GPS Receiver and Heading Sensor

Operations Guide

HUMMINBIRD

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THANK YOU!

Thank you for choosing Humminbird®, the #1 name in marine electronics. Humminbird has built its reputation by designing and manufacturing top-quality, thoroughly reliable marine equipment. Your Humminbird accessory is designed for trouble-free use in even the harshest marine environment. In the unlikely event that your Humminbird accessory does require repairs, we offer an exclusive Service Policy. For complete details, see the separate warranty card included with your accessory. We encourage you to read this operations manual carefully in order to get full benefit from all the features and applications of your Humminbird product.

Contact Humminbird Technical Support at **humminbird.com** or call **1-800-633-1468**.

WARNING! This device should not be used as a navigational aid to prevent collision, grounding, boat damage, or personal injury. When the boat is moving, water depth may change too quickly to allow time for you to react. Always operate the boat at very slow speeds if you suspect shallow water or submerged objects.

WARNING! The electronic chart in your Humminbird unit is an aid to navigation designed to facilitate the use of authorized government charts, not to replace them. Only official government charts and notices to mariners contain all of the current information needed for the safety of navigation, and the captain is responsible for their prudent use.

WARNING! Compass Safe Distance: Do NOT install the Heading Sensor near ferrous metals or near anything that may create a magnetic field or interference. The Heading Sensor must be installed at least 3 feet (1m) from other magnetic or ferrous materials on the boat.

WARNING! Humminbird is not responsible for the loss of data files (waypoints, routes, tracks, groups, recordings, etc.) that may occur due to direct or indirect damage to the unit's hardware or software. It is important to back up your control head's data files periodically. Data files should also be saved to your PC before restoring the unit's defaults or updating the software. See your Humminbird online account at **humminbird.com.**

WARNING! Disassembly and repair of this electronic unit should only be performed by authorized service personnel. Any modification of the serial number or attempt to repair the original equipment or accessories by unauthorized individuals will void the warranty.

NOTE: Some features discussed in this manual require a separate purchase, and some features are only available on international models. Every effort has been made to clearly identify those features. Please read the manual carefully in order to understand the full capabilities of your model.

NOTE: The illustrations in this manual may not look the same as your product, but your unit will function in the same way.

NOTE: To purchase accessories for your control head, visit our Web site at **humminbird.com** or contact Humminbird Technical Support at **1-800-633-1468**.

NOTE: The procedures and features described in this manual are subject to change without notice. This manual was written in English and may have been translated to another language. Humminbird is not responsible for incorrect translations or discrepancies between documents.

ATTENTION INTERNATIONAL CUSTOMERS: Products sold in the U.S. are not intended for use in the international market. Humminbird international units provide international features and are designed to meet country and regional regulations. Languages, maps, time zones, units of measurement, and warranty are examples of features that are customized for Humminbird international units purchased through our authorized international distributors.

To obtain a list of authorized international distributors, please visit our Web site at **humminbird.com** or contact Humminbird Technical Support at **(334) 687-6613**.

ENVIRONMENTAL COMPLIANCE STATEMENT: It is the intention of Johnson Outdoors Marine Electronics, Inc. to be a responsible corporate citizen, operating in compliance with known and applicable environmental regulations, and a good neighbor in the communities where we make or sell our products.

WEEE DIRECTIVE: EU Directive 2002/96/EC "Waste of Electrical and Electronic Equipment Directive [WEEE]" impacts most distributors, sellers, and manufacturers of consumer electronics in the European Union. The WEEE Directive requires the producer of consumer electronics to take responsibility for the management of waste from their products to achieve environmentally responsible disposal during the product life cycle.

WEEE compliance may not be required in your location for electrical & electronic equipment (EEE), nor may it be required for EEE designed and intended as fixed or temporary installation in transportation vehicles such as automobiles, aircraft, and boats. In some European Union member states, these vehicles are considered outside of the scope of the Directive, and EEE for those applications can be considered excluded from the WEEE Directive requirement.

This symbol [WEEE wheelie bin] on product indicates the product must not be disposed of with other household refuse. It must be disposed of and collected for recycling and recovery of waste EEE. Johnson Outdoors Marine Electronics, Inc. will mark all EEE products in accordance with the WEEE Directive. It is our goal to comply in the collection, treatment, recovery, and environmentally sound disposal of those products; however, these requirements do vary within European Union member states. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased.

ROHS STATEMENT: Product designed and intended as a fixed installation or part of a system in a vessel may be considered beyond the scope of Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

EU DECLARATION OF CONFORMITY: Hereby, Humminbird declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The declaration of conformity may be consulted at https://www.humminbird.com/Category/Support/FAQ/EU_DoC/.

This product has been so constructed that the product complies with the requirement of Article 10[2] as it can be operated in at least one Member State as examined and the product is compliant with Article 10[10] as it has no restrictions on putting into service in all EU member states.

TABLE OF CONTENTS

OVERVIEW

The Humminbird Sensor Accessory Kit includes the following items depending on the Sensor model you purchased:

GPS Reciever (AS GR16, AS GR50, AS GRP)	GPS Receiver/Heading Sensor (AS GPS HS)
Sensor with internal GPS Receiver. Cable length is 20 ft (6m).	Sensor with internal GPS Receiver and Compass. Cable length is 20 ft (6m).
Hardware kit for stem or deck mounting	Hardware kit for stem or deck mounting
Installation Guide	Installation Guide

NOTE: The stem mount is not included. To purchase extension cables and other accessories, see our Web site at **humminbird.com** or call Humminbird Technical Support at **1-800-633-1468**.

The following functionality will be supported by your trackplotter when it is connected to the Sensor:

- View current position
- View current track (breadcrumb trail)
- View precision speed and heading from your GPS receiver
- Save tracks and waypoints
- Travel a route and navigate from one waypoint to the next
- View the heading from the Heading Sensor (AS GPS HS only)

NOTE: For details about the installation of your GPS Reciever or Heading Sensor, refer to the installation guide included with your accessory. Operations manuals and installation guides can be downloaded from our Web site at **humminbird.com**.

NOTE: If your control head is a chartplotter, there will be additional functionality when the Sensor is connected to the control head. See your control head operations manual and the Humminbird Waypoint Management Guide for more information. The manuals are included on the CD that was included with your control head, or you can download these manuals from our Web site at **humminbird.com**.

How GPS and Trackplotting Work

Your Humminbird uses GPS to determine your position and display it on a grid.

GPS uses a constellation of satellites that continually send radio signals to the earth. The GPS receiver on your boat receives signals from satellites that are visible to it. Based on time differences between each received signal, the GPS receiver determines its distance to each satellite. With distances known, the GPS receiver mathematically triangulates its own position. With 5 updates per second, the GPS receiver then calculates its velocity and bearing.

GPS was originally intended for military use; however, civilians may also take advantage of its highly accurate position capabilities, typically within +/− 2.5 to 10 meters, depending on your conditions and your Humminbird model. This means that 95% of the time, the GPS receiver will read a location within +/− 2.5 to 10 meters of your actual position.

Your GPS receiver also uses information from WAAS (the Wide Area Augmentation System), EGNOS (the European Geostationary Navigation Overlay Service), and MSAS (the MTSAT Satellite Augmentation System) satellites if they are available in your area.

How the Heading Sensor Works

The magnetic compass is one of the first known instruments for navigation. It relies on the earth's magnetic field to align a magnetic pointer towards North, also known as Magnetic North.

If your accessory includes a Heading Sensor, the control head will display the heading from the internal compass in digital format. The Heading is the direction the boat is pointing, where 000° is North, 090° is East, 180° is South, and 270° is West.

Due to wind and waves, the boat is often traveling in a slightly different direction than its heading. The direction of travel, or Course Over Ground, is provided by the GPS receiver. You can use the compass Heading with the GPS Course Over Ground and Bearing to navigate a route.

A compass' Magnetic North is affected by the local variations in the earth's magnetic field around the globe. Nautical charts will often provide the magnetic declination, or magnetic variation, for a local area so that you can confirm that Magnetic North matches True North. If you have trailered the boat to a new location, the compass' operation may also be affected by a different magnetic zone. The Humminbird control head compensates for magnetic declination and also allows you to make additional adjustments from the menu system. The details of these features are described in this manual.

Getting Started

The procedures in this section describe how to get started with your control head. Some of the settings in this section are a one-time set up, and other settings (such as checking the GPS reception) you will use each time you hit the water.

1 | Power On and Confirm GPS Reception

Follow the instructions below to power on your Humminbird control head.

**SOLIX Series**

GPS (1) Satellite Sky Chart
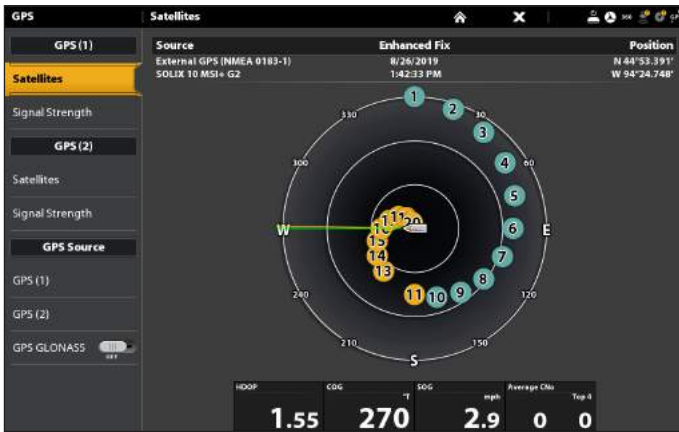
1. Press the ⏻ POWER key.

2. Press the HOME key.

3. Review the top, right corner of the status bar.

   🧭 Compass: The selected compass/heading sensor is on and heading data is being received

   GPS Detected and Active: If a sensor is active and transmitting/receiving, the GPS icon will be white.

   GPS Connected but not Detected or Active: If a sensor is not detected on the network, or not transmitting/receiving, it will be completely gray.

   GPS Connected but not Transmitting/Receiving: If a sensor is detected, but is not transmitting/receiving, the icon will be partially gray. In this illustration, the GPS receiver is detected, but it doesn't have a GPS fix. This feature will vary with the type of icon represented.

4. If the sensors are active, your system is ready for use on the water.

   To review satellites and signal strength, press the Home key and select GPS.

   If the icon is not displaying in the system status bar, check the installation of the accessory and the cable connection to the control head.

HELIX Series

GPS Diagnostic View
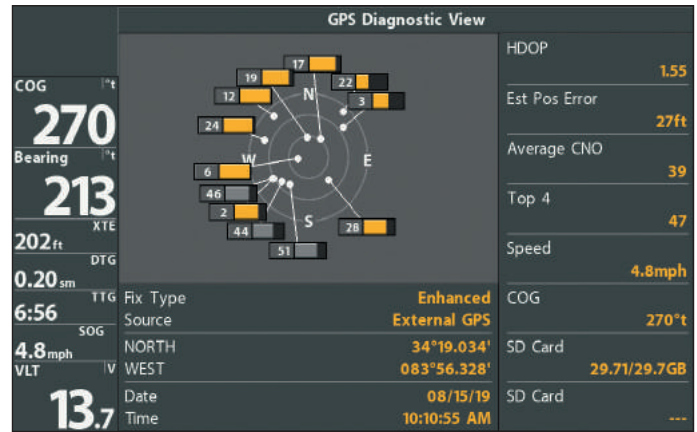
1. Press the ⏻ POWER/LIGHT key.

2. When the Title screen is displayed, press the MENU key to access the Start-Up Options Menu.

3. If a functioning transducer is connected, Normal operation will be selected automatically, and your Fishing System can be used on the water. See your control head operations manual for more information.

4. Press the VIEW key repeatedly until the GPS Diagnostic View is displayed on the screen. Confirm that External GPS is displayed and the Fix Type indicates Enhanced or 3D.

   ▪ If the GPS Diagnostic View is not displayed in the rotation, press the MENU key twice to open the Main Menu. Select the Views tab > GPS Diagnostic View > Visible.

   ▪ If it is connected and detected, the Sensor will also be displayed in the Accessory Test screen.

   NOTE: The GPS Diagnostic View only appears if the GPS receiver is connected.

2 | Turn On NMEA Output and Confirm the Baud Rate (for devices connected to the pigtail only)

If you connected a device to the Sensor pigtail wires, turn on NMEA Output to enable communication and output NMEA 0183 sentences from the control head. It is also important to note the following:

- **If the GPS Receiver/Heading Sensor (AS GPS HS) is connected to the control head, and NMEA Output is turned on**, the control head will operate exclusively at a baud rate of 38400. If there is a device attached to the Sensor's pigtail, it also needs to operate at 38400. See your device's installation guide to set the baud rate to 38400.

- **If a GPS Receiver (AS GR16, AS GR50, AS GRP) is connected to the control head, and NMEA Output is turned on**, the control head will operate exclusively at a baud rate of 4800. If there is a device attached to the Sensor's pigtail, it also needs to operate at 4800. See your device's installation guide to set the baud rate to 4800.

- **If NMEA Output is turned off**, then baud rates 4800, 9600, and 38400 are available on the control head, but the device will not receive NMEA data.

Turn On/Off NMEA Output

SOLIX Series

1. Press the HOME key.

2. Select Settings > Network > NMEA 0183 > NMEA 0183 Output.

   Tap the on/off button.

HELIX Series

1. Press the MENU key twice.

2. Select Setup tab > NMEA Output.

3. Press the RIGHT or LEFT Cursor keys to select On or Off. (Default = Off)

NOTE: The menu option in your Fishing System will be called NMEA 0183 Output or NMEA Output. If the menu option is not shown under the Setup tab, make sure the User Mode is set to Advanced (Setup tab > User Mode > Advanced).

3 | Confirm the Heading Sensor Operation (Heading Sensors only [AS GPS HS])

It is important to confirm that the Heading Sensor is installed correctly by reviewing the heading digital readout.

NOTE: This procedure should be performed at slow speeds, in calm, open water, in a large area that is far from shallow water, boats, or other obstacles.

SOLIX Series

1. Press the HOME key.

2. Select Settings > General > Units > Compass > Magnetic North.

3. With a Sonar View displayed on-screen, navigate the boat in a straight line, in calm, open water at 4.5 mph. Compare the Heading digital readout on the screen with the Course (COG) digital readout. The readouts should be within approximately 5° of each other.

   Adjust: To adjust the zero point of the Heading Sensor, select Settings > Network NMEA 0183 > Data Offsets. Select Heading Adjustment. Tap the on/off button, or press the ENTER key, to turn it on. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

HELIX Series

1. Press the MENU key twice to open the Main Menu.

2. Select Navigation tab > North Reference > Magnetic.

3. Press the EXIT key.

4. Select Setup tab > Select Readouts.

NOTE: If the Select Readouts menu option does not appear under the Setup tab, change the User Mode to Advanced. Select Main Menu > Setup tab > User Mode > Advanced.

5. Select a Readout position and use the RIGHT or LEFT Cursor keys to select Heading. Select another Readout position and select Course.

6. Press the EXIT key until the Main Menu is closed.

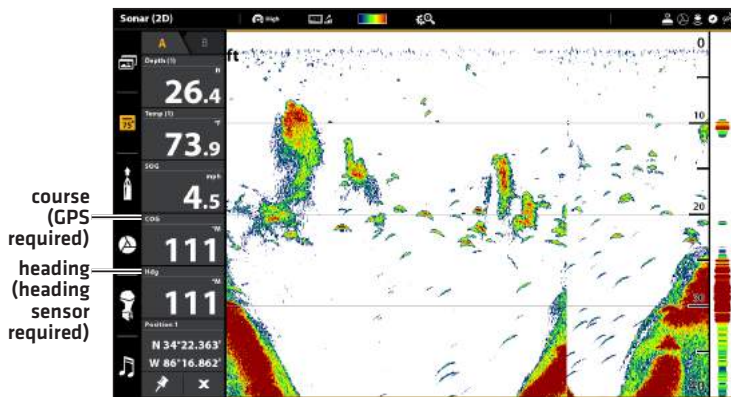7. Press the VIEW key until the Sonar View is displayed on the screen.

If the procedure failed: If the Heading digital readout is significantly different than the COG, the Heading Sensor might be installed in a location with too much magnetic interference. Check the installation location and possible magnetic disturbances in the area.

8. Navigate the boat in a straight line, in calm, open water at 4.5 mph. Compare the Heading digital readout on the screen with the Course (COG) digital readout. The readouts should be within approximately 5° of each other.

    Adjust: To adjust the zero point of the Heading Sensor, select Main Menu > Navigation tab > Heading Offset. Press the RIGHT or LEFT Cursor keys to adjust the setting.

    If the procedure failed: If the Heading digital readout is significantly different than the COG, the Heading Sensor might be installed in a location with too much magnetic interference. Check the installation location and possible magnetic disturbances in the area.

Confirming the Heading Digital Readout (Chart View)

course (GPS required)

heading (heading sensor required)

Confirming the Heading Digital Readout (Chart View)

course (GPS required)

heading (heading sensor required)

Confirming the Heading Digital Readout (Sonar View)

course (GPS required)

heading (heading sensor required)

Confirming the Heading Digital Readout (Sonar View)

course (GPS required)

heading (heading sensor required)
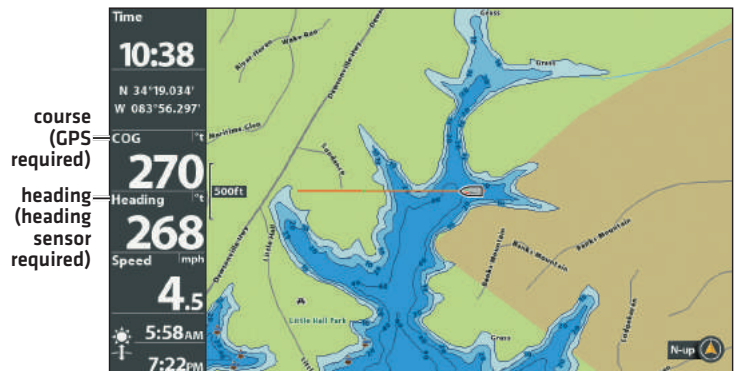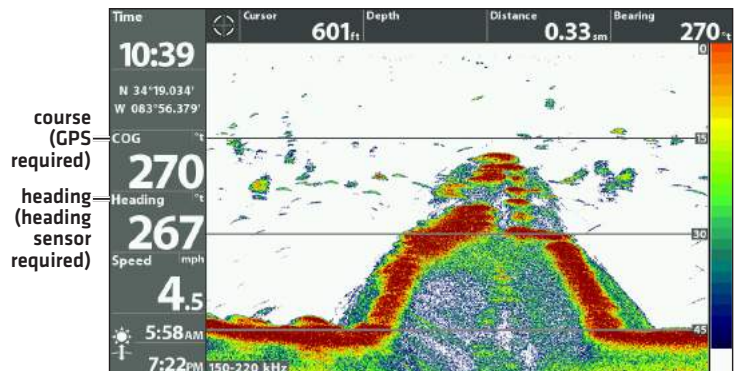
Menu System Overview

The menu system provides menu options that are determined by the operations mode, on-screen view, and connected accessories.

Open the Main Menu

SOLIX Series

The Settings tool provides main menu settings for the control head.

Open Settings

1. Press the HOME key.

2. Tap Settings.

   OR

   Use the Joystick to select Settings. Press the ENTER key.

Select Setting

Navigation Main Menu
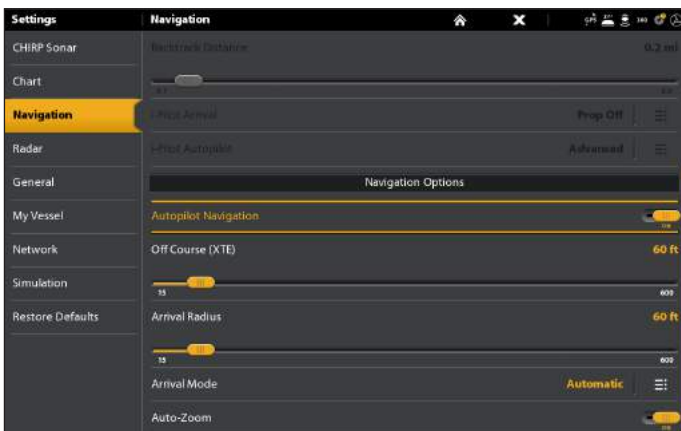
HELIX Series

The main menu is divided into tabbed categories [Alarms, Sonar, Navigation, Chart, Humminbird Chart, Setup, Views, and Accessories]. The available tabs and menus are determined by your model and the connected accessories.

Open the Main Menu

1. Press the MENU key twice.

Opening the Main Menu
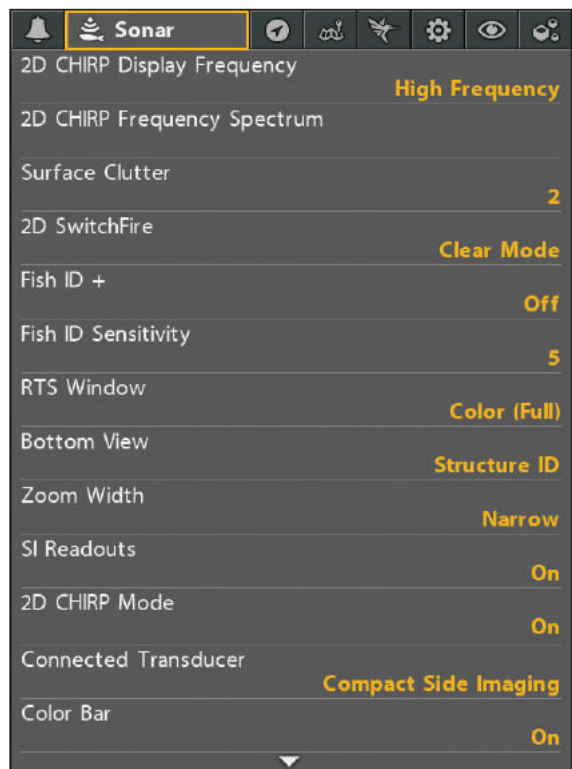
Additional Keypad Option
With a view displayed on-screen, press the MENU key twice, or press and hold the MENU key.

Open an X-Press Menu

The X-Press Menu displays menus that are related to the on-screen view and the operations mode (such as navigation).

SOLIX Series

Open an X-Press Menu

1. With a view displayed on-screen, tap the view name in the status bar.

   OR

   Press the MENU key.

Open an X-Press Menu in a Multi-Pane View

In a multi-pane view, the X-Press Menu options are determined by which pane is selected. See *Views* for more information.

1. With a Multi-Pane View displayed on-screen, tap a pane.

   OR

   Press the PANE key to select a pane.

2. Tap the pane name in the status bar, or press the MENU key.

HELIX Series

Open the X-Press Menu

1. Press the VIEW key repeatedly until the view you want is displayed on-screen.

2. Press the MENU key once.

Opening an X-Press Menu for a Selected Pane

X-Press Menu

selected pane outlined in yellow
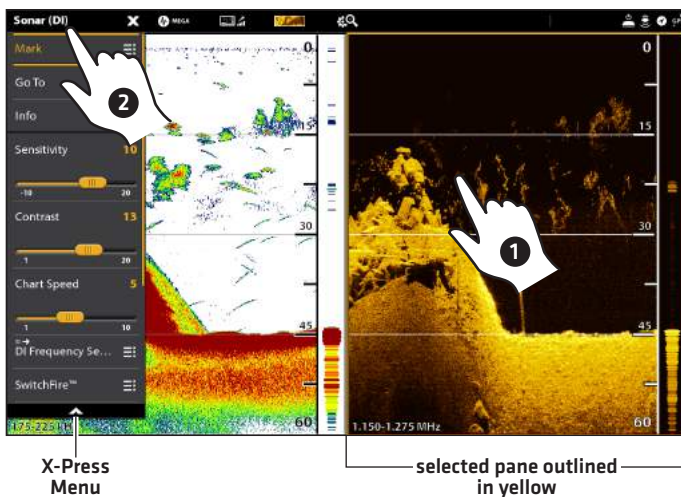
Opening the Sonar X-Press Menu
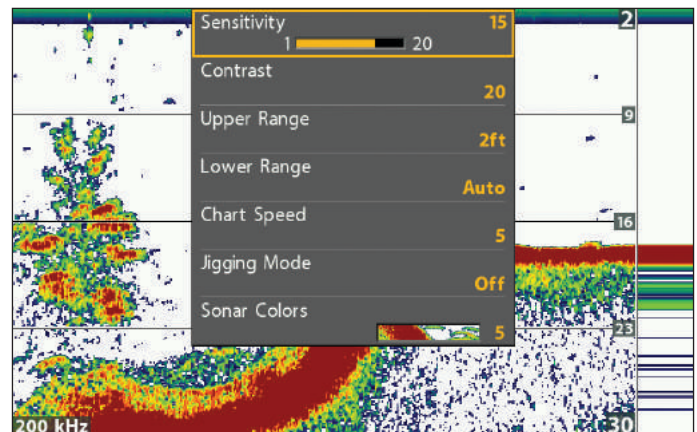
In this illustration, the Sonar X-Press Menu is displayed because the Sonar View is displayed on the screen.

Select a Menu or Start an Action

SOLIX Series

Use the following instructions to change a menu setting or start an action through the menu system.

1. Tap a menu category, or use the Joystick to select it.

2. Tap a menu option, or use the Joystick to select it.

3. Adjust the setting or start an action using the touch screen or keys.

Settings Tool: Navigation Main Menu

selected category   return to Home screen   close   status bar

menu categories

menu options

OR

Tap to Select   Select   Open
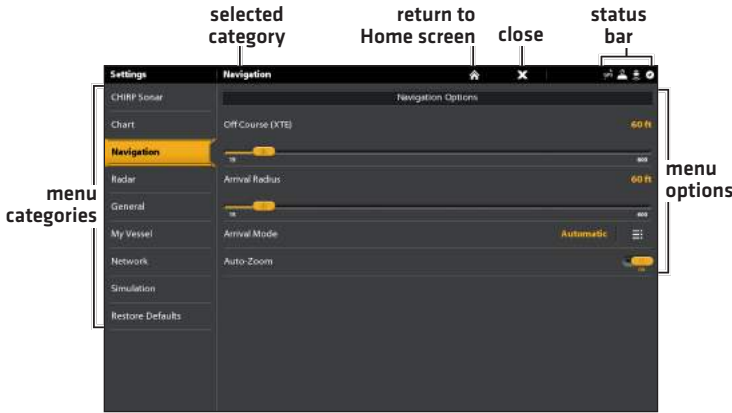
HELIX Series

Use the Cursor Control key to select a menu in the Main Menu or X-Press Menu.

Select a Tab (Main Menu)

1. Press the RIGHT or LEFT Cursor keys.

Select a Menu

1. Press the DOWN or UP Cursor keys.

select a tab
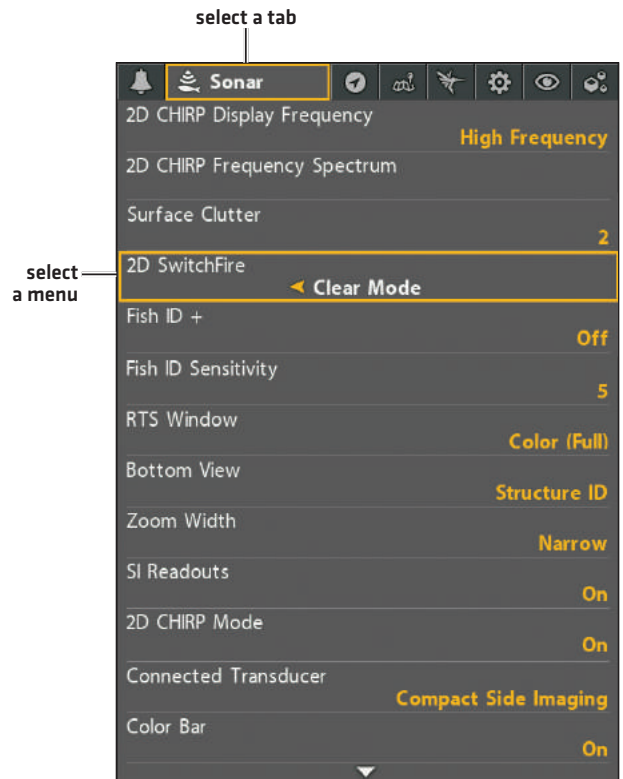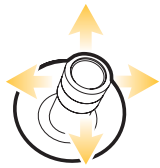
select a menu

Adjust a Menu Setting

Use the Cursor Control key to change menu settings or start an action. When you change a menu setting, the view will update immediately.

1. Press the RIGHT or LEFT Cursor keys.

Change a Menu Setting

Fish ID Sensitivity   5
1   10

Start an Action/Open a Submenu

1. If a menu has a right arrow on it, press the RIGHT Cursor key to start the action or open the submenu.

Start an Action or Open a Submenu

Waypoints, Routes, Tracks

Tips for Using the Menu System

SOLIX Series

Action (>)
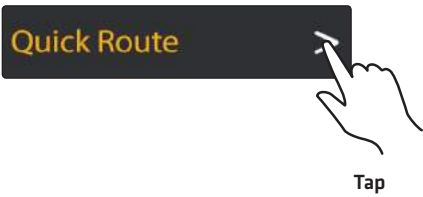
Touch Screen	Keypad
Quick Route	✓
Tap	Press

On/Off Button
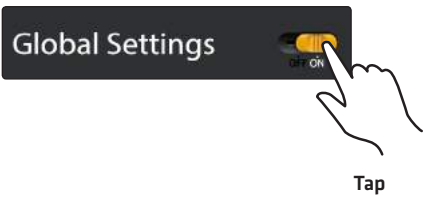
Touch Screen	Keypad
Global Settings OFF ON	✓
Tap	Press

Slider
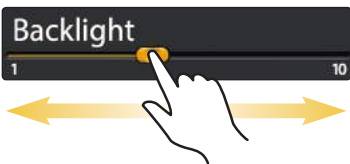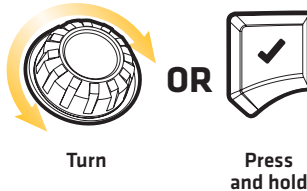
Touch Screen	Keypad
Backlight 1 ——— 10	Turn OR Press and hold ✓
Press and hold or slide	Turn Press and hold

Pick List or Check Box
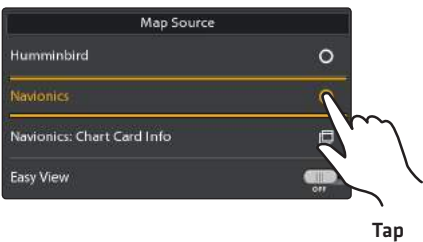
Touch Screen	Keypad
Map Source Humminbird ○ Navionics ● Navionics: Chart Card Info Easy View OFF	Press ✓
Tap	Press
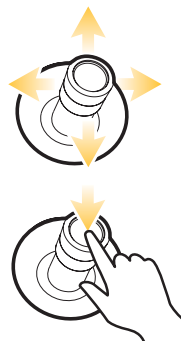
You can also use the joystick to make selections

HELIX Series

Jump to the bottom of the tab

🔔 ☲ Sonar ⊙ ⛰ ✈ ⚙ 👁 ⚙

2D CHIRP Display Frequency	High Frequency
2D CHIRP Frequency Spectrum	
Surface Clutter	2
2D SwitchFire	◄ Clear Mode
Fish ID +	Off
Fish ID Sensitivity	5
RTS Window	Color (Full)
Bottom View	Structure ID
Zoom Width	Narrow
SI Readouts	On
2D CHIRP Mode	On
Connected Transducer	Compact Side Imaging
Color Bar	On

See more menus

EXIT
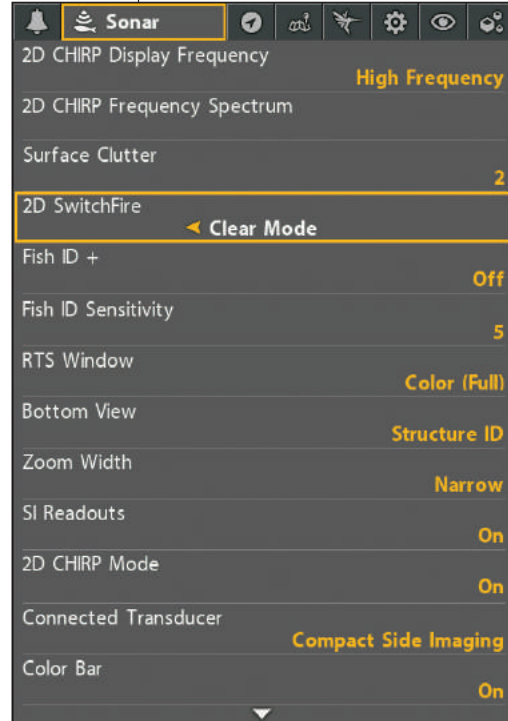
Jump to the top of the tab

13   Menu System

Tips for Using the On-Screen Keyboard (SOLIX Series only)

Use the on-screen keyboard to rename the control head in the network, edit your navigation data, and more.

Rename Unit

arrows move the cursor right or left

name field

deletes a single character

starts a new line

uppercase

uppercase

deletes all text

saves changed

changes the keyboard language

space bar

numbers and symbols

OR

Tap to select a character
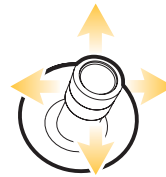
Highlight a character

Press to select the character

Change the User Mode

SOLIX Series

The SOLIX control head is automatically set to **Angler Mode** (recommended), which is configured with the best settings for a wide range of fishing conditions. To access in-depth customization menu options, set the user mode to **Custom**.

> **NOTE:** Export your menu settings and radar settings to an SD or microSD card before changing settings in Custom mode.

Change the User Mode

1. Press the HOME key.

2. Tap Settings.

   OR

   Use the Joystick to select Settings. Press the ENTER key.

3. Select General.

4. Under User Mode, select Angler or Custom.

HELIX Series

The User Mode determines how many menus are shown in the menu system. Select **Angler** to see fewer menus that are used more often. Select **Custom** to see all the menus available in the menu system.

Main Menu (Custom User Mode): Instructions in this manual marked with **Main Menu (Custom User Mode)** indicate that the menu system User Mode must be set to Angler for the selected menu to be shown. If you do not see the menu in the system, change the User Mode to Angler.

Change the User Mode

1. **Main Menu:** Press the MENU key twice.

2. Select the **Setup** tab.

3. Select User Mode.

4. Select Angler or Custom.

Close a Menu

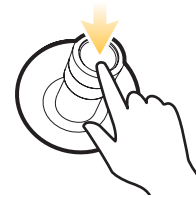### SOLIX Series

When you close a menu, your settings are saved until you change them again or until the control head defaults are restored.

1. **Back:** Tap the Back icon to close the current menu and go back one level in the menu system.

   OR

   Press the EXIT key.

2. **Close:** Tap the X icon.

   OR

   Press the EXIT key. To close several menus at once, press and hold the EXIT key.

   > **NOTE:** The X icon is displayed in the status bar or at the top of a menu. The location will vary with the item displayed on the screen.

HELIX Series

EXIT Use the EXIT key to go back through the menu system or close the menu system.

Back: Press the EXIT key to close the current menu and go back one level in the menu system.

Close: Press the EXIT key repeatedly until the menu system is closed.

VIEWS

The following views will be added to the View Rotation when the Sensor is connected to the trackplotter:

Navigation views:

- Bird's Eye View (HELIX Series only)
- Chart View
- Combo View

If the Sensor is connected to a chartplotter, the following views will be added to the view rotation: Bird's Eye View, Chart View, and Combo View. For details about the navigation views and menu options, see your control head operations manual and the Waypoint Management Guide. The manuals are included on the CD that was included with your control head, or you can download these manuals from our Web site at **humminbird.com**.

Bird's Eye View (HELIX Series only)

Bird's Eye View shows a 3-D, perspective view of the track from a point above and behind the boat (the eye point). As the boat turns, the eye point moves to follow the boat.

- **To shift the eye point position** so that you can look off to the sides, or even behind the boat: Press the RIGHT or LEFT Cursor keys to turn the eye point right or left. Press the UP Cursor key to move the eye point forward, and press the DOWN Cursor key to move the eye point backward.

- Press the **EXIT** key to move the eye point back to its original position behind and above the boat.

Bird's Eye View
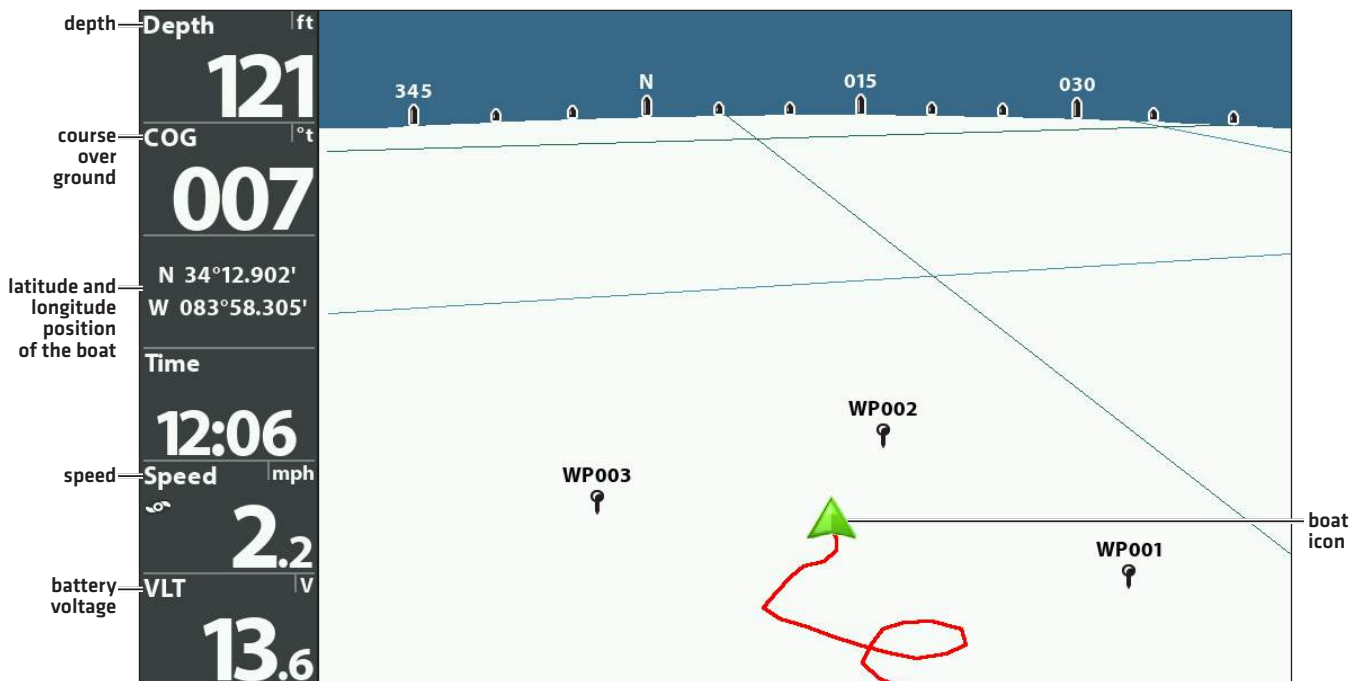
Chart View

Chart View shows the current track (also known as the position history or breadcrumb trail) showing where the boat has been, along with saved tracks, waypoints, and the current route (when navigating).

Panning: Use the 4-WAY Cursor Control key (HELIX) or the Joystick (SOLIX) to move the grid around on the display in the direction of the key being pressed. When you do this, a cursor is drawn at the center of the screen.

Chart View with Active Cursor (SOLIX)

depth

course over ground

bearing to cursor — distance to go to cursor — active cursor — latitude and longitude position of cursor — track scale

Chart View with Active Cursor (HELIX)

latitude and longitude position of cursor — distance to go to cursor

depth — course over ground — track scale — bearing to cursor — active cursor
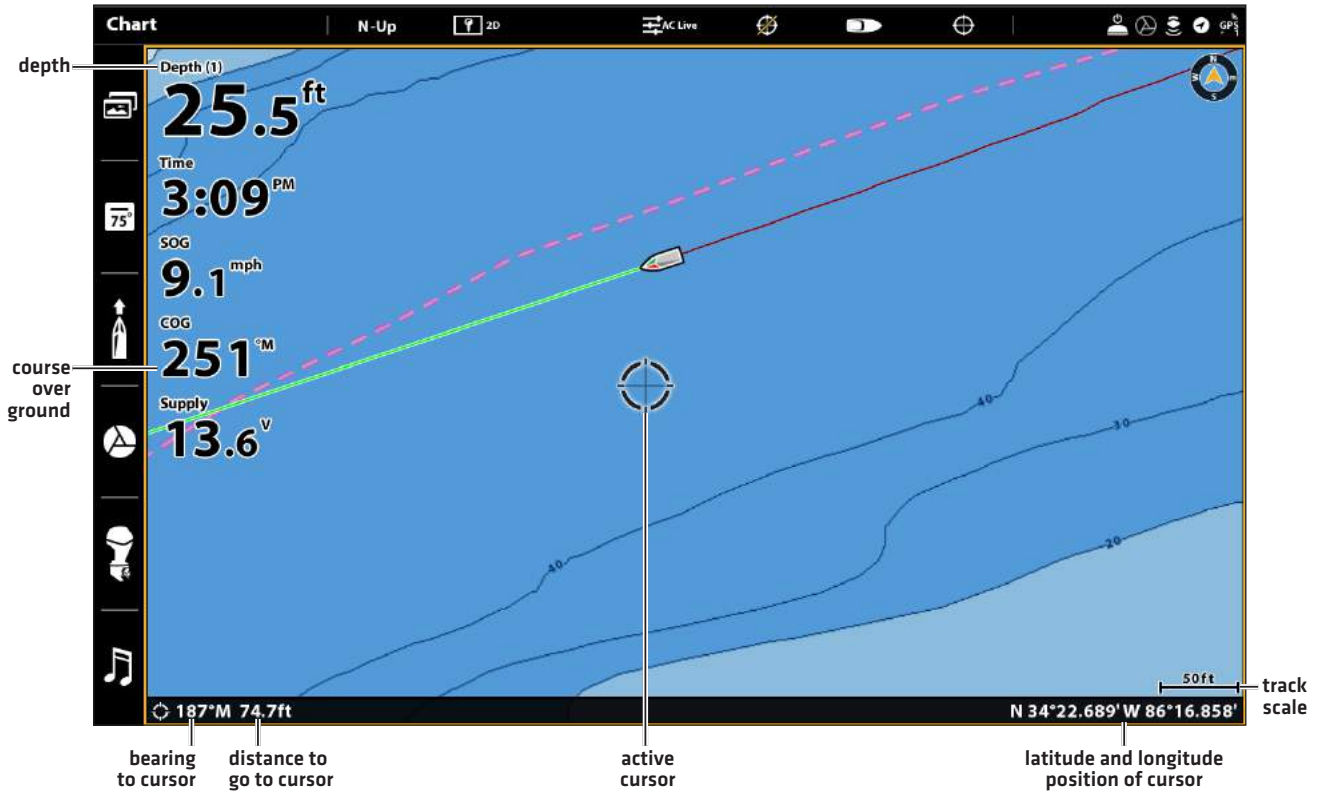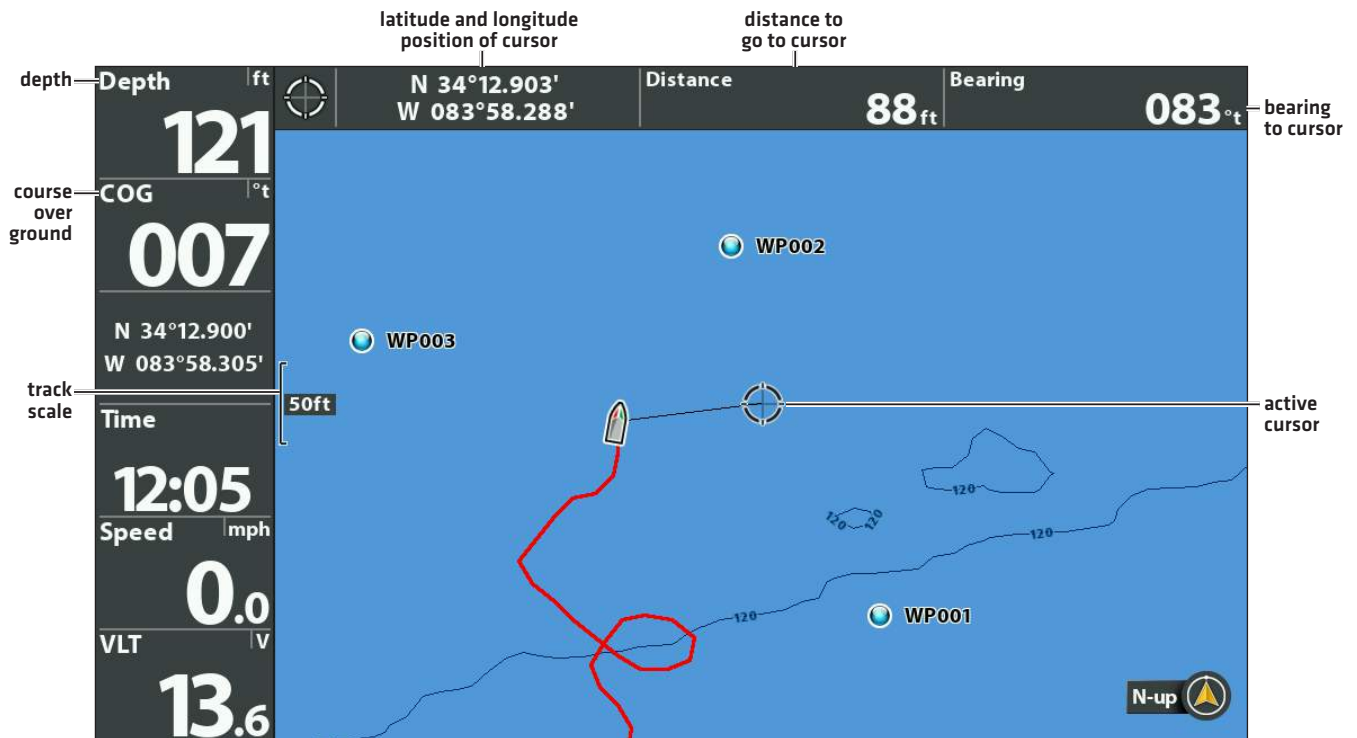
Combo View

Combo View is displayed as a split screen, with Chart View on one side and Sonar View on the other side of the screen.

Combo View (SOLIX)

depth

speed of boat

course over ground

chart window   track scale   sonar window

Combo View (HELIX)

water surface tempetature

depth

course over ground

speed

sonar window   track scale   chart window
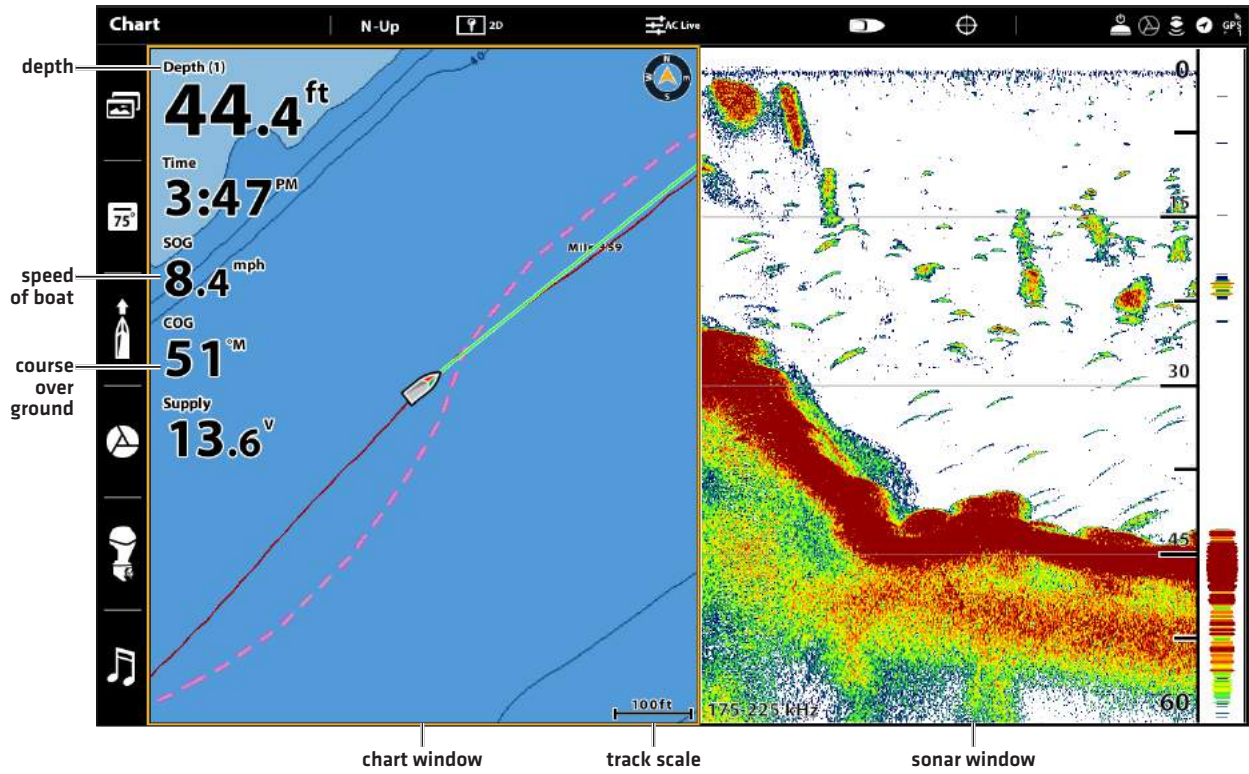
View Orientation

The Chart View and Combo View allow you to choose the orientation of the view.

- **North-Up:** The chart is oriented with North up on the display, and the vessel rotates according to its heading or COG (Course Over Ground).

- **Head Up:** The vessel's current heading points up, and the chart rotates around the vessel icon so that it always points up on the view. The heading is provided by the connected compass/heading sensor. If a compass is not connected, the vessel will be oriented according to the COG (Course Over Ground).

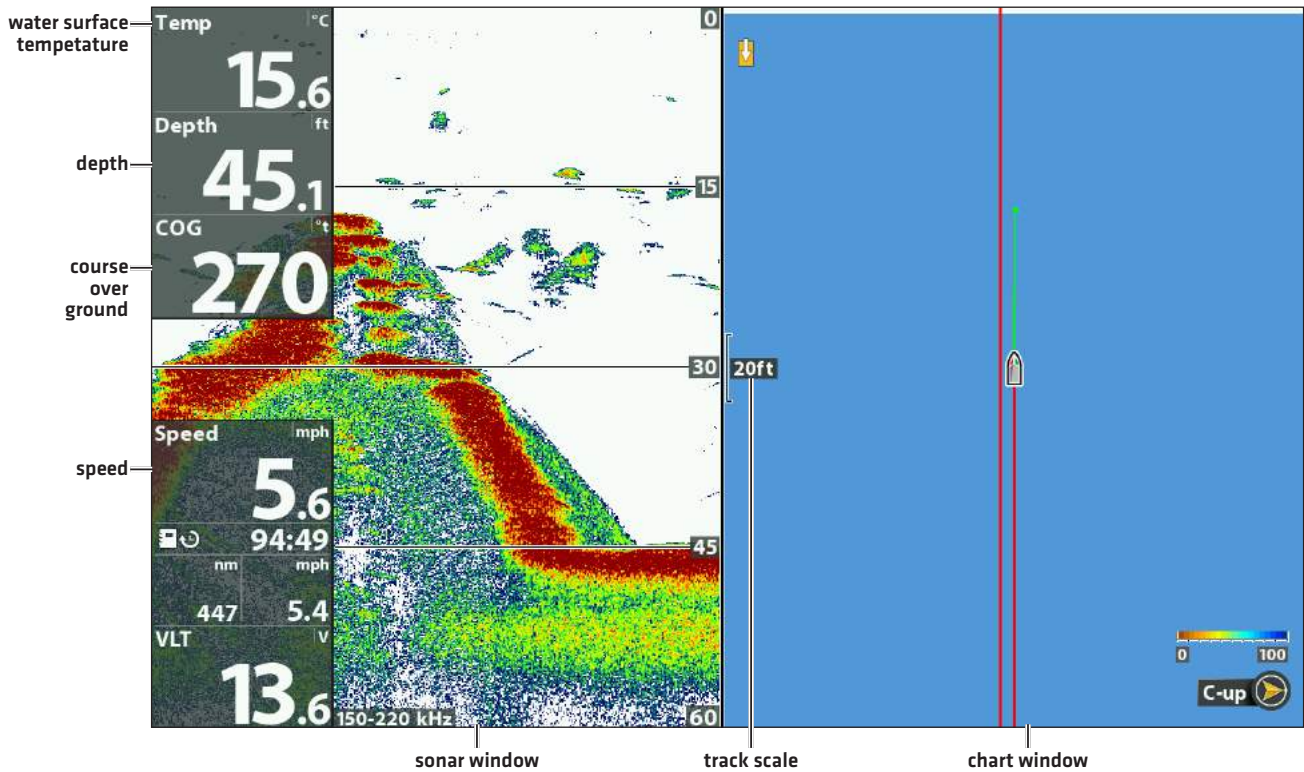- **Course-Up:** During navigation, the intended course or route leg is shown at the top of the view. Objects ahead of the vessel are drawn above the vessel. When the vessel is not navigating, the current heading is displayed.

Set the Chart Orientation

SOLIX Series

Use the Preferences menu to change the chart orientation.

1. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.

2. Select Chart Options > Preferences > Orientation.

3. Select an orientation to apply to the chart.

> **QUICK TIP!** You can also select the Chart Orientation Menu on the status bar. See the illustration below.

preview window
menu selection

HELIX Series

1. Main Menu: Press the MENU key twice. Select the Nav tab.

2. Select Chart Orientation.

3. Select an orientation to apply to the chart.

North-Up Icon: If it is turned on, the North-Up Icon displays the direction of True North. It also displays the View Orientation, and the icon will change as the orientation and the data source change.

Chart Orientation set to Course Up
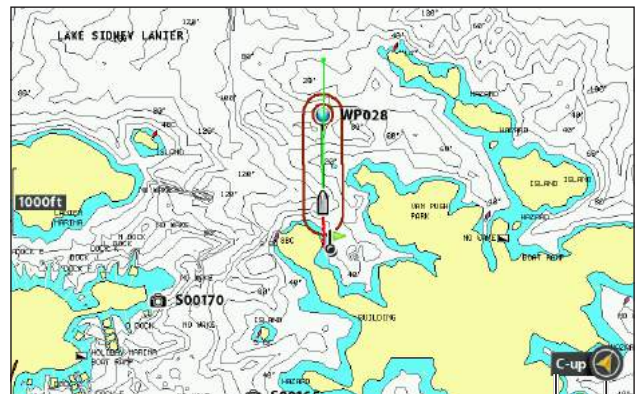
chart orientation | north up indicator

When the boat is stationary, it is drawn as a circle.

When the boat is in motion, it changes to a boat shape, pointed in the direction of motion.

> **NOTE:** If a Heading Sensor (AS GPS HS) is attached, the boat icon will always be displayed as a boat shape. It will not change to a circle when the boat is stationary.

INTRODUCTION TO NAVIGATION

Your Humminbird control head allows you to mark waypoints, create a route, and start navigating. Waypoints, routes, and tracks can be managed on-screen so you can save your favorites, edit names, and easily return to your favorite destinations.

There are many ways to start navigation or edit navigation data with your Humminbird control head. The instructions in this section review navigation features on the chart views.

> **NOTE:** For details about chartplotters and navigation, see your control head operations manual and the Waypoint Management Guide. The manuals are included on the CD that was included with your control head, or you can download these manuals from our Web site at **humminbird.com**.

Waypoints, Routes, and Tracks

Waypoints, Routes, and Tracks (SOLIX)
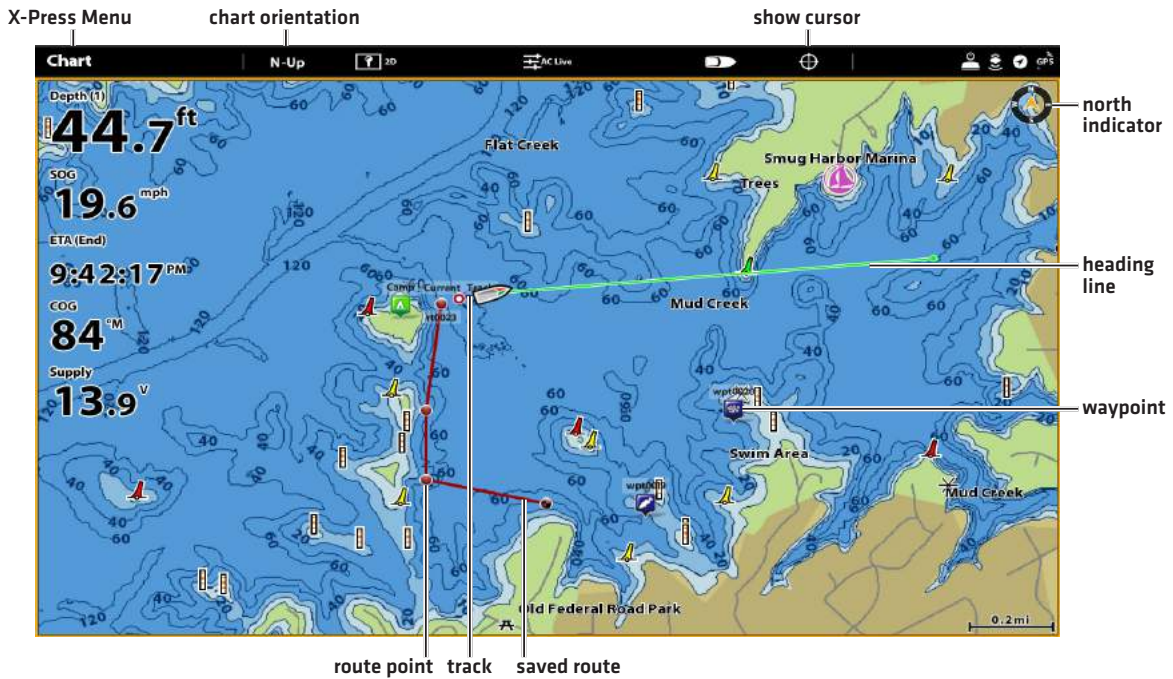
Waypoints, Routes, and Tracks (HELIX)
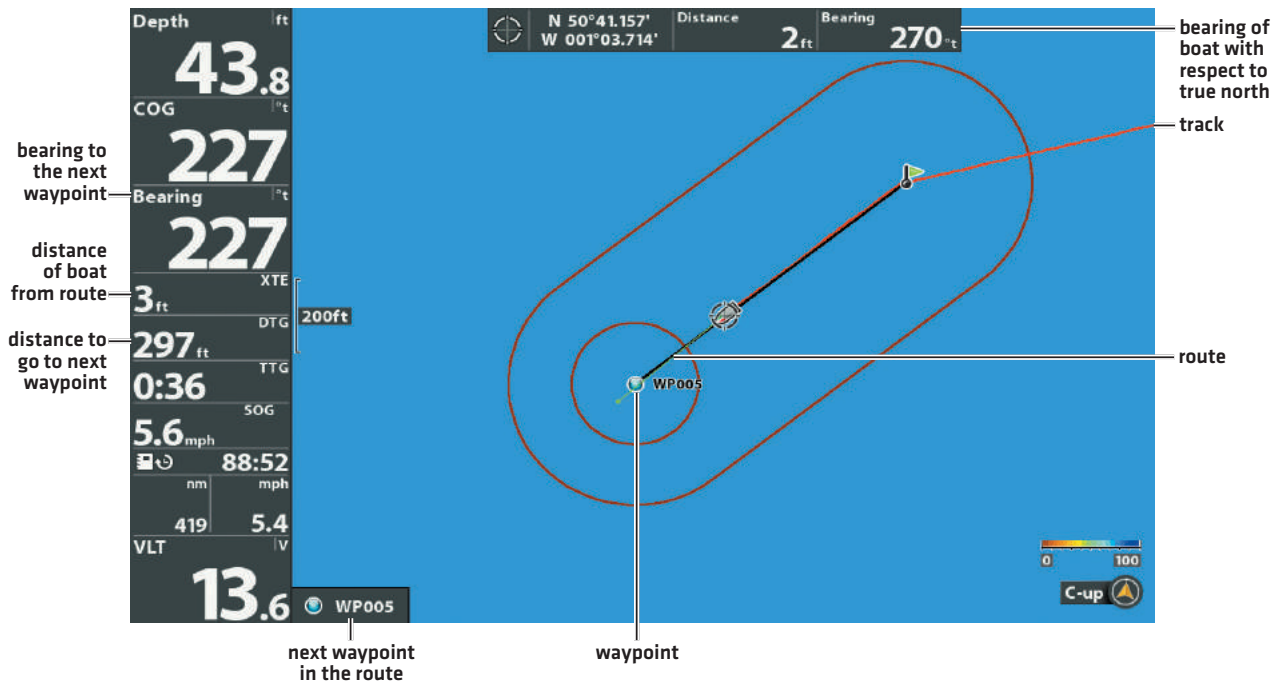
Waypoints are stored positions that allow you to mark areas of interest or navigation points.

Routes link two or more waypoints together to create a path for navigation and are used in trip planning.

A route represents your intended navigation and shows the shortest path from each waypoint to the next. As you travel a route, staying on the route line is the most efficient way to get to your destination, although you should always look out for obstacles not shown on the track. A Route Leg is the path between each waypoint in a route.

Tracks consist of a detailed position history and are displayed as a breadcrumb trail of trackpoints. The Current Track shows the position history since the unit was powered up. You can clear the Current Track or save it at any time. The current track represents your actual path so far.

> **NOTE:** The maximum number of waypoints, routes, and tracks may vary due to your Humminbird control head model. See your control head operations manual for details.

Save, Edit, or Delete a Waypoint

Save your current position as a waypoint

SOLIX Series

1. Using the touchscreen, tap Chart in the status bar.
2. Select Mark.
3. Select Waypoint.

   OR

1. Using the keypad, press the MARK key twice.

HELIX Series

1. On the Track or Combo view, press the MENU key to display the X-Press Menu.
2. Select Mark, and press the RIGHT Cursor key to save the boat position as a waypoint.

Save the cursor position as a waypoint

SOLIX Series

1. Using the touchscreen, press and hold a position on the Chart View.
2. Select Waypoint.

   OR

1. Using the joystick, move the cursor to a position on the chart.
2. Press the MARK key twice.

HELIX Series

1. On the Track or Combo view, use the 4-WAY Cursor Control key to move the cursor to the position you want to save as a waypoint.
2. Press the MENU key to display the X-Press Menu.
3. Select Mark, and press the RIGHT Cursor key to save the cursor position as a waypoint.

> **NOTE:** When you save a waypoint by any of these methods, a numerical waypoint name is automatically assigned. You can edit the waypoint information later to give it a different name and select an icon to represent it (see ***Program or Edit the Waypoint Fields***).

Display the Waypoints submenu

SOLIX Series

1. Press the HOME key.
2. Select the Nav Data tool.

HELIX Series

1. From any view, press the MENU key twice to display the Main Menu.
2. Press the RIGHT Cursor key to select the Navigation tab.
3. Select Waypoints, and press the RIGHT Cursor key to display the Waypoints submenu.

Edit a waypoint

SOLIX Series

1. Press the HOME key.

2. Select the NAV Data tool.

3. Under Lists, select Waypoints.

4. Press and hold a waypoint and select Info.

5. Edit the waypoint using the options in the Waypoint Info menu.

    To see the complete list of options to edit the waypoint, select Full Info.

HELIX Series

1. From the Waypoints submenu, select Edit and press the RIGHT Cursor key to display the saved waypoints list.

2. Select the waypoint you want to edit and press the RIGHT Cursor key.

3. Use the 4-WAY Cursor Control key to edit the waypoint name, latitude, longitude, and icon before selecting Save.

To make it easier to select a waypoint to edit, select Sort By and press the RIGHT or LEFT Cursor keys to select a sort order:

- Name shows the waypoints alphabetically.
- Time shows the most recently-created waypoint first.
- Distance shows the closest waypoint first.

Program or Edit the waypoint fields

SOLIX Series

Press the HOME key and select the Nav Data tool. Under Lists, select Waypoints. Press and hold a waypoint, then select Info. Edit the waypoint using the options in the Waypoint Info menu. To see the complete list of options to edit the waypoint, select Full Info.

HELIX Series

Use the 4-WAY Cursor Control key to move from field to field, and use the UP or DOWN Cursor keys to change the character in the field.

In the Waypoint Name, Latitude, and Longitude fields, press the UP or DOWN Cursor keys to change the letter or number.

In the Waypoint Icon field, press the UP or DOWN Cursor keys to change the icon used to represent the waypoint on the Combo and Track Views. To exit these fields, press the LEFT or RIGHT Cursor keys or press the EXIT key.

Delete a waypoint

SOLIX Series

1. Press the HOME key.

2. Select the NAV Data tool.

3. Under Lists, select Waypoints.

4. Tap a waypoint or use the joystick to select it.

5. Press the ENTER key.

6. Select Full Info.

7. Select Delete.

HELIX Series

1. From the Waypoints submenu, select Delete, and press the RIGHT Cursor key to display the saved waypoints list.

2. Select the waypoint you want to delete, then press the RIGHT Cursor key.

    You will be asked to confirm deletion before the waypoint is permanently deleted.

Navigate to a Waypoint or Position

Navigate to the cursor position

SOLIX Series

1. Using the touch screen, tap a waypoint icon and then tap Chart in the status bar.

2. Select Go To.

3. Select Go To: Point

   OR

1. Using the Joystick, move the cursor to a waypoint and press the GO TO key.

2. Select Go To: Point.

HELIX Series

1. From the Chart or Combo view, use the 4-WAY Cursor Control key to move the cursor to a position or waypoint on the display.

2. Press the MENU key once to display the Navigation X-Press Menu.

3. Select Go To, and press the RIGHT Cursor key.

   Navigation will begin immediately.

Navigate to a specified waypoint

SOLIX Series

1. Press the HOME key.

2. Select the NAV Data tool.

3. Under Lists, select Waypoints.

4. Tap a waypoint or use the joystick to select it.

5. Press the GO TO key.

6. Press the ENTER key, or tap Go To on-screen.

HELIX Series

1. Press the MENU key once to display the Navigation X-Press Menu.

2. Select Go To, and press the RIGHT Cursor key.

3. Press the DOWN Cursor key to select a waypoint from the saved waypoints list, and press the RIGHT Cursor key to start navigation.

Link waypoints to create a multi-segment route

SOLIX Series

1. Tap Chart in the status bar.

2. Select Go To.

3. Select Quick Route.

4. Tap the chart in the position where you want to mark a route point.

   Undo Last Route Point: Tap the Back icon.

   Cancel Route Creation: Tap the X icon.

5. To start navigation, tap the check icon in the status bar.

HELIX Series

Repeat the instructions for navigating to a waypoint.

> **NOTE:** When two or more waypoints overlap, or are displayed close together on a chart view, the screen will automatically declutter—waypoint names will shorten and the waypoint icons will change into small blue icons.
>
> To view a **Decluttered Waypoint** at full size, use the 4-WAY Cursor Control key to move the cursor onto a decluttered waypoint icon. When the cursor snaps onto the icon, the full-size waypoint name and icon will be displayed.

Skip a waypoint

SOLIX Series

1. During navigation, tap Chart in the status bar.

2. Select Go To.

   OR

1. Press the GO TO key.

2. Select Next Point.

HELIX Series

1. From the Navigation X-Press Menu, select Skip Next Waypoint and press the RIGHT Cursor key.

   If there is not another waypoint to skip to, navigation will be cancelled.

Cancel navigation

SOLIX Series

1. During navigation, tap Chart in the status bar.

2. Select Go To.

   OR

1. Press the GO TO key.

2. Select Cancel Navigation.

3. Select Save Route or Discard Route.

HELIX Series

1. From the Navigation X-Press Menu, select Cancel Navigation and press the RIGHT Cursor key.

   Canceling navigation removes the route and any created waypoints.

Add a Waypoint Target or Trolling Grid (HELIX models only)

The Waypoint Target shows a target consisting of concentric circles in various distance ranges centered on the waypoint you choose. The Trolling Grid shows various distance ranges in grid format from the waypoint you choose. The trolling grid can be used as a guide when trolling around a waypoint.

Add a Waypoint Target: From the Waypoints submenu, select Target, and press the RIGHT Cursor key to display the saved waypoints list. Select a waypoint and press the RIGHT Cursor key.

Chart View with Target
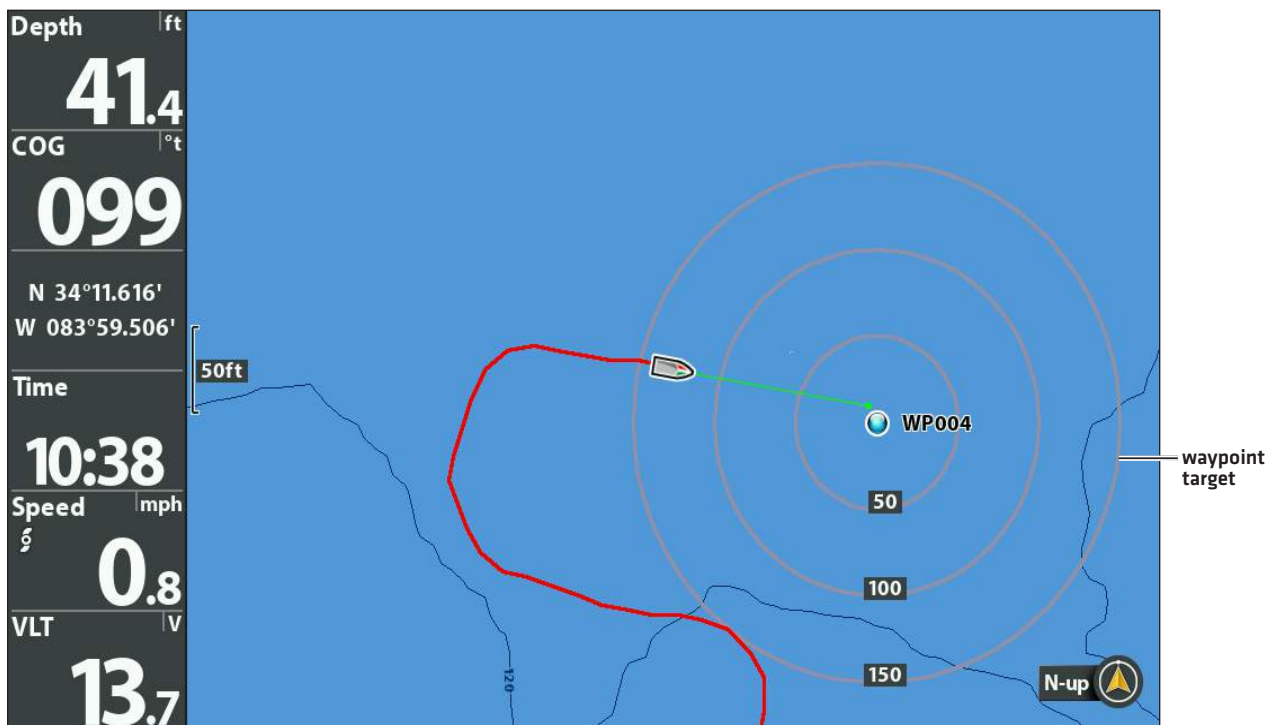
Add a Trolling Grid: From the Waypoints submenu, select Grid, and press the RIGHT Cursor key to display the saved waypoints list. Select a waypoint and press the RIGHT Cursor key. The grid can also be rotated to any heading by adjusting the Grid Rotation setting on the Navigation Main Menu.

Chart View with Grid

Remove the Target or Trolling Grid: Press the MENU key once, choose Remove Target or Remove Grid from the Navigation X-Press Menu, and press the RIGHT Cursor key.

NOTE: Only one waypoint can have a target or a grid applied to it at one time. If you apply a target or a grid to a new waypoint, the original waypoint will lose its target or grid.

NOTE: The spacing of the rings on the waypoint target and the spacing of the grid lines on the trolling grid are the same as the length of the scale bar on the left edge of the display. Zooming in or out will decrease or increase the spacing, respectively.

Save or Clear a Current Track

Save the current track

NOTE: When you save a track, a name is automatically assigned to it, but it can be re-named later.

SOLIX Series

1. With a Chart View displayed on-screen, tap Chart in the status bar.

2. Select Save Current Track.

HELIX Series

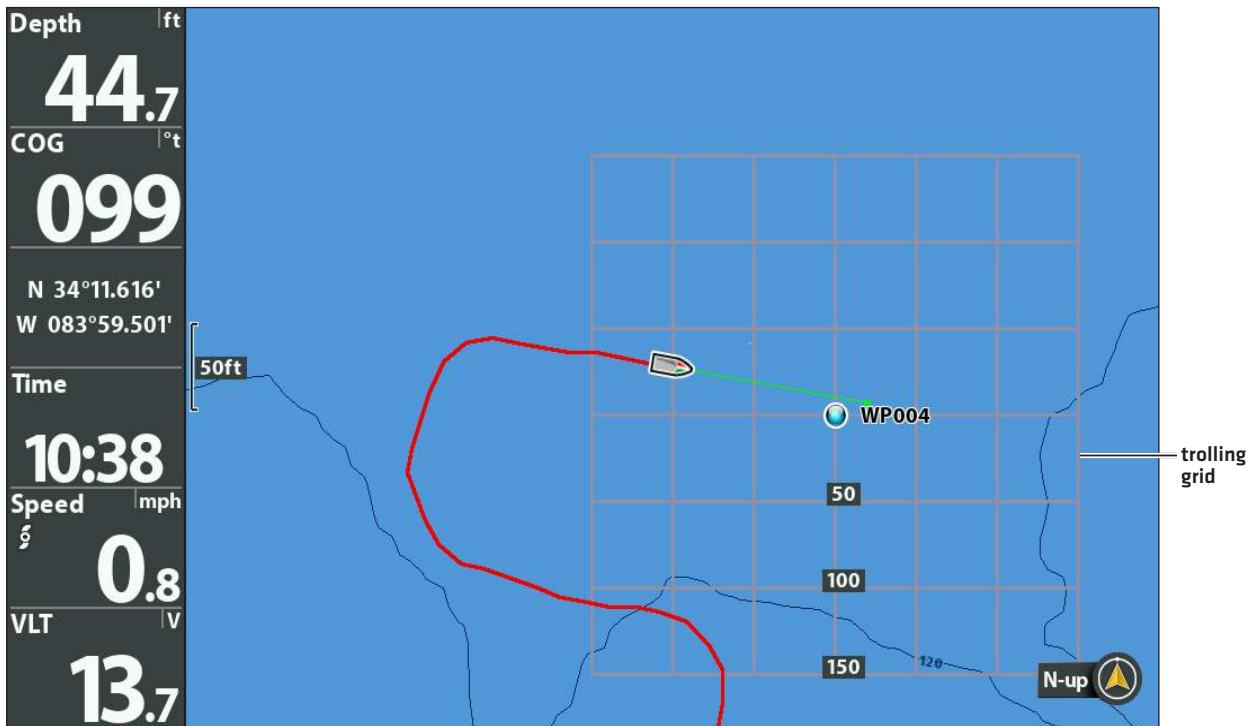1. From the Navigation X-Press Menu, select Save Current Track and press the RIGHT Cursor key.

   The track will remain on the display but will change from black to gray.

Clear the current track

SOLIX Series

1. With a Chart View displayed on-screen, tap Chart in the status bar.

2. Select Clear Current Track.

HELIX Series

1. From the Navigation X-Press Menu, select Clear Current Track, and press the RIGHT Cursor key.

   The track will be removed from the display and permanently deleted.

Edit, Delete, or Hide Saved Tracks

Display the Saved Tracks submenu

SOLIX Series

1. Press the HOME key.

2. Select Nav Data tool.

3. Under Options, select Tracks.

HELIX Series

1. From any view, press the MENU key twice to display the Main Menu, then press the RIGHT Cursor key to select the Navigation tab.

2. Select Saved Tracks, and press the RIGHT Cursor key to display the Saved Tracks submenu.

Edit a saved track

SOLIX Series

1. Tap a track start point or end point. Tap the Track Name.

   OR

   Use the Joystick to move the cursor to a track start point or end point. Press the ENTER key.

2. Edit the track name, style, color, and more from the Track Info menu.

HELIX Series

1. From the Saved Tracks submenu, select Edit, and press the RIGHT Cursor key to display the saved tracks list.

2. Select the track you want to edit, and press the RIGHT Cursor key.

   When the **Edit Track dialog box** appears, use the 4-WAY Cursor Control key to move between fields. In the Name field, press the UP or DOWN Cursor keys to change the letter or number. All upper and lower case letters are available, as well as digits 0-9 and some punctuation characters. To exit the Name field, press the LEFT or RIGHT Cursor keys or press the EXIT key. Select Save, and press the RIGHT Cursor key to save your changes.

Delete a saved track

SOLIX Series

1. Tap a track start point or end point. Tap the Track Name.

   OR

   Use the Joystick to move the cursor to a track start point or end point. Press the ENTER key.

2. Select Delete Track.

HELIX Series

1. From the Saved Tracks submenu, select Delete, and press the RIGHT Cursor key to display the saved tracks list.

2. Select the track you want to delete, and press the RIGHT Cursor key.

   You will be asked to confirm deletion before the track is permanently deleted.

Hide or display a saved track

1. Press the HOME key.

2. Select Nav Data tool.

3. Under Lists, select Tracks.

4. Press and hold a track.

5. Select Info.

6. Toggle Visibility on or off.

1. From the Saved Tracks submenu, select Edit, and press the RIGHT Cursor key to display the saved tracks list.

2. Select a track, and press the RIGHT Cursor key.

3. Select the Visibility field, and press the UP or DOWN Cursor keys to select Hidden or Visible.

4. Press the EXIT key to return to the Saved Tracks submenu.

Navigation Alarms Overview

When an alarm is turned on, an alert will sound or display on the control head to indicate the threshold has been exceeded. When the Sensor is connected to the trackplotter, the following menu options will be added to your control head: Off Course Alarm, Arrival Alarm, and Drift Alarm.

NOTE: See your control head operations manual for information about the standard Alarms menu options.

Off Course Alarm	Sets how far the boat can move off course during navigation before an alarm will be triggered.
Arrival Alarm	Sets how close the boat must be to the destination waypoint before the alarm will be triggered.
Drift Alarm	Sets how far the boat can move from its anchored position outside the drift alarm perimeter before an alarm will be triggered.

Turn on Alarms and Adjust Settings

SOLIX Series

1. Press the HOME key.

2. Select Alarms > Navigation (for Off Course and Arrival Alarms)

   OR

   Select Alarms > Vessel (for Drift Alarm)

3. Select an alarm and tap the on/off button, or press the ENTER key, to turn it on.

4. Press and hold the slider , or press and hold the ENTER key, to adjust the threshold.
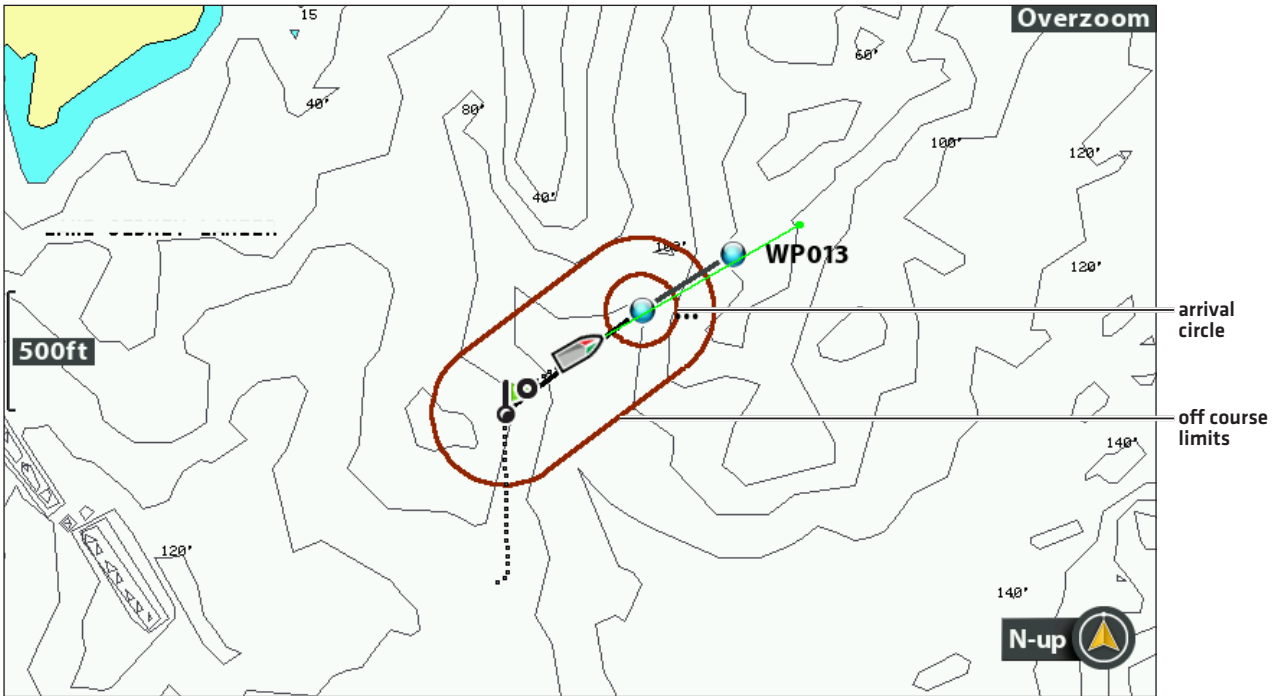
HELIX Series

1. **Main Menu:** Press the MENU key twice. Select the **Alarms** tab.

2. Select an alarm menu.

3. Press the RIGHT or LEFT Cursor keys to adjust the threshold.

Chart View with Alarm Overlays Displayed (SOLIX)

off course limits
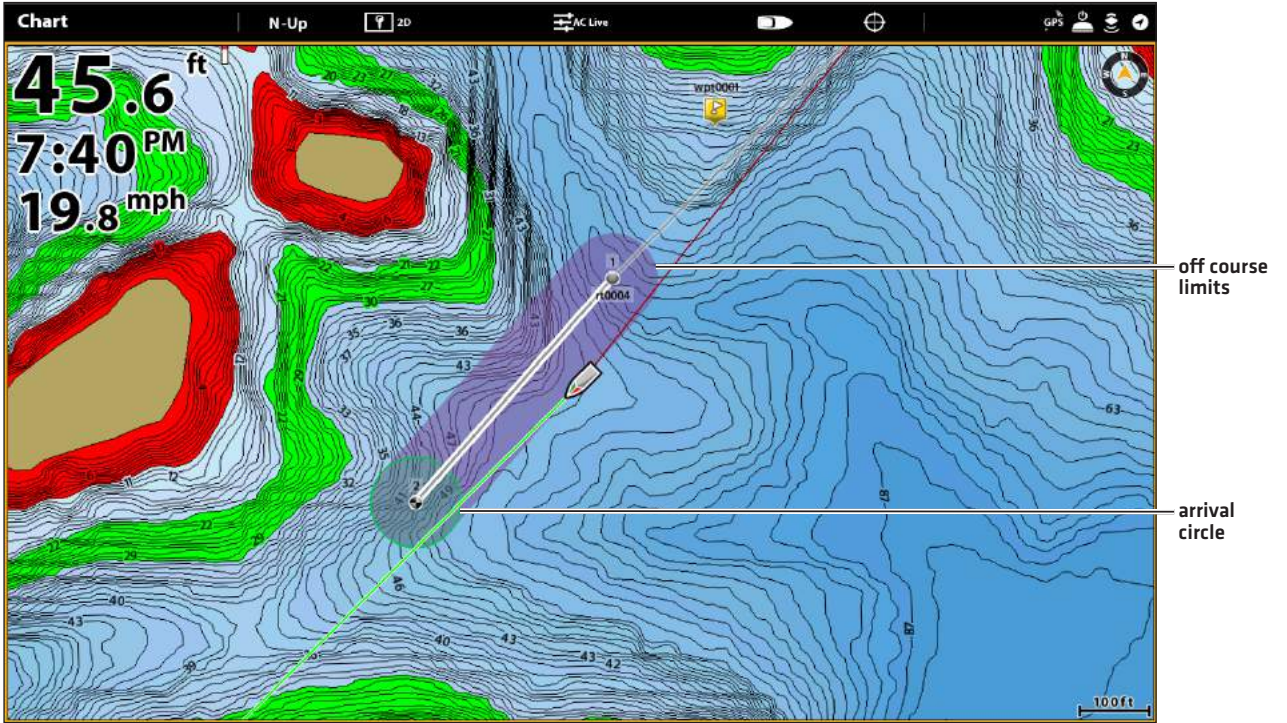
arrival circle

Off Course Alarm and Arrival Circle (HELIX)

arrival circle

off course limits

TROUBLESHOOTING

Before contacting Humminbird Technical Support, please read the following section. Taking the time to review these troubleshooting guidelines may allow you to solve a performance problem yourself, and therefore avoid sending your unit back for repair.

Fishing System Doesn't Power Up

If your Fishing System doesn't power up, use the Installation Guide that also comes with it for specific confirmation details, making sure that:

- the power cable is properly connected to the Fishing System control head,
- the power cable is wired correctly, with red to positive battery terminal and black to negative terminal or ground,
- the fuse is operational, and
- the battery voltage of the power connector is at least 10 Volts.

Correct any known problems, including removing corrosion from the battery terminals or wiring, or actually replacing the battery if necessary.

Fishing System Defaults to Simulator with a Transducer Attached

A connected and functioning transducer will cause the newly-started Fishing System to go into Normal operating mode automatically. If, when you power up the Fishing System, it goes into Simulator mode automatically, even though a transducer is already connected, this means that the control head is not detecting the transducer. Perform the following troubleshooting tasks:

- Using the Installation Guide that also comes with your Fishing System, check to make sure that the transducer cable is securely connected to the Fishing System. Reconnect if necessary, and power up the Fishing System again to see if this fixes the problem.
- Replace the non-functioning transducer with a known good transducer if available and power up the control head again.
- Check the transducer cable. Replace the transducer if the cable is damaged or corroded.

Display Problems

There are several main conditions or sources of possible interference that may cause problems with the quality of the information displayed on the control head. Look in the following table for some symptoms of display problems and possible solutions:

Problem	Possible Causes
The control head loses power at high speeds.	If the power output of your boat's engine is unregulated, the control head may be protecting itself using its over-voltage protection feature. Make sure the input voltage does not exceed 20 Volts.
When the boat moves at higher speeds, the bottom disappears or suddenly weakens, or the display contains gaps.	The transducer position may need to be adjusted. A mix of air and water flowing around the transducer (cavitation) may be interfering with the interpretation of sonar data. See your Installation Guide for suggestions on adjusting the transducer position. Electrical noise from the boat's engine may be interfering with sonar reception. See *Finding the Cause of Noise* for more information.
There are no fish detected, even when you know they are in the water under the boat, or sonar readings seem weak or faulty.	Sonar readings may be affected if the transducer is not positioned correctly (i.e. mounted at an angle, not straight down), or there is some kind of mechanical interference, either because it is mounted inside a hull that is too thick for proper sonar transmission, the bond between the transducer and the hull is not airtight, or because the transducer is dirty. Check with your Installation Guide for guidance on re-positioning the transducer, and make sure the transducer is clean. Low battery voltage may be affecting the power of signal transmission. Electrical noise from the boat's engine may be interfering with sonar reception. See *Finding the Cause of Noise* for more information.

Finding the Cause of Noise

Electrical noise usually affects the display with many black dots at high speeds, and high sensitivity readings. One or more of the following sources can cause noise or interference:

Possible Source of Noise	Isolation
Other electronic devices	Turn off any nearby electronic devices to see if the problem goes away, then turn them on one at a time to see if the noise re-appears.
The boat's engine	To determine whether the boat's engine is the source of the noise, increase the RPMs while the boat is in neutral and stationary to see if the noise increases proportionately; if noise appears when you rev the engine, the problem could be the spark plugs, alternator, or tachometer wiring. Replace the spark plugs with resistor plugs, install an alternator filter, or route the control head power and transducer cables away from the engine wiring.
Cavitation from the boat's propeller	Turbulence created by the propeller can cause noise; make sure the transducer is mounted at least 15" (38 cm) from the propeller, and that the water flows smoothly over the face of the transducer at all times.

Contact Humminbird

Contact Humminbird Technical Support in any of the following ways:

Web site:

humminbird.com

E-mail:

service@humminbird.com

Telephone:

1-800-633-1468

Direct Shipping:

Humminbird
Service Department
678 Humminbird Lane
Eufaula, AL 36027 USA

Hours of Operation:

Monday - Friday

8:00 a.m. to 4:30 p.m. (Central Standard Time)

Social Media Resources:

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