Standby mode

Lowers power consumption by turning off sonar and the display.

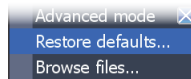
1. Press the **PWR/LIGHT** key to access the Backlight dialog.
2. Select *Standby* and press **ENTER**.
3. Press any key to resume normal operation.



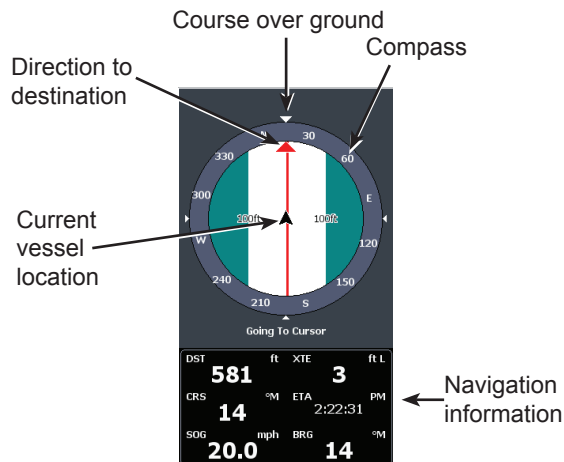
NOTE: *Leaving your unit in Standby mode when your boat is not in use will run down your battery.*

Restore defaults

Sets unit options and settings to default values.

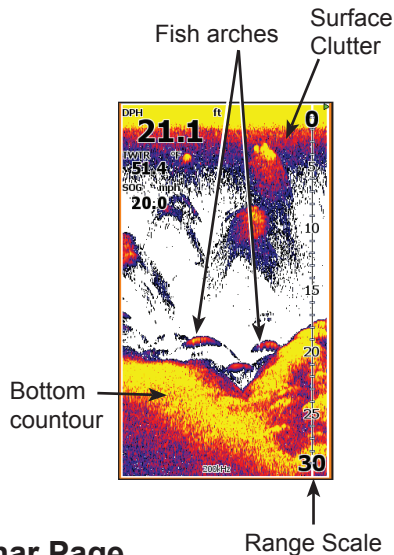


Pages



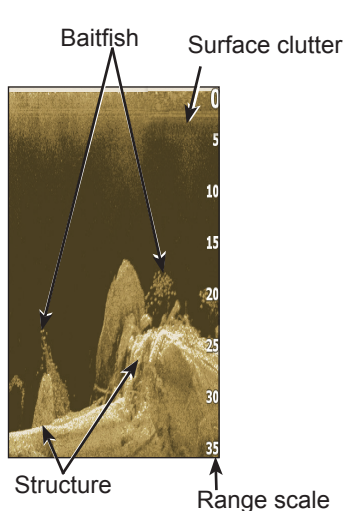
Steer Page

The Steer page has a compass that shows your current track, the direction to your destination, and a digital data navigation panel.



Sonar Page

Displays the water column moving from right to left on your unit's screen.



DownScan page

The DownScan page shows the water column moving from right to left. You can overlay DownScan sonar on the conventional sonar page by selecting **DownScan Overlay** on the Sonar settings menu.

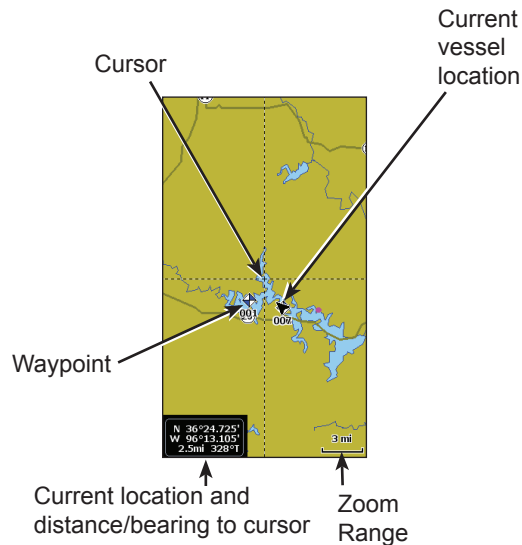
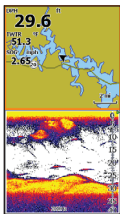


Chart Page

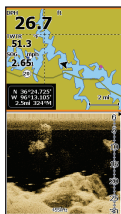
Consists of a map that moves in real-time as you move. By default, the map is shown from a bird's-eye view with North at the top of the screen.

Combo pages

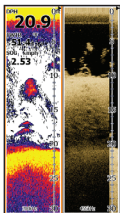
This unit has four pre-configured combo pages.



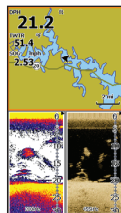
Chart/Sonar



Chart/DownScan



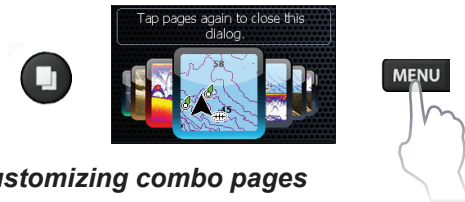
Sonar/DownScan



Chart/Sonar/DownScan

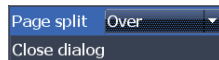


NOTE: Press the **PAGES** key twice to switch active panels. The active panel will have an orange border.



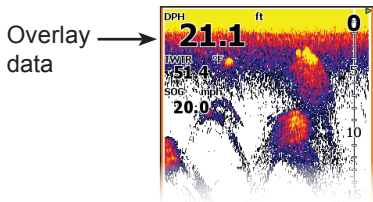
Customizing combo pages

You can control how the pages will be arranged on the screen: vertically (side) or horizontally (over).



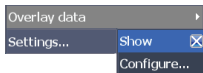
Overlay Data

Used to select data shown on the Sonar, DownScan and Chart pages.



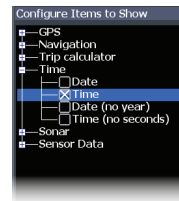
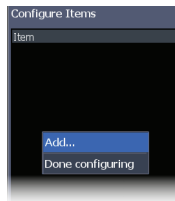
Show

Enables/disables the display of overlay data, allowing you to remove overlay data from the screen without deleting the current overlay data configuration.



Configure

Allows you to select/customize overlay data.

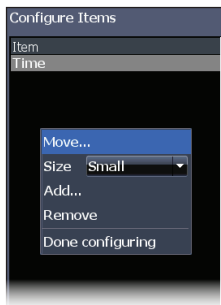


To add overlay data:

1. From the Sonar, Chart or DownScan page, press **MENU**.
2. Select *Overlay data* and press **ENTER**.
3. Select *Configure* and press **ENTER**.
4. Press *Menu* and select *Add*. Press **ENTER**.
5. Select a category and press **ENTER**.
6. Select the desired data and press **ENTER**.
7. Repeat Steps 5 and 6 to add more data.
8. Press **MENU** and select *Return to Overlays*. Press **ENTER**.
9. Press **MENU**, select *Done Configuring* and press **ENTER**.

Customizing Overlay Data

You can add/remove data and adjust the size and position of overlay data on the screen.



1. Press **MENU** and select *Overlay data*.
2. Select *Configure* and press **ENTER**.
3. Highlight the desired overlay data and press **MENU**.
4. Select the desired configuration category to make adjustments.

DownScan Operation

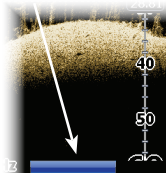
This unit supports two types of sonar: Conventional and DownScan.

The features described in this section are for DownScan sonar. Refer to the “Sonar operation” section for information on conventional sonar features.

Trackback

You can review your sonar history by pressing the keypad to the left until the screen starts to move in reverse and the sonar history bar appears at the bottom of the screen.

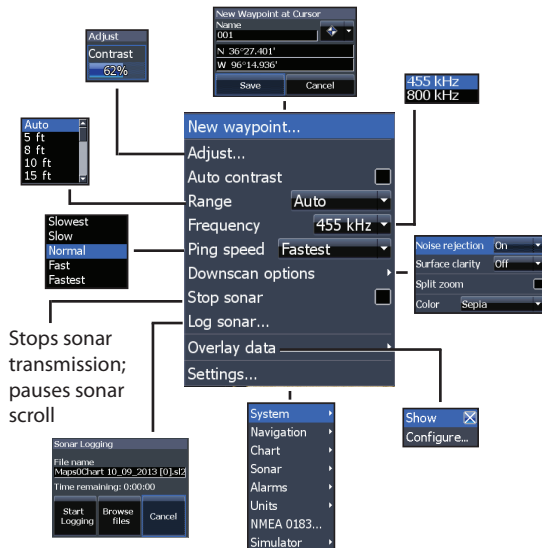
DownScan history bar



Move the sonar history bar all the way to the right to resume normal sonar scrolling, or press **MENU** and select *Exit cursor mode*.

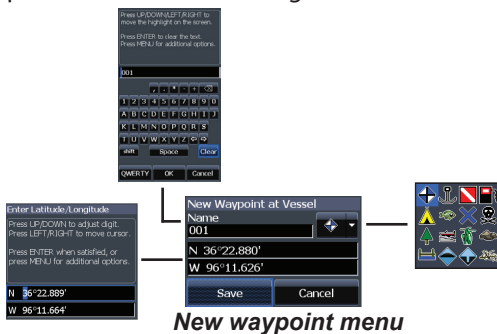
DownScan menu

Press **MENU** from the DownScan page to view the DownScan menu.



New Waypoint

Places a waypoint at your current position or at the cursor position. From the new waypoint menu, you can input a waypoint name, select an icon and input a desired latitude/longitude.



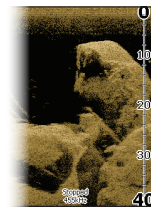
Adjust

Access the Adjust menu to make adjustments to the contrast level.

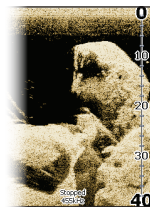


Contrast

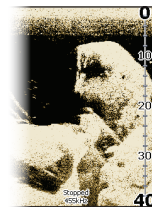
Adjusts the brightness ratio between light and dark areas on the screen, making it easier to distinguish suspended objects from the background.



Contrast set to 40%



Contrast set to 60%



Contrast set to 80%

DownScan units do not have a Sensitivity setting like traditional sonar units. Contrast functions as the sensitivity setting for DownScan units.

Auto Contrast

Automatically adjusts contrast settings to a level that works best with current water conditions.



NOTE: You can make limited adjustments to the contrast level with Auto Contrast turned on. You will have to turn it off to have access to all contrast levels.

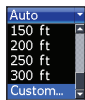
Range

Range settings display the section of the water column from the water surface to the selected depth range.

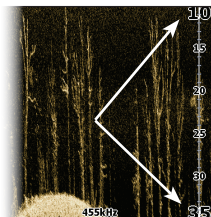
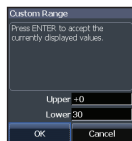


Custom Range — Upper and Lower Limits

Used to select the upper limit and lower limit of a section of the water column. That allows you to



ENTER



view a section of the water column that does not include the water surface.

Upper and lower limits must be at least 5 ft (2m) apart.



NOTE: When using a custom range, you may not receive any digital depth readings, or you may receive incorrect depth information.

Frequency

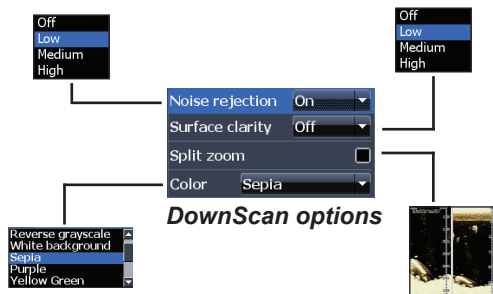
Controls the transducer frequency used by the unit. 800 kHz offers the best resolution, while 455 kHz has greater depth coverage.



Ping Speed

Controls the rate the transducer uses to send sonar waves into the water. Ping speed adjustments can help reduce interference from other transducers.

DownScan options

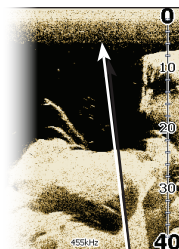


Noise Rejection

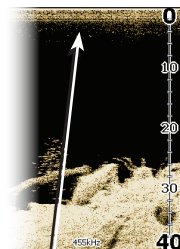
Uses advanced signal processing to monitor the effects noise (boat pumps, water conditions, engine ignition systems, etc.) has on your display, and then filters out undesired signals.

Surface Clarity

Surface Clarity reduces surface clutter by decreasing the sensitivity of the receiver near the surface.



Surface Clarity
set to Low



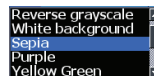
Surface Clarity
set to High

Split Zoom

Changes the display to a split zoom view. You can select a 2X or 4X zoom level. Press the +/- keys to zoom in/ zoom out.

Color

Allows you to select a color palette best suited to your fishing conditions.



The white background palette works well for suspended targets. Purple is useful for viewing structure detail and determining bottom hardness. Sepia is best for looking at bottom detail.

Stop Sonar

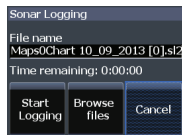
Stops sonar transmission and pauses the sonar chart, allowing you to get a better look at suspended targets and structure.



NOTE: *Sonar history (Trackback) will not be recorded when sonar is stopped.*

Logging Sonar

You can record sonar data and save the file on a microSD card inserted into the unit's card reader.



View previously saved sonar logs

Overlay Data

Allows you to select data to be displayed on top of the Down-Scan page.

Overlay data setup is covered in the “Pages” section.

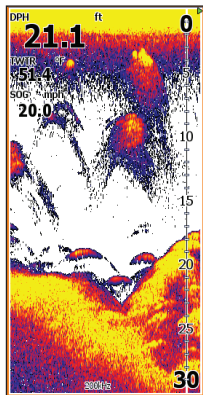


Settings

Accesses the Settings menu. Refer to “Sonar Settings” on page 27.

Sonar Operation

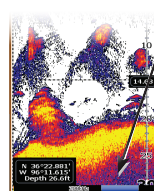
This unit supports two types of sonar: Conventional and DownScan.



The features described in this section are for conventional sonar.

Refer to the “DownScan operation” section for information on DownScan features.

Blue sonar history bar



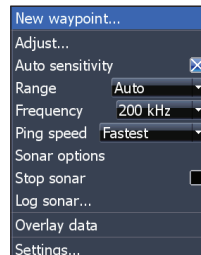
Trackback

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

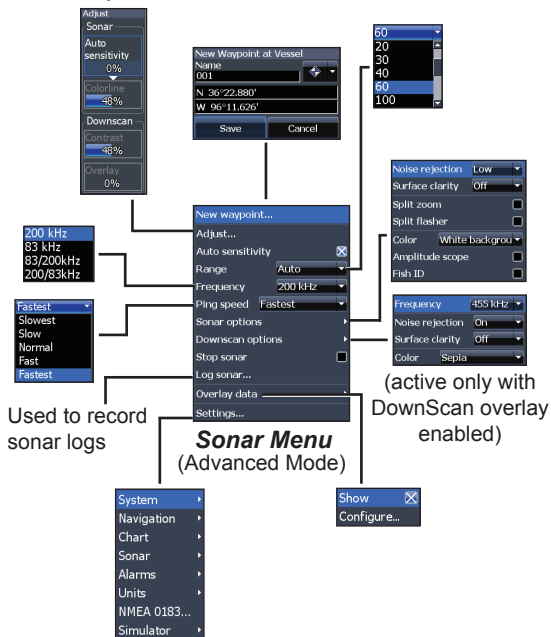
Move the sonar history bar all the way to the right to resume normal sonar scrolling, or press **MENU** and select *Exit cursor mode*.

Sonar Menu

Press **MENU** from any sonar page to access the Sonar menu.

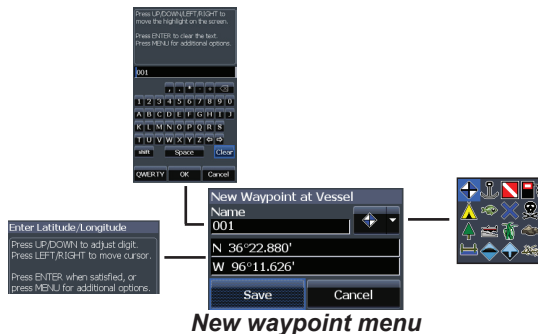


Shown with DownScan overlay enabled



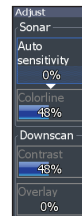
New Waypoint

Places a waypoint at your current position or at the cursor position. From the new waypoint menu, you can input a waypoint name, select an icon and input a desired latitude/longitude.



Adjust

You can make adjustments to Sensitivity and Colorline from the Adjust menu. Contrast and Overlay options will only be active on the Adjust menu with DownScan Overlay enabled.



Sensitivity

Controls the level of detail shown on the display. Too much detail will clutter the screen. If Sensitivity is set too low, desired echoes may not be displayed.



NOTE: You can make changes (+/-40%) to sensitivity with Auto Sensitivity turned on. You will have to turn it off to make significant adjustments.

Colorline

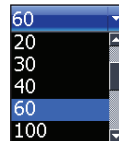
Separates strong sonar echoes from weak sonar echoes. That makes it easier for you to distinguish fish or structure from the bottom. A hard return will be shown as a wide, bright yellow area, whereas a soft return will be a narrow reddish-blue area.

Auto Sensitivity

Keeps sensitivity at a level that works well under most conditions, reducing the need for adjustments. Auto Sensitivity is turned on by default.

Range

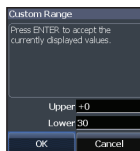
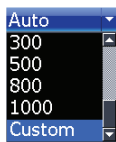
Selects the deepest range shown on the display. Range settings display the section of the water column from the water surface to the selected depth range.



If you select too shallow a depth range, the unit will not be able to lock onto the bottom.

Custom Range — Upper and Lower Limits

Used to select the upper limit and lower limit of a section of the water column. That allows you to view a section of the water column that does not include the water surface. Upper and lower limits must be at least 5 ft (2m) apart.



Custom range menu



NOTE: *When using a custom range, you may not receive any digital depth readings, or you may receive incorrect depth information.*

Ping Speed

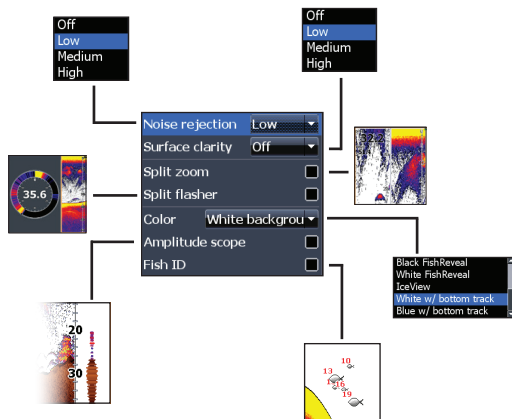
Controls the rate the transducer uses to send sonar waves into the water. Ping speed adjustments can help reduce interference from other transducers. When using fishing modes, ping speed settings are optimized for the selected fishing conditions, so in most cases, adjustments are not necessary.

Frequency

Controls the transducer frequency used by the unit. This unit supports three conventional sonar frequencies: 50kHz, 83kHz and 200kHz.

200 kHz has the highest sensitivity and best target separation in shallow water. 83 kHz offers a wider cone angle for more water coverage. 50 kHz provides the best depth penetration.

Sonar Options

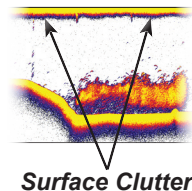


Noise Rejection

Uses advanced signal processing to monitor the effects noise (boat pumps, water conditions, engine ignition systems, etc.) has on your display, and then filters out undesired signals.

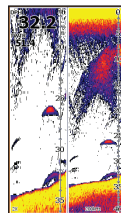
Surface Clarity

Surface Clarity reduces surface clutter by decreasing the sensitivity of the receiver near the surface.

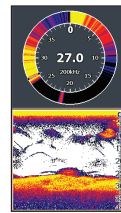


Split Zoom and Split Flasher

Switches the sonar display from full screen sonar to a split screen view.



Split Zoom



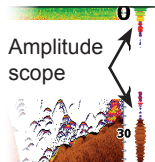
Split Flasher

Color

Allows you to change the look of the display using palettes with varying degrees of color/brightness.

Amplitude Scope

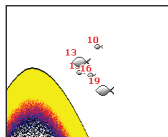
Displays the amplitude of the most recent echo.



Fish ID

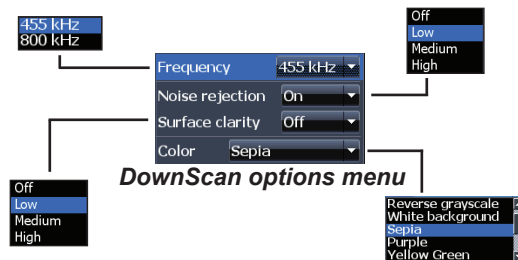
Displays fish echoes as fish symbols instead of fish arches.

Fish ID is not the most accurate method of fish detection since structure and suspended debris may be shown as a fish symbol on the display.



DownScan options

You can make adjustments to DownScan overlay settings from the sonar page. DownScan options are covered in more detail in the “DownScan Operation” section.



NOTE: The DownScan options menu will only be available when DownScan overlay is enabled.

Stop Sonar

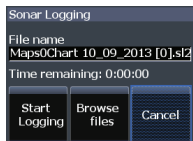
Pauses the unit's sonar, allowing you to get a closer look at suspended targets. Stop Sonar also can be used to prevent/stop interference between two sonar units running on the boat at the same time.



NOTE: Sonar history will not be recorded when sonar is stopped.

Logging Sonar

You can record sonar data and save the file on a microSD card inserted into the unit's card reader.



View previously saved sonar logs

Overlay Data

Allows you to select data to be displayed on top of the Sonar page. Overlay data setup is covered in the "Pages" section.

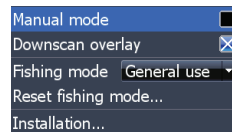


Overlay data

Sonar Settings



ENTER

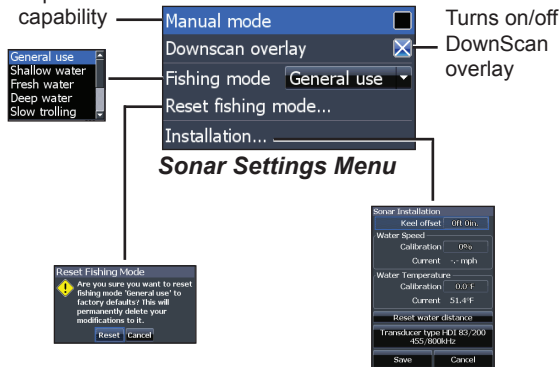


Conventional settings/DownScan Settings

You can adjust settings for both Conventional sonar and DownScan sonar modes from the Sonar Settings menu.

Only adjustments made to conventional sonar settings will be visible on the sonar page.

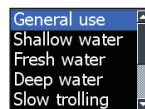
Restricts unit's digital depth search capability



When the unit is in manual mode, you may not receive any depth readings, or you may receive incorrect depth information.

Fishing Mode

Enhances the performance of your unit by providing preset packages of sonar settings geared to specific fishing conditions. For more information about fishing modes, refer to the “Basic Operation” section.



Manual Mode

Restricts digital depth capability, so the unit will only send sonar signals to the selected depth range. That allows the display to continue smooth scrolling if the bottom depth is out of transducer range.



WARNING: Manual mode should only be used by advanced sonar users.

Reset Fishing Mode

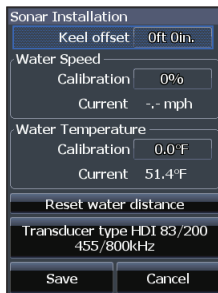
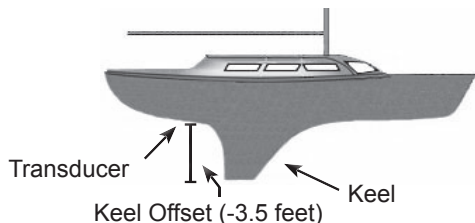
Resets selected fishing mode to default settings. That is useful when you want to clear settings adjustments made while using a fishing mode.

Installation

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.

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.



Installation menu

Water speed calibration

Calibrates a paddlewheel speed sensor with speed data from a GPS source.

Temperature calibration

Calibrates data from the transducer temperature sensor with data from a known temperature source to ensure the accuracy of temperature information.

Reset water distance

Resets the Water Distance value to zero.

Transducer Type

Selects the transducer model attached to your unit. You must select the correct transducer type to get the best sonar performance from your unit.



Chart Operation

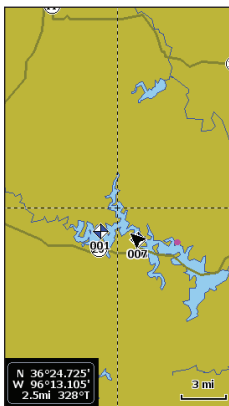
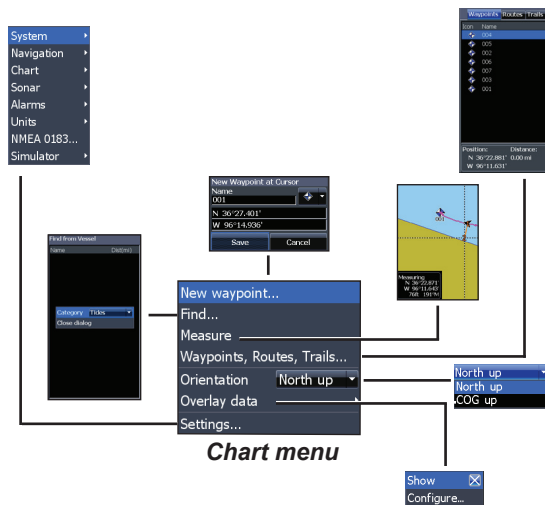


Chart Menu

Press **MENU** from the Chart page to open the Chart menu. Press **ENTER** to launch the New waypoint dialog.

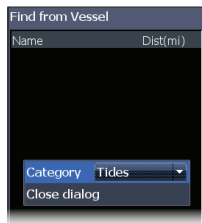


New Waypoint

Creates a waypoint at your current location or at the cursor position. When the cursor is on the screen, waypoints will be saved at the cursor position. If the cursor is not active, waypoints will be saved at your current position.

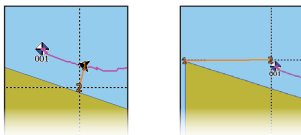
Find

Used to find tides and/or currents on the screen when the screen is cluttered with chart details.



Measure

The cursor can be used to measure the distance between two items on the chart.



To measure distance:

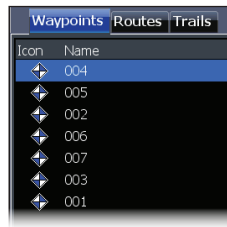
1. Select *Measure* and press **ENTER**.
2. Move the cursor to the desired location. The distance will be shown in the measuring dialog.

3. To measure from the cursor position to a new location, press **ENTER** and move the cursor to a new location.
4. To stop measuring, press **MENU** and select *Stop measuring*.

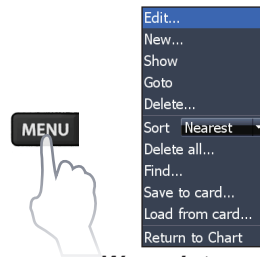
Waypoints, Routes, Trails

Used to create, edit, navigate and delete waypoints, routes and trails.

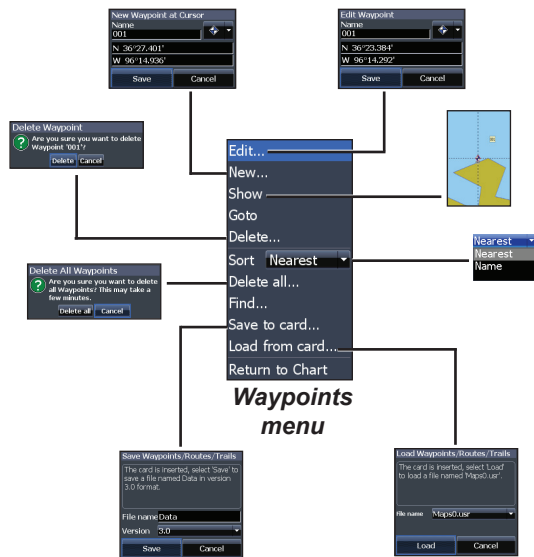
Press the keypad left/right to toggle between waypoints, routes and trails tabs.



Waypoints Screen



Waypoints menu



Waypoints menu

Edit

Allows you to edit the name, icon and latitude/longitude of a selected waypoint.



New

Creates a new waypoint at the cursor or vessel position. You can also select waypoint name, icon and latitude/longitude from the new waypoint dialog.



Show

Displays the selected waypoint on the map.

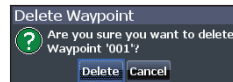


Goto

Allows you to navigate to a waypoint.

Delete and Delete All

Delete is used to delete a selected waypoint. Delete All deletes all waypoints.



Sort

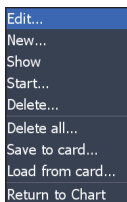
Controls how the waypoints list will be sorted — by name or by nearest.

Routes Screen

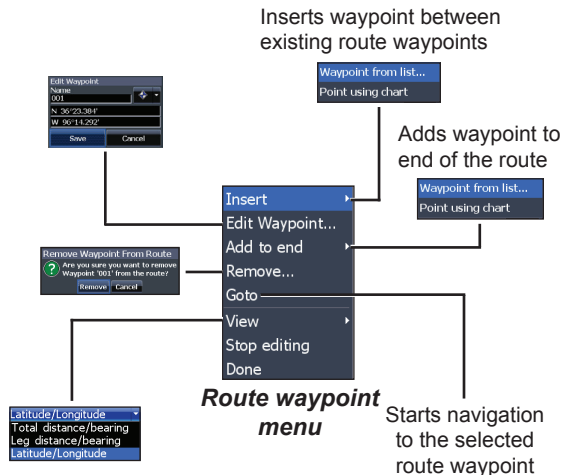
Used to create, edit, navigate and delete routes. Use the keypad to highlight the Routes tab to access the Routes screen.



Routes screen



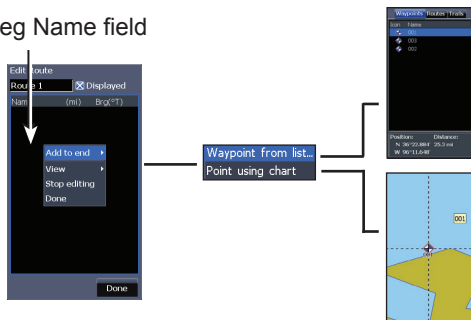
Routes menu



Creating a route

Routes can be created by inserting waypoints from the waypoints list or by using the cursor to position points on the chart. You also can add waypoints to a route by selecting them from the chart screen.

Leg Name field



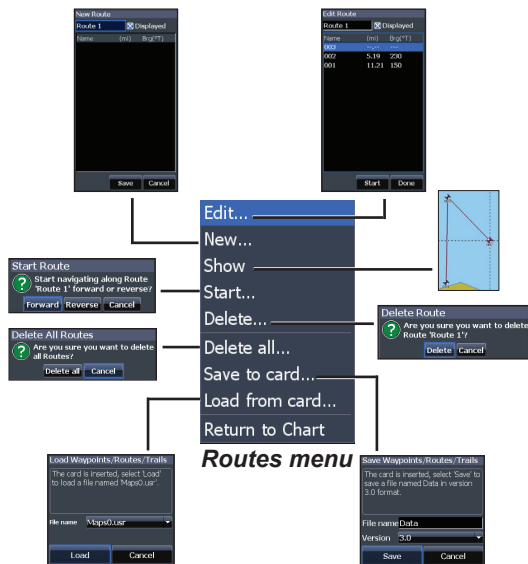
To create a route from waypoint list:

1. Press **MENU** from the Routes screen.
2. Select *New...* and press **ENTER**.
3. Press the keypad down to highlight the Leg Name field and press **ENTER**.
4. Press **MENU**, select *Add to End* and press **ENTER**.
5. Select *Waypoint from list* and press **ENTER**.
6. Select the desired waypoint and press **ENTER**.

7. Press **MENU** and select *Add to end* to add another waypoint to the route.
8. Repeat Steps 5-7 until the route is complete, press **MENU**, select *Stop Editing* and press **ENTER**.
9. Select *Save* and press **ENTER**.

Creating a route using points from chart:

1. Repeat Steps 1-4 from the instructions for Creating a route from waypoint list.
2. Select *Points using chart* and press **ENTER**. The chart page will appear.
3. Move the cursor to the desired location. Press **ENTER** to set a point.
4. Repeat Step 3 to add more points.
5. Press **MENU** and select *Stop adding*. Press **ENTER**.
6. Select *Save* and press **ENTER**.



Routes menu

Navigating a route

Routes can be navigated in forward or reverse.

1. Highlight the desired route on the Route screen and press **MENU**.
2. Select **Start** and press **ENTER**.

3. Select **Forward** or **Reverse** and press **ENTER**.
4. Press **MENU** and select **Return to Chart**. Press **ENTER**.

To cancel navigation:

1. Press **Menu** from the chart screen.
2. Select **Navigation** and press **ENTER**.
3. Highlight **Cancel** and press **ENTER**.
4. Select **Yes** and press **ENTER**.

Edit and New Route dialogs

Used to edit/create routes, route names and to turn on/off the route display.



Displays/hides route on the map

To edit/create a route, use the keypad to select the Route Leg Name field and press **ENTER**.



MENU



To access the “Edit” or “New Route” dialog, select **Edit** or **New** on the Routes menu and press **ENTER**.

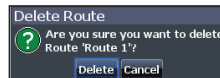
To finalize changes on the “Edit” or “New Route” dialogs, highlight the **Done** button and press **ENTER**.

Displayed

You can use the Displayed feature to declutter the screen when multiple routes are visible on the map display.

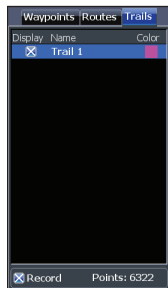
Delete and Delete All

Delete is used to delete individual routes. Delete All, removes all routes.

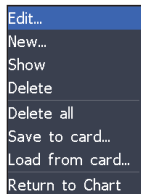


Trails Screen

Used to create, edit, navigate and delete trails. Use the keypad to highlight the Trails tab to access the Trails screen.



Trails screen



Trails menu



Trails menu

Creating trails

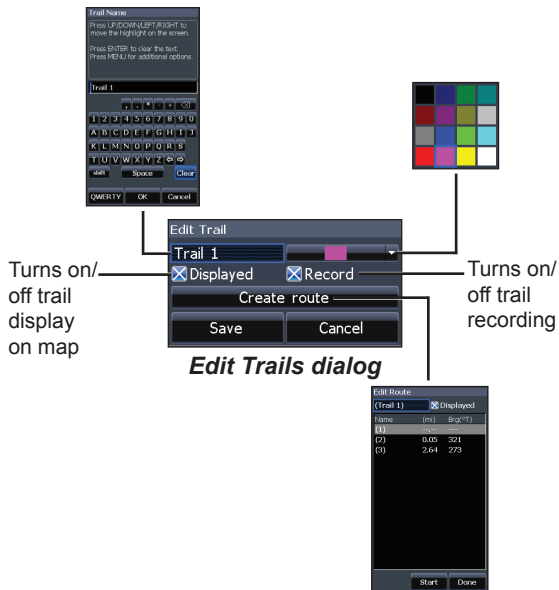
When creating a trail you can customize the trail name and color from the New Trail.

To create a trail:

1. Select *New* and press **ENTER**. The New Trail dialog will appear.
2. Select *Save* and press **ENTER**.

Edit and New Trail dialogs

Allows you to edit/create trails, select trails names, trail color, trail display and the trail being recorded. You can also convert a trail into a route from the Edit Trails dialog.



Navigating a trail

A trail must be saved as a route before it can be navigated.

To save a trail as a route:

1. Highlight the desired trail on the Trails screen and press **ENTER**. The Edit Trail menu will appear.
2. Highlight *Create Route* and press **ENTER**. The Edit Route menu will appear.
3. Highlight *Done* and press **ENTER**.
4. For navigation instructions refer to the "Navigating a route" segment.

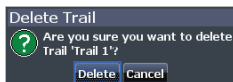
Displayed and Record

You can use the Displayed feature to declutter the screen when multiple trails are visible on the map display.

The Record command allows you to record or resume recording a trail.

Delete and Delete All

Delete is used to remove individual trails. Delete All removes all trails.

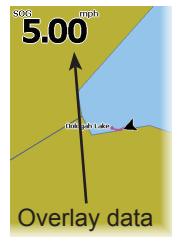


Orientation

Allows you to select North Up or Course Over Ground (COG) as the map orientation.

Overlay Data

Allows you to select data to be displayed on top of the Chart page.



Overlay data setup is covered in the “Pages” section.

Settings

Accesses the “Chart settings” menu.

Chart Settings

Controls map data used on the chart screen as well as display settings like grid lines, waypoints, routes and trails.

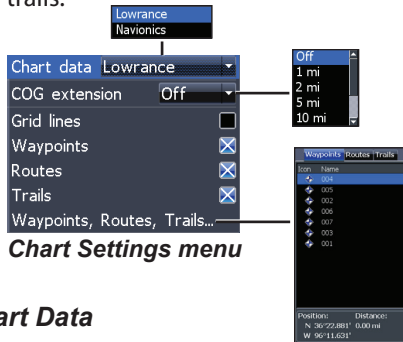


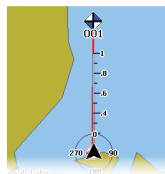
Chart Settings menu

Chart Data

Selects map data that will be used on the Chart display (Lowrance or Navionics regional map). Go to Navionics.com to see a full selection of available charts.

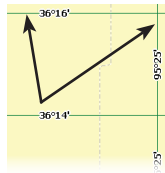
COG Extension

A line extending from the front of the current position icon that estimates the time and distance to areas in front of you.



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.



Waypoints, Routes and Trail displays

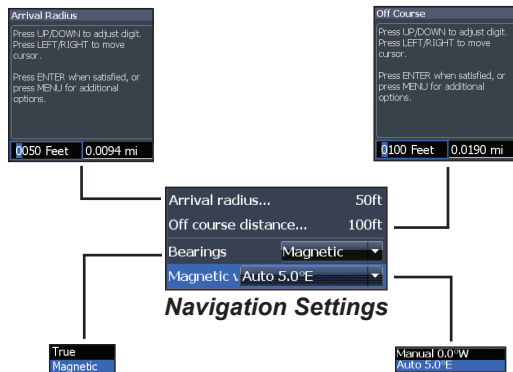
From the Chart Settings menu, you can turn on/off waypoint, route and trail display properties. Turning off display properties allows you to get a better view of the map, if the screen becomes cluttered with waypoints, routes and/or trails.

Waypoints, Routes, Trails

Accesses the Waypoints, Routes & Trails screen.

Navigation Settings (Advanced mode only)

Controls Arrival Radius and Off Course distance settings and is used to turn on/off WAAS/MSAS/EGNOS.



Arrival Radius

Sets the arrival radius threshold for the Arrival alarm. The arrival alarm will sound when your vessel comes within a selected distance (arrival radius) of the destination waypoint.

Off Course Distance

Sets Off Course Distance threshold for the Off Course alarm. When the selected off course distance is exceeded, the Off Course alarm will sound when the alarm is enabled.

Bearings

Controls whether bearing will be calculated using True North or Magnetic North. Magnetic North should be used when navigating with a compass course or heading; otherwise use the default setting, True North.

Magnetic Variation

Controls whether magnetic variation will be calculated using Automatic or Manual settings. Magnetic variation is the angle between magnetic north and true north. The automatic setting reconciles the variation for you.

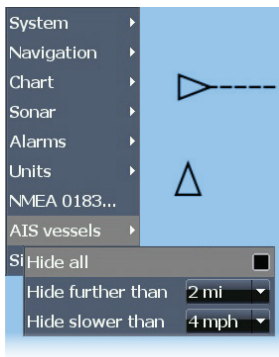


WARNING: *You should only use the Manual magnetic variation setting if you have variation information from a verified source.*

AIS

The marine Automatic Identification System (AIS) is a location and vessel information reporting system. It allows vessels equipped with AIS to automatically receive position, speed, course and vessel identity information from other AIS-equipped vessels.

If an AIS device is connected, all targets detected by the device can be displayed.



AIS Setup

Before using AIS, your unit must be set to the same Baud rate as your AIS device.



NOTE: Your unit must be set to Advanced mode to access NMEA 0183 settings.




To select a Baud rate:

1. Access the settings menu.
2. Select **NMEA 0183**.
3. Access the Baud rate dropdown menu on the NMEA 0183 settings dialog.
4. Select the same Baud rate used by your AIS device.
5. Select **Save**.



Target symbols

The unit uses the AIS target symbols shown below:

Symbol	Description
	Stationary AIS target
	Moving AIS target with (COG) course extension line The extension line always represents the target's course over ground and is set to 10 minutes by default.
	Lost AIS target When no signals have been received within a time limit a target will be defined as lost. The target symbol represents the last valid position of the target before the reception of data was lost.

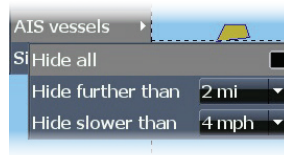


NOTE: If you receive heading data from an AIS vessel, the orientation of the vessel icon represents its heading. If heading data is not received, the orientation of the vessel icon represents its course over ground (COG).

Filtering the targets

All targets, by default, are shown on the display if an AIS device is connected to your unit.

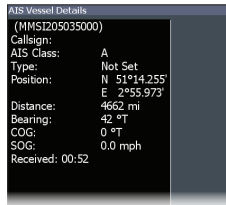
You can hide all targets, or filter the target icons based on distance and vessel speed.



Viewing AIS target information

When you place the cursor on an AIS icon the MMSI number or vessel name (if available) will be displayed.

You can view detailed information about a target by selecting the target and pressing **ENTER**. The AIS Vessel detail dialog will appear.



AIS Vessel detail dialog

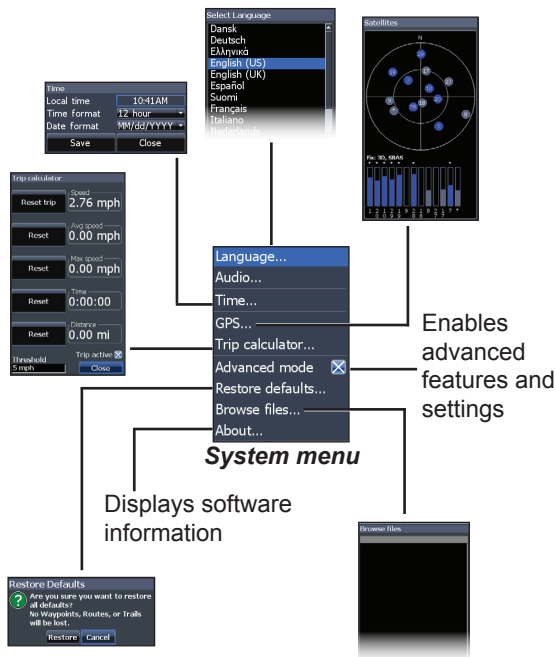
Settings menu

The screenshot displays the 'Settings' menu, which is the central hub for configuring the application. The menu is organized into several sections:

- Chart data:** Includes options for 'Lowrance' (selected), 'COG extension' (set to 'Off'), 'Grid lines' (checked), 'Waypoints' (checked), 'Routes' (checked), 'Trails' (checked), and a link to 'Waypoints, Routes, Trails...'. Below this is the 'Arrival' section with 'Off course' (checked), 'Anchor' (checked), 'Shallow' (checked), and 'Fish' (unchecked).
- System:** Includes 'Language...', 'Audio...', 'Time...', 'GPS...', 'Trip calculator...', 'Advanced mode' (checked), 'Restore defaults...', 'Browse files...', and 'About...'. Below this is the 'Simulation' section with 'NMEA 0183...' (checked) and 'Simulator' (checked).
- Navigation:** Includes 'Manual mode' (checked), 'Downscan overlay' (checked), 'Fishing mode' (set to 'General use'), 'Reset fishing mode...', and 'Installation...'. Below this is the 'Distance' section with 'Miles' (selected), 'Speed' (set to 'MPH'), 'Depth' (set to 'Feet'), 'Temperature' (set to 'Fahrenheit'), and 'Bearings' (set to 'Magnetic').
- Output Sentences:** Includes 'NMEA 0183 Output Sentences', 'GPS', 'GGA' (checked), 'RMC' (checked), 'DBT' (checked), 'HDT' (checked), 'MWD' (checked), 'APB' (checked), and 'BWC' (checked).
- Other Options:** Includes 'Simulate' (checked) and 'Options...'.

The 'Settings' menu is highlighted in blue, and the 'Advanced mode' option is also highlighted in blue. The 'Arrival' section is expanded, showing the 'Off course' option. The 'Distance' section is also expanded, showing the 'Miles' option. The 'Simulation' section is expanded, showing the 'NMEA 0183...' option. The 'Manual mode' section is expanded, showing the 'Downscan overlay' option. The 'Fishing mode' section is expanded, showing the 'General use' option. The 'Reset fishing mode...' option is also visible. The 'Installation...' option is also visible. The 'Distance' section is expanded, showing the 'Miles' option. The 'Speed' section is expanded, showing the 'MPH' option. The 'Depth' section is expanded, showing the 'Feet' option. The 'Temperature' section is expanded, showing the 'Fahrenheit' option. The 'Bearings' section is expanded, showing the 'Magnetic' option. The 'Simulate' option is checked. The 'Options...' option is also visible.

Adjusts unit settings like language, mute audio and advanced mode.



Set Language

Selects the language used on menus and text boxes.



Audio

Adjusts volume and turns on/off unit audio, like key beeps, alarm sounds, etc.

GPS

Monitors the location of satellites in view and the quality of the unit's satellite lock-on. GPS Source, WAAS/MSAS/EGNOS and Time features are accessed from the GPS dialog.



WAAS/MSAS/EGNOS

Turns on/off WAAS, MSAS and EGNOS.

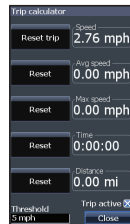
All three systems help increase GPS accuracy for different parts of the world.

Time

Used to set local time, and time and date formats for your unit.

Trip Calculator

Tracks trip time, speed and distance when you are moving faster than the selected threshold.



Advanced Mode

Enables features and settings only available with unit in Advanced Mode.

Restore Defaults

Switches the unit back to default settings.

Browse Files

Allows you to view a list of the files saved to a microSD card.

Saving Screenshots

You can save screenshots to a microSD card by inserting a microSD card into the card slot and pressing Power and then Zoom (+).

You can view files on a computer or other microSD compatible device.

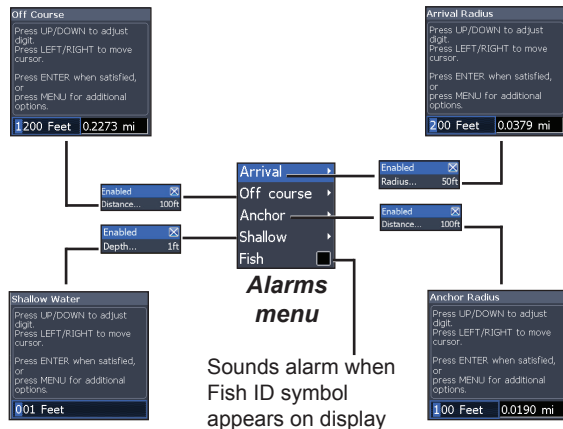
About

Displays software information about this unit. Before attempting a software update, you can check the version of software your unit is using by accessing the About screen.

Lowrance periodically updates unit software to add features and improve functionality. To see the latest available software version go to www.lowrance.com.

Alarms

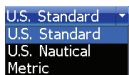
Enables alarms and selects alarm thresholds. "Arrival," "Off Course" and "Anchor" alarms are only available in Advanced mode.



Alarms	
Arrival	sounds alarm when you are within a selected distance of your destination (Advanced Mode only)
Off Course	sounds alarm when course exceeds a selected off-course threshold (Advanced Mode only)
Anchor	sounds alarm when vessel moves a selected distance (Advanced Mode only)
Shallow	sounds alarm when vessel enters water shallower than the selected shallow threshold
Fish	sounds alarm when a fish symbol (Fish ID) appears on the sonar screen

Units

Allows you to select the unit of measure used by the unit. Unit options vary depending on whether the unit is in basic or advanced mode.



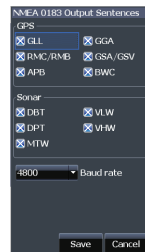
Basic Mode



Advanced Mode

NMEA 0183 Output (Advanced mode only)

You can select the NMEA 0183 sentences the unit will use when connected to a VHF radio or other NMEA 0183 device.



You can also adjust the Baud rate, but the default setting works best under most conditions.

Simulator

Simulates GPS and/or sonar activity. Simulations can be customized on the Simulator options menu.

Mark-4 & Elite-4 HDI	
General	
Case Size	6.6" H (168 mm) x 3.6" W (96 mm); 7.5" H (189 mm) with bracket
Display	Elite-4: (4.3" diagonal) 16-bit color TFT LCD Mark-4: (4.3" diagonal) 16-bit grayscale TFT LCD
Waterproof standard	IPX7
Backlight	LED (11 levels)
Communications	NMEA 0183 Output
Power	
Transmit Power	250W RMS; 30,000 PTP
Power Requirement	12V
Voltage Input	10 to 17V
Current drain	Typical: .75A
Fuse type	3-amp Automotive

Sonar	
Max depth	300 ft (91 m) 455/800khz 750 ft (229 m) 83/200kHz 2000 ft (610 m) 50/200kHz
Transducer Frequency	455/800kHz and 83/200kHz or 50/200kHz
Max speed	70mph
Transducer	HDI 50/200kHz HDI 83/200kHz 83/200kHz
Transducer cable	20ft (6m)
GPS	
Mapping card slot	microSD and microSDHC
GPS Antenna	High accuracy GPS antenna (internal only)
Mapping compatibility	Fishing Hot Spots & Navionics (Hotmaps, Premium and Gold) CMap Max N, Insight Pro & HD plus Insight Genesis
Waypoints, Routes & Trails	Up to 3000 waypoints, 100 routes/100 waypoints per route, 100 retracable plot trails/up to 10,000 points per trail

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