

# 587ci and 597ci Combo Operations Manual

531696-1\_A



## 500 series™

# Thank You!

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***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.*

***WARNING!*** *This product contains chemicals known to the State of California to cause cancer and/or reproductive harm.*

***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.*

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**NOTE:** Entries in this Table of Contents which list (with Temp/Speed only) require the purchase of separate accessories. You can visit our website at [www.humminbird.com](http://www.humminbird.com) to order these accessories online or contact our Customer Resource Center at **1-800-633-1468**.

**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.

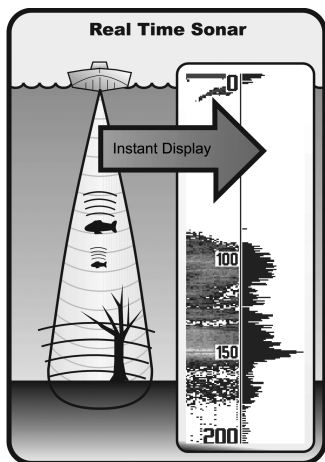


# How Sonar Works

Sonar technology is based on sound waves. The 500 Series™ Fishfinder uses sonar to locate and define structure, bottom contour and composition, as well as depth directly below the transducer.

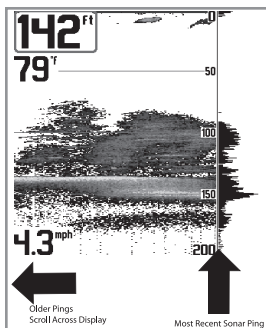
Your 500 Series™ Fishfinder sends a sound wave signal and determines distance by measuring the time between the transmission of the sound wave and when the sound wave is reflected off of an object; it then uses the reflected signal to interpret location, size, and composition of an object.

Sonar is very fast. A sound wave can travel from the surface to a depth of 240 ft (70 m) and back again in less than 1/4 of a second. It is unlikely that your boat can “outrun” this sonar signal.

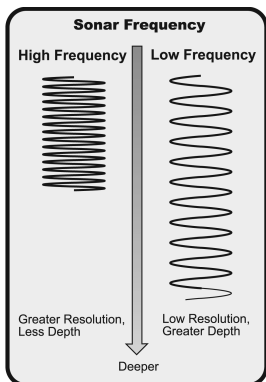


SONAR is an acronym for SOUNd and NAVigation Ranging. Sonar utilizes precision sound pulses or “pings” which are emitted into the water in a teardrop-shaped beam.

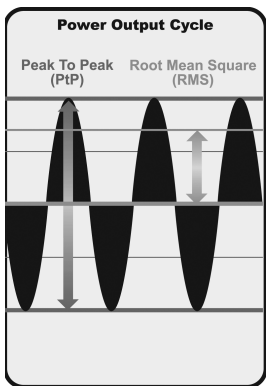
The sound pulses “echo” back from objects in the water such as the bottom, fish, and other submerged objects. The returned echoes are displayed on the LCD screen. Each time a new echo is received, the old echoes are moved across the LCD, creating a scrolling effect.



When all the echoes are viewed side by side, an easy to interpret “graph” of the bottom, fish, and structure appears.



The sound pulses are transmitted at various frequencies depending on the application. Very high frequencies (455 kHz) are used for greatest definition but the operating depth is limited. High frequencies (200 kHz) are commonly used on consumer sonar and provide a good balance between depth performance and resolution. Low frequencies (83 kHz) are typically used to achieve greater depth capability.

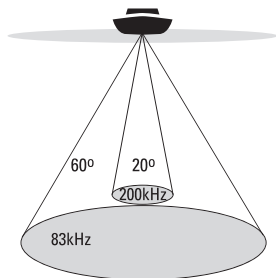


The power output is the amount of energy generated by the sonar transmitter. It is commonly measured using two methods:

- Root Mean Square (RMS) measures power output over the entire transmit cycle.
- Peak to Peak measures power output at the highest points.

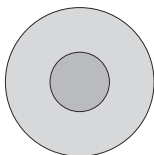
The benefits of increased power output are the ability to detect smaller targets at greater distances, ability to overcome noise, better high speed performance, and enhanced depth capability.

## DualBeam Sonar



60 Degree Total Coverage

Bottom Coverage = 1 x Depth



Your 500 Series™ Fishfinder uses a 200/83 kHz DualBeam sonar system with a wide (60°) area of coverage. DualBeam sonar is optimized to show the greatest bottom definition using a narrow (20°) beam yet can still indicate fish found in the wide (60°) beam when the Fish ID+™ feature is turned on. DualBeam is ideal for a wide range of conditions - from shallow to very deep water in both fresh and salt water. Depth capability is affected by such factors as boat speed, wave action, bottom hardness, water conditions, and transducer installation.

## How GPS and Cartography Work

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Your 500 Series™ Fishfinder also supports GPS and chartplotting. It uses GPS and sonar to determine your position, display it on a grid, and provide detailed underwater information. The Global Positioning System (GPS) is a satellite navigation system designed and maintained by the U.S. Department of Defense. GPS was originally intended for military use; however, civilians may also take advantage of its highly accurate position capabilities, typically within +/- 10 meters, depending on conditions. This means that 95% of the time, the GPS receiver will read a location within 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.



GPS uses a constellation of 24 satellites that continually send radio signals to the earth. Your present position is determined by receiving signals from up to 16 satellites and measuring the distance from the satellites.

All satellites broadcast a uniquely coded signal once per second at exactly the same time. 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 once per second updates, the GPS receiver then calculates its velocity and bearing.

The GPS Receiver included with your 500 Series™ Fishfinder allows you to combine easy-to-use FishingGPS® chartplotter and navigation capabilities with advanced fishfinding.

The following GPS functionality is currently supported by the 500 Series™ Fishfinder when it is connected to the included GPS receiver:

- View current position
- View current track (breadcrumb trail)
- View precision speed and heading from your GPS receiver
- Save tracks, waypoints, and routes
- Travel a route and navigate from one waypoint to the next.

Your 500 Series™ supports Navionics® Gold, HotMaps™ and HotMaps™ Premium on MMC or SD card media. You can insert optional-purchase cards in the (MMC)/SD slot on your control head to access additional detailed maps. See *Multi-Media Card (MMC)/SD Slot* for more information.

**NOTE:** Your 500 Series™ supports Navionics® Gold, HotMaps™, and HotMaps™ Premium. Your 500 Series™ does not support Navionics® Classic Charts or Platinum™ Cartography.

Your unit also comes with a built-in UniMap™ with a more detailed map of North America (Domestic models) or a more detailed map of Europe and Southeast Asia, including Australia and New Zealand (International models).

Your 500 Series™ uses the GPS Receiver to determine the position of the boat automatically, and it uses the zoom level settings on a particular view to select the best chart to display. See *Chart View: Viewing Cartography* for more information.

# What's On the Sonar Display

The 500 Series™ Fishfinder can display a variety of useful information about the

**Depth** - water depth; can be set to alarm when the water becomes too shallow.

**Temperature** - water surface temperature.

**Timer** - Elapsed time with Temp/Speed Accessory or GPS Receiver.

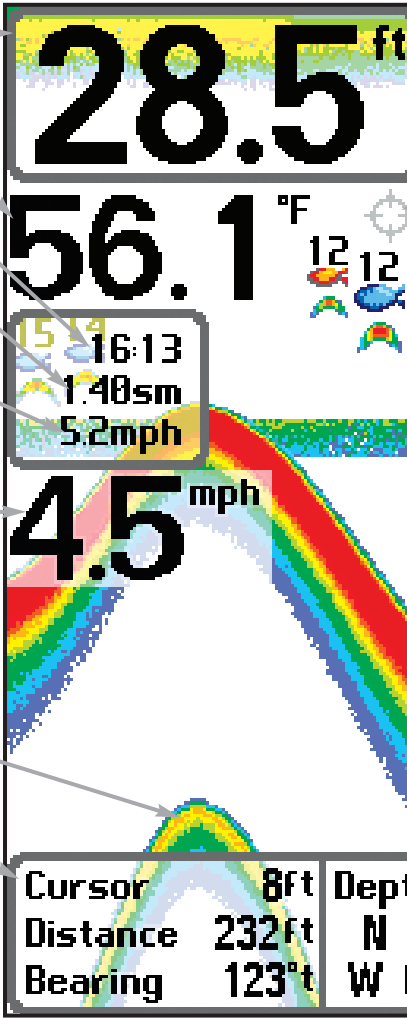
**Distance** - Distance traveled with Temp/Speed Accessory or GPS Receiver.

**Average Speed** - Average speed reading with Temp/Speed Accessory or GPS Receiver.

**Speed** - if a Temp/Speed accessory or GPS Receiver is attached, the Fishfinder can display the speed of the boat and can keep a Triplog of nautical or statute miles traveled.

**Second Sonar Return** - when the sonar signal bounces between the bottom and the surface of the water and back again. Use the appearance of the second return to determine bottom hardness. Hard bottoms will show a strong second return, while soft bottoms will show a very weak one or none at all.

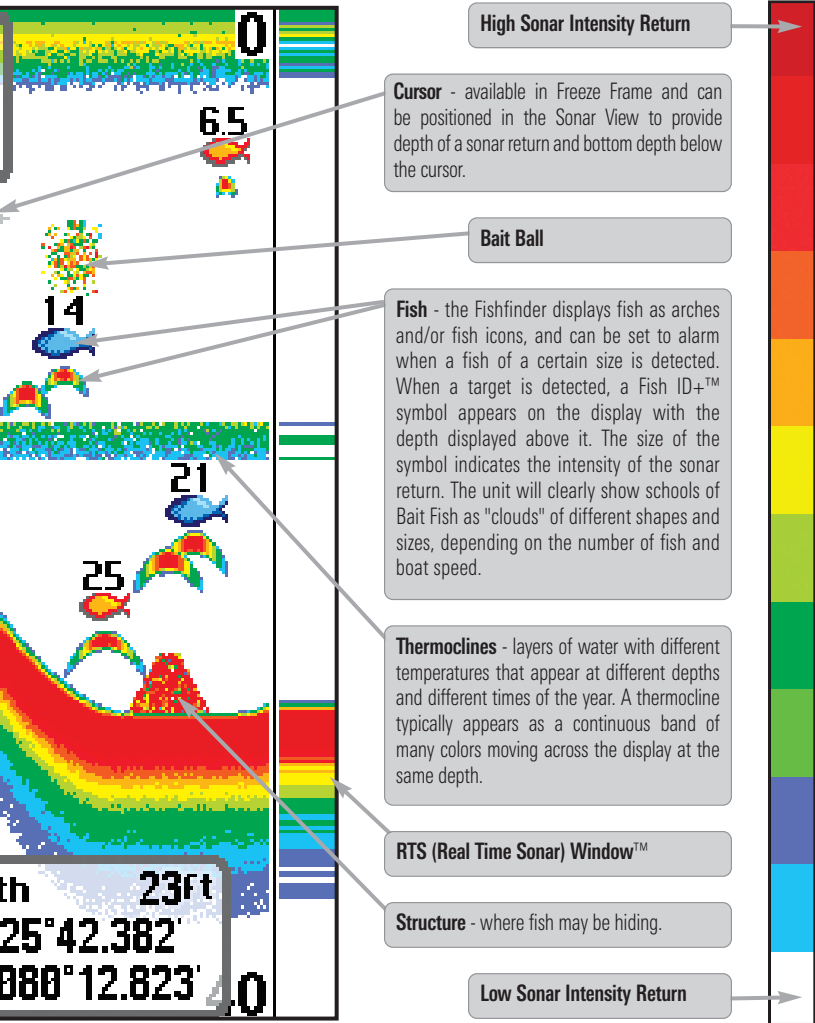
**Cursor Dialog Box** - indicates cursor depth on the display and the depth of the bottom directly below the cursor. The Latitude and Longitude of the cursor position, the distance to travel to the cursor position and the bearing to the cursor position is shown with a GPS receiver. A waypoint can be marked at the cursor position for later retrieval and use with a GPS receiver.



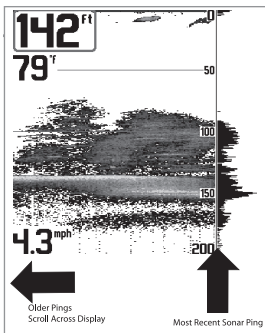
***NOTE:** Entries in this view that list (with Temp/Speed or GPS Receiver) are available if either device information from the GPS receiver will be displayed on the view.*



area under and adjacent to your boat, including the following items:



is connected to the 500 Series™ Fishfinder. If both devices are connected, then only the



*The returned sonar echoes are displayed on the screen. As a new echo is received, the historical data scrolls across the screen.*

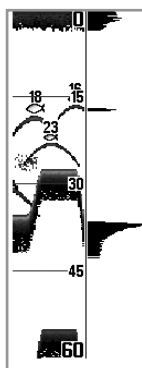
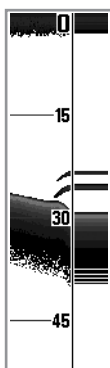
## Understanding the Sonar Display

It is important to understand the significance of the display. The display does not show a literal 3-dimensional representation of what is under the water. Each vertical band of data received by the control head and plotted on the display represents something that was detected by a sonar return at a particular time. As both the boat and the targets (fish) may be moving, the returns are only showing a particular segment of time when objects were detected, not exactly where those objects are in relation to other objects shown on the display.

## Real Time Sonar (RTS™) Window

A **Real Time Sonar (RTS™) Window** appears on the right side of the display in the Sonar View only. The RTS Window™ updates at the fastest rate possible for depth conditions and shows only the returns from the bottom, structure, and fish that are within the transducer beam. The RTS Window™ plots the depth and intensity of a sonar return (see *Sonar Menu Tab: RTS Window™*).

The **Narrow RTS Window™** indicates the sonar intensity through the use of colors. Red indicates a strong return and blue indicates a weak return. The depth of the sonar return is indicated by the vertical placement of the return on the display depth scale.



The **Wide RTS Window™** indicates the sonar intensity through the use of a bar graph. The length of the plotted return indicates whether the return is weak or strong. The depth of the sonar return is indicated by the vertical placement of the return on the display depth scale. The Wide RTS Window™ does not use grayscale.

## Freeze Frame and Active Cursor

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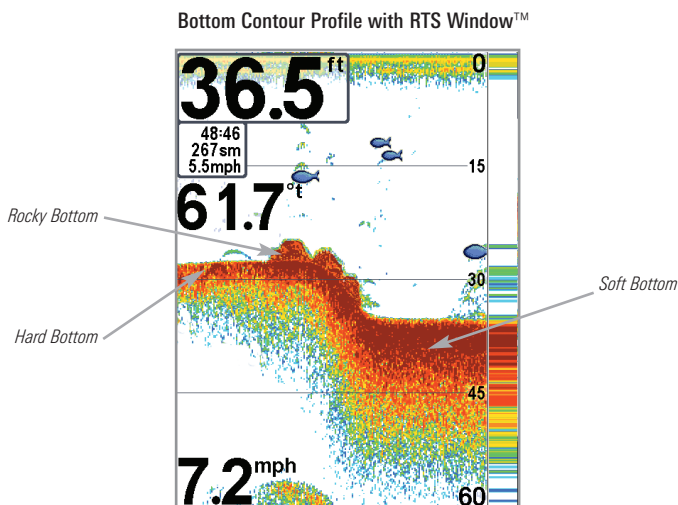
**Freeze Frame & Active Cursor** - Press any arrow on the 4-WAY Cursor Control key, and the screen will freeze and a cursor will be displayed. Use the 4-WAY Cursor Control key to move the cursor over a sonar return, and the depth of the sonar return will be displayed at the bottom of the screen in the cursor information box.

**Instant Image Update** - You can change a variety of sonar menu settings (such as Sensitivity or Upper Range), and the adjustments will be shown instantly on the screen. When combined with the Freeze frame feature, you can adjust and see the effects of many different sonar settings quickly and easily.

The RTS Window™ continues to update in Freeze Frame. Pressing EXIT will exit Freeze Frame, and the display will start to scroll. Freeze Frame is available in the Sonar and Sonar Zoom Views.

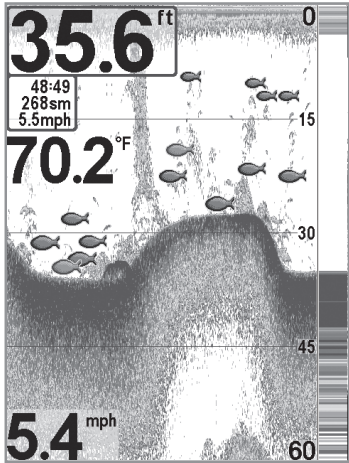
## Bottom Presentation

As the boat moves, the unit charts the changes in depth on the display to create a profile of the **Bottom Contour**. The type of bottom can be determined from the return charted on the display. A **Hard Bottom** such as compacted sediment or flat rock appears as a thinner line across the display. A **Soft Bottom** such as mud or sand appears as a thicker line across the display. **Rocky Bottoms** have a broken, random appearance.

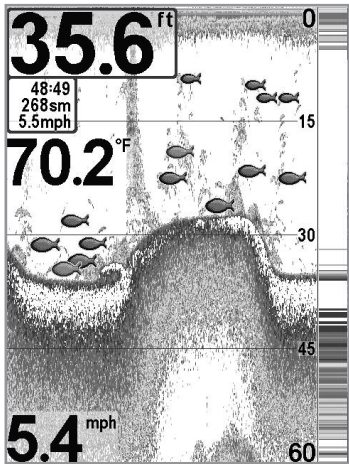


The sonar returns from the bottom, structure, and fish can be represented as either **WhiteLine™** or **Structure ID®**. See *Sonar Menu Tab: Bottom View* for details on how to set the bottom view.

**Structure ID®** represents weak returns in blue and strong returns in red.



**WhiteLine™** highlights the strongest sonar returns in white, resulting in a distinctive outline. This has the benefit of clearly defining the bottom on the display.

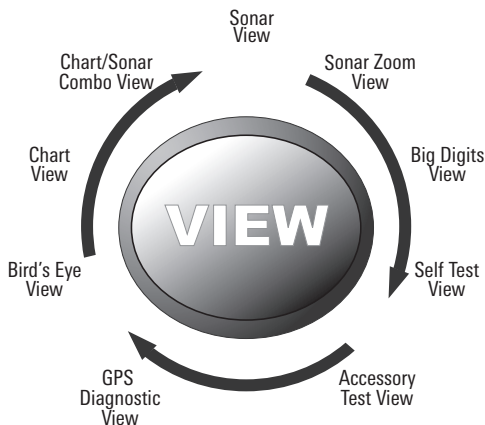


## Views

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The sonar and navigation information from your Fishfinder is displayed on your screen in a variety of easy-to-read views. There are many views available on your Fishfinder. When you press the VIEW key, the display cycles through the available views on your screen. When you press the EXIT key, the display cycles through the available views in reverse order.

When you first power up the control head, **Sonar View** will be the default view. You can display and hide any view to suit your fishing preferences.



**NOTE:** When you change any menu settings that affect the sonar, the view will update immediately. You don't have to exit the menu to apply the change to the screen.

### To customize your views rotation:

You can choose which views are hidden or visible in your view rotation.

1. Press the MENU key twice to access the tabbed Main Menu, then press the RIGHT Cursor key until the Views tab is selected.
2. Press the UP or DOWN Cursor keys to select a View.
3. Press the LEFT or RIGHT Cursor keys to change the status of the view from Hidden to Visible or vice versa.

### To change the Digital Readouts:

Each view displays digital readout information (such as speed or time), which varies with the view selected, the accessory attached, and whether or not you are navigating. The digital readouts on the Sonar View can be customized. See ***Setup Menu Tab: Select Readouts*** for more information.

1. Press the MENU key twice to access the tabbed Main Menu, then press the RIGHT Cursor key until the Setup tab is selected.
2. Press the DOWN key to highlight Select Readouts, and press the RIGHT Cursor key to access the Select Readouts submenu.

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

3. Press the UP or DOWN Cursor keys to select a Readout position, then press the RIGHT or LEFT Cursor keys to choose what will be displayed in that position. To hide the data window, select Off. (Course, Navigation, Off, Position, Speed, Temperature, Time+Date, Triplog, Voltage)



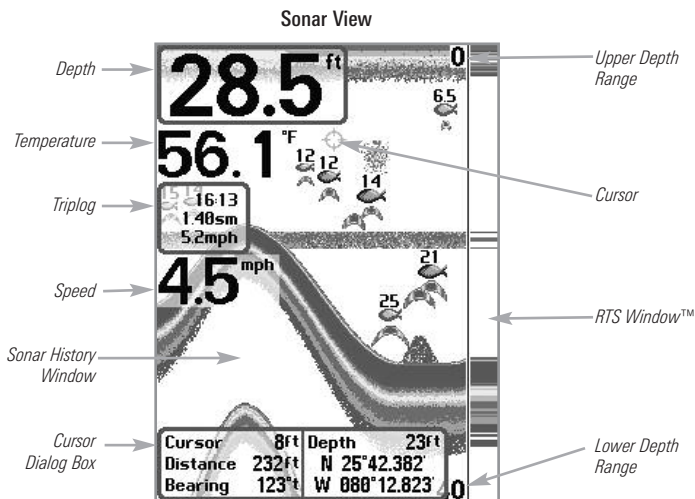
The available views are shown here and described on the following pages.

<b>Sonar views:</b>	<b>Navigation views:</b>
<b>Sonar View</b>	<b>Bird's Eye View</b>
<b>Sonar Zoom View</b>	<b>Chart View</b>
<b>Big Digits View</b>	<b>Chart/Sonar Combo View</b>
<b>Self Test View</b> (see <i>Start-Up Options Menu</i> )	
<b>Accessory Test View</b> (see <i>Start-Up Options Menu</i> )	
<b>GPS Diagnostic View</b> (see <i>Start-Up Options Menu</i> )	

## Sonar View

**Sonar View** presents a historical log of sonar returns. The most recent sonar returns are charted on the right side of the window. As new information is received, the historical information scrolls left across the display.

- Upper and Lower Depth Range numbers indicate the distance from the surface of the water to a depth range sufficient to show the bottom.
- Depth is automatically selected to keep the bottom visible on the display, although you can adjust it manually as well (see *Sonar X-Press™ Menu*).
- Digital Readouts shown on the display will change based on the Select Readouts settings or the optional-purchase accessories attached (see *Setup Menu Tab: Select Readouts*).
- **Freeze Frame** - Use the 4-WAY Cursor Control key to freeze the display and move the cursor over a sonar return. The depth of the sonar return will be displayed at the bottom of the screen in the cursor information box.

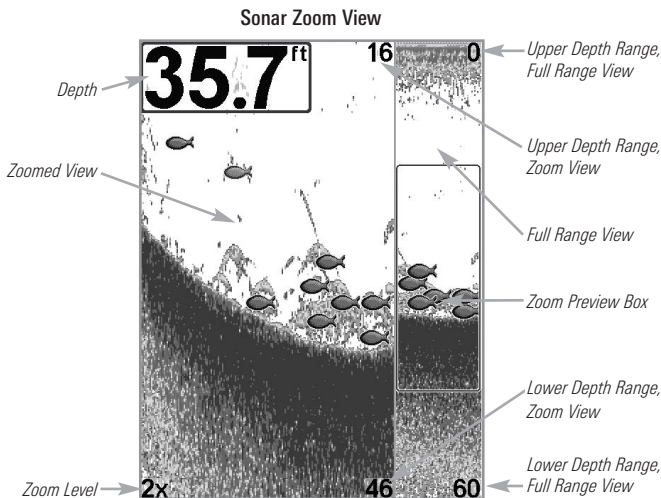


**NOTE:** If the Depth number is flashing, it means that the unit is having trouble locating the bottom. This usually happens if the water is too deep, the transducer is out of the water, the boat is moving too fast, or for any other reason that the unit can't accurately receive continuous data.

## Sonar Zoom View

**Sonar Zoom View** provides a magnified view of the bottom and structure. The Sonar Zoom View makes it easier to see separate sonar returns that would usually be displayed close together, such as those caused by fish suspended close to the bottom or within structure.

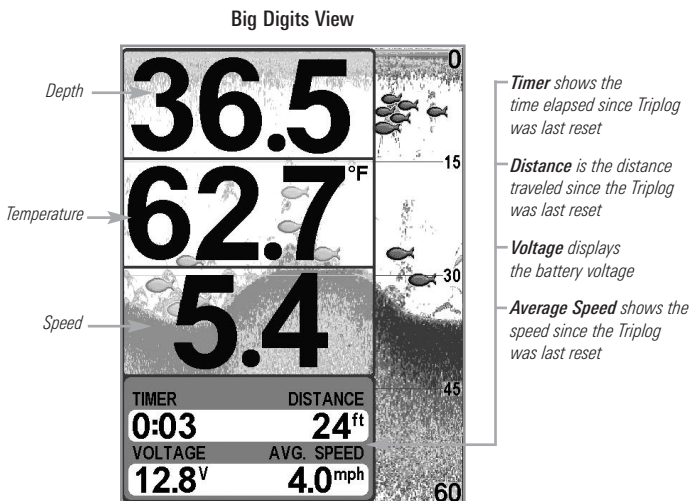
- The Zoom Level, or magnification, is displayed in the lower left corner of the display. Press the + or - ZOOM keys to increase or decrease the zoom level.
- The Zoomed View is displayed on the left side of the screen. As the depth changes, the zoomed view updates automatically.
- The Full Range View is displayed on the right side of the screen. The Full Range View includes the Zoom Preview Box, which shows where the zoomed view is in relation to the full range view.
- The Upper and Lower Depth Range numbers indicate the high and low range of the water which is being viewed.



*Digital depth is displayed in the upper left hand corner. The digital readouts in the Sonar Zoom View cannot be customized; therefore, information such as water temperature and voltage are unavailable in the Sonar Zoom View.*

## Big Digits View

**Big Digits View** provides digital data in a large, easy-to-see format. Depth is always displayed. Readouts for temperature, speed, and Triplog information are displayed automatically if the appropriate accessory is connected to the system. The Triplog shows distance traveled, average speed, and time elapsed since the Triplog was last reset. The digital readouts in the Big Digits View cannot be customized.

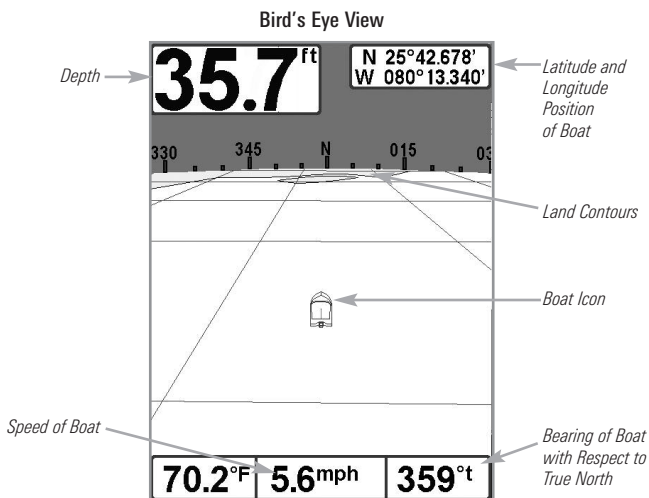


## Bird's Eye View

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

When you press the 4-WAY Cursor Control key in the **Bird's Eye View**, the position of the eye point will shift. This allows you to move and turn the eye point so that you can look off to the sides, or even behind the boat. Pressing the RIGHT or LEFT arrow keys on the 4-WAY Cursor Control key turns the eye point right or left, while pressing the UP arrow key moves the eye point forward, and pressing the DOWN arrow key moves the eye point backward.

Pressing the EXIT key moves the eye point back to its original position behind and above the boat.



## Chart View

**Chart View** shows cartography from the built-in UniMap™ or an optional MMC/SD map for the area surrounding your current position. 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), are overlaid on the chart.

- Use the 4-WAY Cursor Control key to shift/pan the chart to another area.
- Press the ZOOM (+/-) keys to zoom in and out.
- Press the INFO key to get information on the chart objects near the cursor.

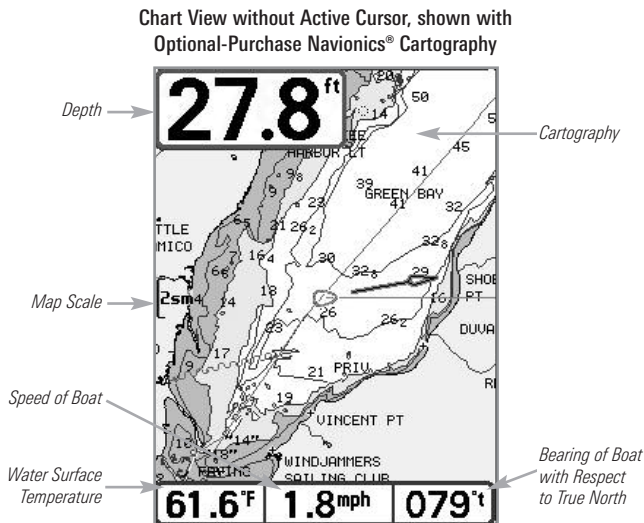
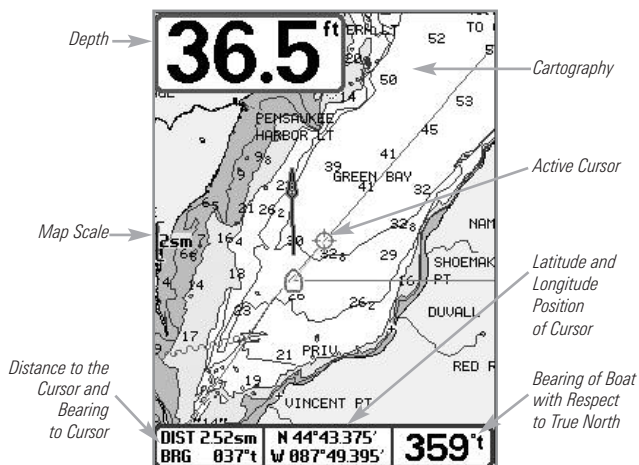
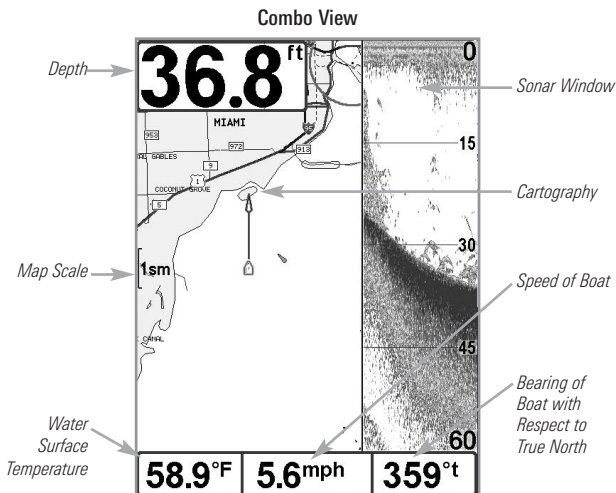


Chart View with Active Cursor, shown with  
Optional-Purchase Navionics® Cartography



## Chart/Sonar Combo View

**Combo View** is displayed as a split screen, with Chart View on the left and Sonar View on the right side of the screen. The width of the sonar window can be changed by pressing the MENU key once and using the 4-WAY Cursor Control key to select Sonar Window from the Sonar X-Press™ Menu.





## View Orientation

Both **Chart** and **Combo** Views allow you to choose the orientation of the view. When **North-Up orientation** is selected, True North is shown at the top of the display. In other words, objects located to the north of the boat are drawn above the boat. When **Course-Up orientation** is selected, the direction of motion of the boat is shown at the top of the display. In other words, objects ahead of the boat are drawn above the boat. In both orientations, the view pans automatically, so that the boat is always centered on the display.

When the boat is stationary, it is drawn as a circle. When the boat is in motion, it takes on a boat shape, pointed in the direction of motion (always Up in the Course-Up orientation).

## Viewing Cartography

In the Chart or Combo Views there are several cartography-related functions that you can access using various keys.

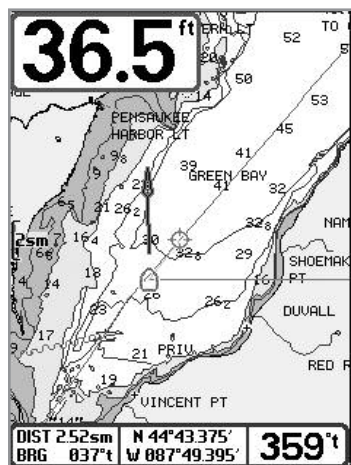


Chart View with Cursor Present,  
shown with Optional-Purchase  
Navionics® Cartography

**Panning:** Use the 4-WAY Cursor Control key to move the chart around on the display in the direction of the key being pressed. When you do this, a bull's eye cursor is drawn at the center of the screen and is linked to the boat by a gray line, even if the boat is off the screen. At the same time, the temperature and speed boxes in the lower left corner are replaced with the distance and bearing from the boat to the cursor position and the latitude/longitude coordinates of the cursor.

**Zooming:** Press the Plus (+) key to Zoom In and the Minus (-) key to Zoom Out to see the cartography at different magnification levels. The zoom level is indicated on the left side of the display. If you zoom in beyond the available chart data, the display will go into Overzoom mode whereby the last available chart data is amplified to reflect the level selected. If you zoom in so far that no cartography is available, a lat/long grid will be drawn instead.

**Decluttered Waypoints:** 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. You can also press the ZOOM+ key until you can see the individual waypoints on the screen.

**Chart Info:** Use the INFO key to get detailed information about the chart. If the cursor is active, you will see information about the chart objects located near the cursor. If the cursor is not active, the Chart Info submenu will appear. Use the 4-WAY Cursor Control key to select the nearest port, the nearest tide station, or the nearest current station and see information about any of these objects.

***NOTE:** The built-in UniMap™ does not contain any Port, Tide, or Current information. This information is only available from optional-purchase MMC/SD cards.*

**Nearest Port:** The position and services information for the nearest port to your present position will be displayed. Press the EXIT key to remove the information box and the cursor bull's eye will be centered over the port position. The cursor information boxes at the bottom of the display will indicate the distance and bearing to the port from your present position.

**Nearest Tide Station:** Tide information for the nearest tide station to your present position will be displayed. This includes the position of the station and the times of the high and low tides for today's date. A tide graph is also displayed showing the rise and fall of the tides for the 24 hour time period encompassing the date. You can change the date to look at tide information before or after the date displayed by pressing the LEFT or RIGHT Cursor key respectively. Press the EXIT key to remove the information box, and the cursor bull's eye will be centered over the tide station position. The cursor information boxes at the bottom of the display indicate the distance and bearing to the tide station from your present position.

**Nearest Current Station:** Current information for the nearest current station to your present position will be displayed. This includes the position of the station and the current changes for today. Two graphs are also presented that show the time, direction, and flow speed of the current changes for the 24 hour time period of today's date. You can change the date to look at current information before or after the date displayed by pressing the LEFT or RIGHT Cursor key respectively. Press the EXIT key to remove the information box, and the cursor bull's eye will be centered over the current station position. The cursor information boxes at the bottom of the display will indicate the distance and bearing to the current station from your present position.

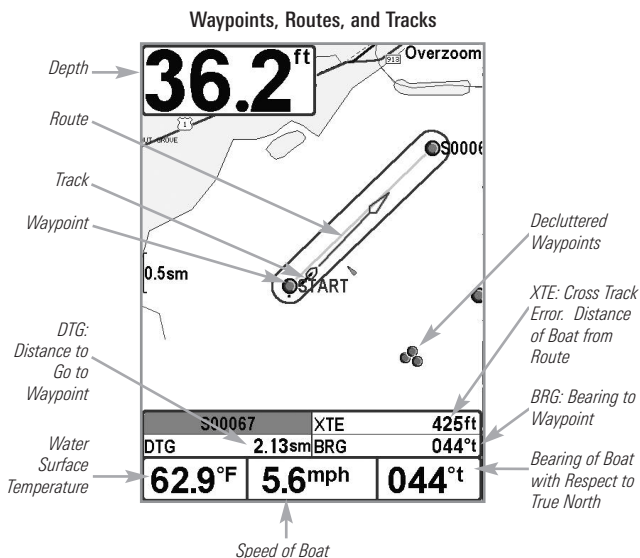
## Introduction to Navigation

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Use your 500 Series™ Fishfinder to mark waypoints at areas of interest and to navigate to those waypoints via a savable route. A route represents the shortest intended distance between waypoints. You can also view and save tracks, which represent the actual path of the boat.

## Waypoints, Routes, and Tracks

**Waypoints** are stored positions that allow you to mark areas of interest or navigation points. Your Fishfinder can store up to 3000 waypoints.



**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. You can also press the ZOOM+ key until you can see the individual waypoints on the screen.

**Routes** link two or more waypoints together to create a path for navigation and are used in trip planning. You can link individual waypoints together by using the GOTO key. 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 chart. Your 500 Series™ Fishfinder can store up to 50 routes that can each contain up to 50 waypoints.

**Tracks** consist of 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 (maximum of 20,000 trackpoints displayed). You can clear the Current Track or save it at any time. Your 500 Series™ Fishfinder can store up to 50 saved tracks, each containing 20,000 trackpoints. The current track represents your actual path so far.

## Save, Edit, or Delete a Waypoint

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**Save your current position as a waypoint:** On any view, press the MARK key to save the current position of the boat as a waypoint.

**Save the cursor position as a waypoint:** On the **Chart** or **Combo** View, use the 4-WAY Cursor Control key to move the cursor to the position you want to save as a waypoint. Then press the MARK key to save the position as a waypoint.

**Save a position from the sonar history:** On any Sonar View, use the 4-WAY Cursor Control key to move the cursor to a feature in the sonar history (also called the Sonar Saver feature). Press the MARK key to create a waypoint at the location where that sonar reading was taken. The new waypoint will also record the depth at that location.

***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:** From any view, press the MENU key twice to display the Main Menu, then use the RIGHT Cursor key to select the Navigation tab. Select Waypoints, and press the RIGHT Cursor key to display the Waypoints submenu.

**Program a specific position as a waypoint:** To create a waypoint that is NOT your current position, from the Waypoints submenu select Create, and press the RIGHT Cursor key. Use the 4-WAY Cursor Control key to program a waypoint name, latitude, longitude, and icon before selecting Save.

**Edit a waypoint:** From the Waypoints submenu, select Edit and press the RIGHT Cursor key to display the saved waypoints list. Select the waypoint you want to edit and press the RIGHT Cursor key. Use the 4-WAY Cursor Control key to edit a 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:** Use the 4-WAY Cursor Control key to move from field to field, and the UP or DOWN Cursor keys to change values once you are in a field.

In the Waypoint Name, Latitude, and Longitude fields, 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.

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 Chart Views. You can exit these fields with the LEFT or RIGHT Cursor keys or by pressing the EXIT key.

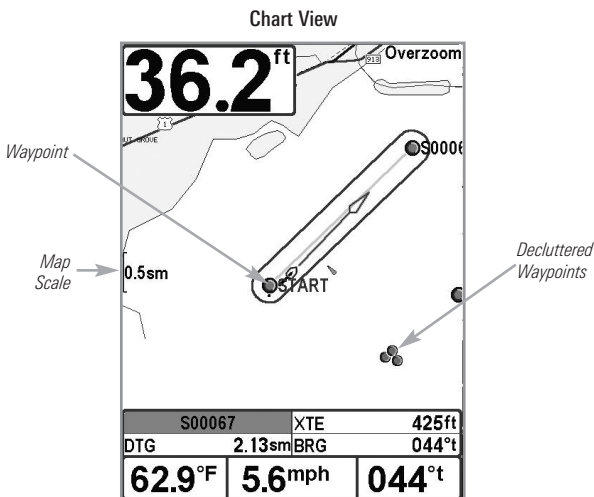
**Delete a waypoint:** From the Waypoints submenu, select Delete, and press the RIGHT Cursor key to display the saved waypoints list. Select the waypoint you want to delete, then press the RIGHT Cursor key. You will be asked to confirm deletion before the waypoint is permanently deleted.

## Navigate to a Waypoint or Position

**Navigate to the cursor position:** 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. Press the GOTO key. Navigation will begin immediately.

**Navigate to a specified waypoint:** Press the GOTO key. Press the DOWN Cursor key to highlight a waypoint from the saved waypoints list, and press the RIGHT Cursor key to start navigation.

***NOTE:** By repeating the previous instructions, you can add more waypoints to create a longer multi-segment route.*



***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. You can also press the ZOOM+ key until you can see the individual waypoints on the screen.*



**Skipping a waypoint:** 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.

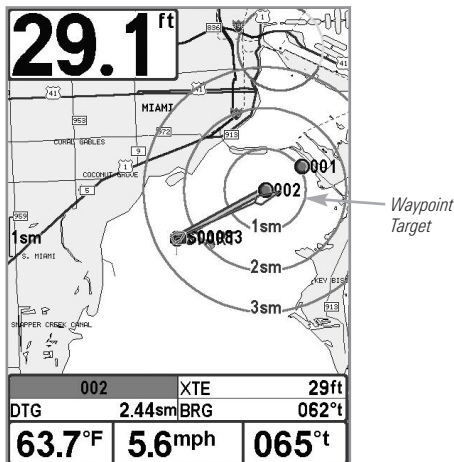
**Cancel navigation:** From the Navigation X-Press™ Menu, select Cancel Navigation, and press the RIGHT Cursor key. Canceling navigation removes the route and any waypoints created using the GOTO key, but it does not remove any saved routes from memory. You will be prompted to save the current route when you cancel navigation.

## Add a Waypoint Target or Trolling Grid

**Add or Remove a Waypoint Target:** The target shows various distance ranges in circular format from the waypoint you choose.

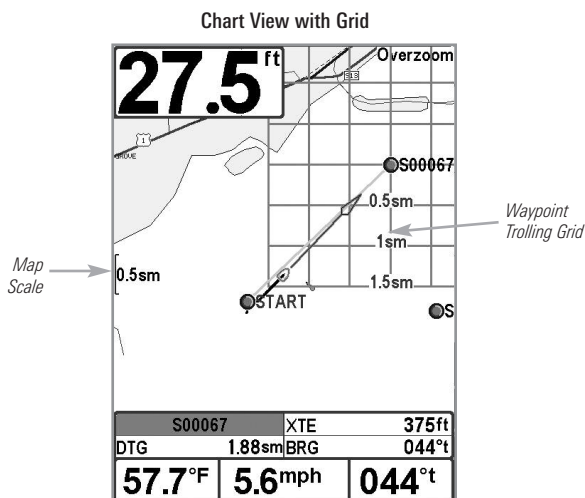
From the Waypoints submenu, select Target, and press the RIGHT Cursor key to display the saved waypoints list. Select the waypoint you want to target. A target consisting of concentric circles centered on the selected waypoint will appear on all of the navigation views. To remove the target, choose Remove Target from the Navigation X-Press™ Menu.

Chart View with Target



**Add or Remove a Trolling Grid:** 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.

From the Waypoints submenu, select Grid, and press the RIGHT Cursor key to display the saved waypoints list. Press the DOWN or UP Cursor keys to highlight a waypoint, and press the RIGHT Cursor key to select. A trolling grid centered on the selected waypoint will appear on all of the navigation views. The grid can be rotated to any heading by adjusting the Grid Rotation setting on the Navigation Main Menu. To remove the trolling grid, choose Remove Grid from the Navigation X-Press™ Menu.



**NOTE:** Only one waypoint can have either 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, Edit, or Delete a Route

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**Save the current route:** While you are navigating, the current route can be saved. From the Navigation X-Press™ Menu, select Save Current Route, and press the RIGHT Cursor key. Navigation will continue.

**Display the Routes submenu:** From any view, press the MENU key twice to display the Main Menu, then press the RIGHT Cursor key to select the Navigation tab. Press the DOWN Cursor key until Routes is highlighted, and press the RIGHT Cursor key to display the Routes submenu.

**Create a route:** From the Routes submenu, select Create and press the RIGHT Cursor key. A Route Edit dialog box will be displayed with an empty route. You can name the route, add waypoints to the route from the saved waypoints list, and order the waypoints in the route using the 4-WAY Cursor Control key to move between fields.

**Edit a saved route:** From the Routes submenu, select Edit and press the RIGHT Cursor key. A Route Edit screen will be displayed. Select the route you want to edit and press the RIGHT Cursor key. Re-name the route or change, delete, or re-order the waypoints used in the route.

**Edit waypoint order in a route:** From the Route Edit dialog box, highlight a waypoint in the In Route list, and press the RIGHT Cursor key to access the Waypoint In Route submenu. From this submenu, you can move the waypoint up or down in the route order or delete it from the list.

**Delete a saved route:** From the Routes submenu, select Delete and press the RIGHT Cursor key. Select the route you want to delete and press the RIGHT Cursor key. You will be asked to confirm your choice by pressing the RIGHT Cursor key again before the route is deleted.

**Travel a saved route:** From the Routes submenu, select Travel, and press the RIGHT Cursor key. The saved routes list will appear. Select the route you want to travel, and press the RIGHT Cursor key to make this route the current route and begin navigation. You may also travel the route in forward or reverse order by changing the Direction setting in the saved routes list.

**Route Info:** From the Routes submenu, select Info, and press the RIGHT Cursor key. The saved routes list will appear. Select a route, and press the RIGHT Cursor key. The following information will be displayed for the route you select: The waypoints in the route, with the distance and bearing from each waypoint to the next, as well as the distance and bearing from the current position to the first waypoint in the route.

## Save or Clear a Current Track

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**Save the current track:** 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. To remove the track completely from the display, see *Edit, Delete, or Hide Saved Tracks*.

*NOTE: When you save a track, a name is automatically assigned. The track name consists of a date/time stamp, but can be re-named later (see *Edit, Delete, or Hide Saved Tracks*).*

**Clear the current track:** 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

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**Display the Saved Tracks Submenu:** From any view, press the MENU key twice to display the Main Menu, then press the RIGHT Cursor key to select the Navigation tab. Select Saved Tracks, and press the RIGHT Cursor key to display the Saved Tracks submenu.

**Edit a saved track:** From the Saved Tracks submenu, select Edit, and press the RIGHT Cursor key to display the saved tracks list. Select the track you want to edit and press the RIGHT Cursor key.

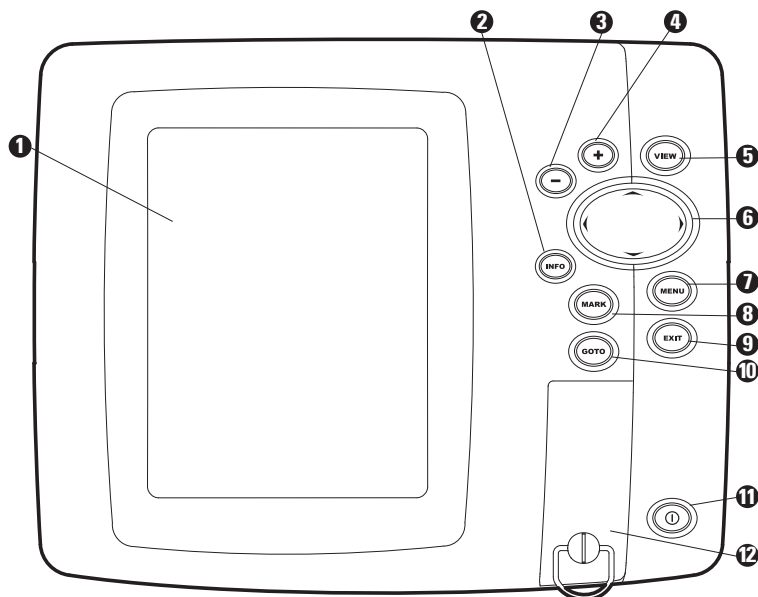
When the Edit Track dialog box appears, use the Cursor keys to move between fields. In the Name field, the UP or DOWN Cursor keys change the letter or number. All upper and lower case letters are available, as well as digits 0-9 and some punctuation characters. You can exit the Name field with the LEFT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

**Delete a saved track:** From the Saved Tracks submenu, select Delete, and press the RIGHT Cursor key to display the saved tracks list. 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:** From the Saved Tracks submenu, select Visibility, and press the RIGHT Cursor key to display the saved tracks list. Select the track you want to hide or display and press the RIGHT or LEFT Cursor keys to select Hidden or Visible. Press the EXIT key to return to the Saved Tracks submenu.

## Using Your 500 Series™ Control Head

Your 500 Series™ Fishfinder interface is easy to use. A combination of keys and special features allows you to control what you see on the display. Refer to the following illustration, and see *Key Functions* for more information.



- 1 Screen
- 2 INFO key
- 3 ZOOM (-) key
- 4 ZOOM (+) key
- 5 VIEW key
- 6 4-WAY Cursor Control key  
(LEFT, RIGHT, UP, or DOWN Cursor keys)

- MENU key 7
- MARK key 8
- EXIT key 9
- GOTO key 10
- POWER/LIGHT key 11
- MMC/SD Card slot cover 12

## Key Functions

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Your Fishfinder user interface consists of a set of easy-to-use keys that work with various on-screen views and menus to give you flexibility and control over your fishing experience.



### POWER/LIGHT Key

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The POWER/LIGHT key is used to power the Fishfinder on and off. You can also use the POWER/LIGHT key to adjust the backlight and contrast of the display.

**Power On the control head:** Press the POWER/LIGHT key to power the unit on. When the Title screen is displayed, press the MENU key to access the Start-Up Options Menu.

**Power Off the control head:** Press and hold the POWER/LIGHT key for 3 seconds. A message will appear to indicate how many seconds there are until shutdown occurs. To ensure that shutdown occurs properly and any menu settings will be saved, your Fishfinder should always be turned off using the POWER/LIGHT key.



### Adjust the Backlight or the Display Background

**Color:** Press the POWER/LIGHT key to access the Light and Background submenu. Use the 4-WAY Cursor Control key to select Light or Background, and then use the LEFT or RIGHT Cursor key to change the settings. Press EXIT to exit the Light and Background submenu.



### VIEW Key

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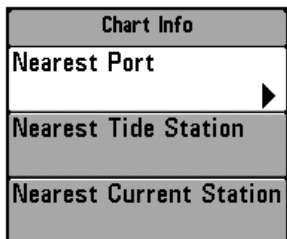
The VIEW key is used to cycle through all available views. Press the VIEW key to advance to the next view. Repeatedly pressing VIEW cycles through all views available. Views can be hidden to optimize the system to your fishing requirements (see *Views* or *Views Menu Tab*).

**NOTE:** Press the EXIT key to cycle through the views in reverse order.



## INFO Key

**Info** - Press the INFO key while in Bird's Eye, Chart, or Combo View to display information about objects that are near an active cursor.



If the cursor is not active, the Chart Info submenu will be displayed. Press the DOWN Cursor key to select Nearest Port, Nearest Tide Station, or Nearest Current Station. Then press the RIGHT Cursor key to display the requested information.

***NOTE:** The built-in UniMap™ does not contain Port, Tide, or Current information. This information is only available from optional purchase MMC/SD cards.*



## MENU Key

The MENU key is used to access the menu system.

**Start-Up Options Menu** - Press the MENU key during the power up sequence to view the Start-Up Options menu.

**X-Press™ Menu** - Press the MENU key once to access the X-Press™ Menu. The X-Press™ Menu provides a shortcut to the most frequently-used settings, and the options on the X-Press™ Menu correspond with the current view or navigation mode.

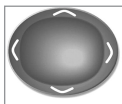
Press the UP or DOWN Cursor keys to highlight your X-Press™ Menu choice, then press the RIGHT or LEFT Cursor keys to change the setting. The X-Press™ Menu will collapse temporarily and the screen will update if it is affected by your menu setting change, which allows you to see the effects of your change immediately. Reactivate the full X-Press™ Menu by pressing the UP or DOWN Cursor keys.

***NOTE:** Menu options can be expanded or simplified by setting the User Mode to Advanced or Normal. See **Main Menu: User Mode** for details.*

**Main Menu** - The standard Main Menu is organized under tabbed headings to help you find a specific menu item quickly. Your 500 Series™ Fishfinder has the following menu tabs: Alarms, Sonar, Navigation, Setup, and Views.



Press the MENU key twice to access the Main Menu. Press the RIGHT or LEFT Cursor keys to select a tab. Then press the DOWN or UP Cursor key to highlight a menu option, and press the LEFT or RIGHT Cursor key to change a menu setting.



## 4-WAY Cursor Control Key

*(LEFT, RIGHT, UP, or DOWN Cursor keys)*

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The 4-Way Cursor Control key has multiple functions, depending on the view, menu, or situation.

- **Menu Selection** - Press the DOWN or UP Cursor keys to highlight a menu option, then press the RIGHT or LEFT Cursor keys to change a menu setting.

***NOTE:** Menu settings are implemented and saved immediately - no further action is required.*

- **Freeze Frame** - In Sonar View, press any arrow on the 4-WAY Cursor Control key to freeze the display and move the active cursor to a location on the screen. A cursor dialog box will display to show the depth of the location you choose.
- **Active Cursor** - Press any arrow on the 4-WAY Cursor Control key, and the active cursor will appear on the screen. In any Chart View, the 4-WAY Cursor Control key also pans the charts and highlights decluttered waypoint icons.

***NOTE:** In either Freeze Frame or Active Cursor mode, you can also make the cursor move diagonally by pressing in between two of the arrows on the 4-WAY Cursor Control key.*

- **Bird's Eye View** - The 4-WAY Cursor Control key controls the motion of the eye point.



## MARK Key

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Press the MARK key while in any view to mark the position of a waypoint. The MARK key function works if you have the GPS receiver connected. The waypoint location and characteristics are influenced by the active features on the control head as follows:

- **If the cursor is active**, the waypoint will be marked at the cursor location.
- **If the cursor is not active**, the waypoint will be marked at the boat location.

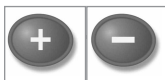


## GOTO Key

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The GOTO key has multiple functions, depending on the situation:

- **If the Cursor is active**, press the GOTO key while in any view to create a waypoint and start navigation towards that waypoint.
- **If the Cursor is not active**, press the GOTO key to display the saved waypoints list, and then highlight a waypoint. Press the RIGHT Cursor key to begin navigation.



## ZOOM (+/-) Key

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The ZOOM (+/-) key has multiple functions, depending on the situation:

- In any of the **Navigation Views or the Sonar Zoom View**, press the +/- Zoom key to change the scale of the view to appear closer or farther away.

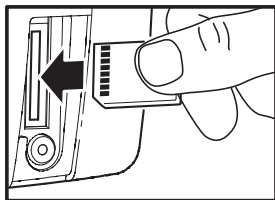


## EXIT Key

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The EXIT key has multiple functions, depending on the situation:

- **If an alarm is sounding**, press the EXIT key to cancel the alarm.
- **If a menu tab is selected**, press the EXIT key to exit the menu mode and return to the view.
- **If a menu is active**, press the EXIT key to return to the previous level in the menu system.
- **From any view**, press the EXIT key to cycle through the available views in reverse order.
- **If Freeze Frame is active**, press the EXIT key to return to a scrolling display.
- **If the Cursor is active**, press the EXIT key to remove the cursor from the display.



Inserting an MMC/SD  
into the Card Slot

## Multi-Media Card (MMC)/SD Slot

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The multi-media card (MMC)/SD slot on your control head can be used with MMC/SD cards (optional-purchase required) to add detailed charts to your Fishfinder or export navigation data from your Fishfinder.

**NOTE:** The MMC/SD Cards require a separate purchase. For more information, visit our web site at [www.humminbird.com](http://www.humminbird.com) or contact our Customer Resource Center at 1-800-633-1468.

### To insert an MMC/SD card:

1. Remove the MMC/SD slot cover.
2. Position the MMC/SD card so that the label faces the right side of the unit, and insert the card into the slot. Press down on the card until it clicks into place.
3. Close the slot cover and turn the knob just 1/4 of a turn to close. Do NOT overtighten, as this will not improve water resistance and may damage the cover.

### To remove an MMC/SD card:

1. Remove the MMC/SD slot cover.
2. Press the MMC/SD card into the slot and then release. The card will eject from the slot.

## Adding Maps to Your Fishfinder

---

Your 500 Series™ Fishfinder includes a built-in UniMap™. You can also purchase MMC/SD cards with additional chart information for a particular location.

When you install the MMC/SD cards in your control head, your 500 Series™ Fishfinder will retrieve that chart and display it automatically (see *Multi-Media Card MMC/SD*).

## Exporting Navigation Data

---

You can export all saved Tracks, Waypoints, and Routes from your Fishfinder to an optional-purchase MMC/SD card. See *Navigation Menu Tab* for more information.

### To Export All Navigation Data:

1. Make sure that an optional-purchase MMC/SD card is installed in the slot.
2. Press the MENU key twice to access the Main Menu, then press the RIGHT Cursor key until the Navigation tab is selected.
3. Press the DOWN Cursor key to highlight Export All Nav Data
4. Press the RIGHT Cursor key to export all navigation data. The Confirm dialog box will appear. To confirm export, press the RIGHT Cursor key once more. To cancel export, press the LEFT Cursor key.

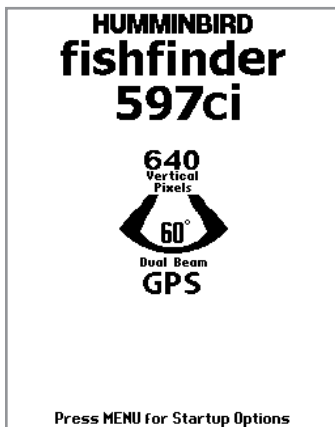
**NOTE:** If no MMC card is installed, an error message will be displayed. Insert the MMC card and try again.

**NOTE:** The MMC/SD cards and MMC/SD Card Reader require separate purchases. The MMC/SD Card Reader accessory can be used in conjunction with your personal computer to view and organize your exported navigation data. To purchase this accessory, visit our web site at [www.humminbird.com](http://www.humminbird.com) or contact our Customer Resource Center at **1-800-633-1468**.

## Powering On the Unit

Press the POWER/LIGHT key to power on your Fishfinder. When the Title screen is displayed, press the MENU key to access the Start-Up Options Menu.

597ci Title Screen



If a functioning transducer is connected, Normal operation will be selected automatically at power up, and your Fishfinder can be used on the water. If a transducer is not connected and you wait too long to select a Start-Up Option, the system will default to whichever menu is already highlighted.

Press the UP or DOWN Cursor keys to highlight a menu option, then press the RIGHT Cursor key to start one of the following operation modes:

- Select **Normal** to use the Fishfinder on the water with the transducer connected.
- Select the **Simulator** to learn how to use your Fishfinder before taking your boat on the water.
- Select **System Status** to view system connections and conduct a unit self-test.

# The Menu System

---

The Menu System is divided into easy-to-use menu modules. The main components of the menu system are as follows:

- **Start-Up Options Menu:** Press the MENU key during the power on sequence to view the Start-Up Options Menu. From the Start-Up Options Menu, you can choose the following Fishfinder Modes: Normal, Simulator, and System Status.
- **X-Press™ Menu:** The X-Press™ Menu provides a shortcut to the most frequently-used settings, and the options on the X-Press™ Menu correspond with the current view.
- **Main Menu:** The Main Menu is a standard set of menu settings which are organized under the following tabbed headings: Alarms, Sonar, Navigation, Setup, and Views.

***NOTE:** The X-Press™ Menu(s) and the Main Menu options can also be expanded or simplified by setting the User Mode to Advanced or Normal (see **Main Menu: User Mode**).*

## Start-Up Options Menu

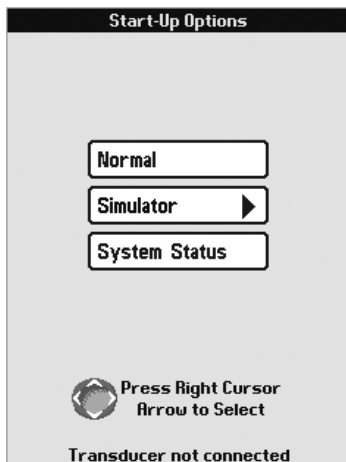
Press the MENU key during the power on sequence to view the Start-Up Options Menu.

If a functioning transducer is connected, Normal operation will be selected automatically at power up, and your Fishfinder can be used on the water. If a transducer is not connected and you wait too long to select a Start-Up Option, the system will default to whichever menu is already highlighted.

Press the UP or DOWN Cursor keys to highlight a menu option, then press the RIGHT Cursor key to start one of the following operation modes:

- Select **Normal** to use the Fishfinder on the water with the transducer connected.
- Select the **Simulator** to learn how to use your Fishfinder before taking your boat on the water.
- Select **System Status** to view system connections and conduct a unit self-test.

See the following pages for more information about each of these options.





## Normal

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Use **Normal** for on-the-water operation with a transducer connected. In addition, your Fishfinder uses advanced transducer detection methods to determine if a transducer is connected.

If a functioning transducer is connected, Normal operation will be selected automatically at power up, and your Fishfinder can be used on the water.

Exit Normal operation by powering your Fishfinder off.

## Simulator

---

Use **Simulator** to learn how to use your Fishfinder before taking your boat on the water. The Simulator is a very powerful tool that provides a randomly-updated display which simulates on the water operation.

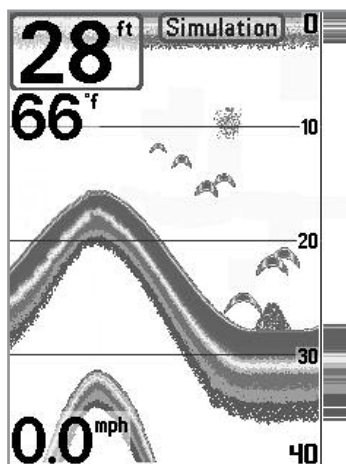
Selecting Simulator from the Start-Up Options Menu allows you to pre-configure your Fishfinder for on the water operation. Any menu changes you make will be saved for later use. We recommend going through this manual while using the Simulator, since all of the menus function and affect the display in the same way as they would in Normal operation.

***NOTE:** To get the full benefit of the Simulator, it is important to select Simulator manually from the Start-Up Options Menu as opposed to letting the Fishfinder enter Simulator automatically (as it will if a transducer is not connected and you do nothing during power up).*

A message will appear on the display periodically to remind you that you are using the Simulator.

Exit the Simulator by powering your Fishfinder off.

Simulator



## System Status

Use **System Status** to view system connections and to conduct a unit self-test.

After you select System Status from the Start-Up Options Menu, press the VIEW key to display the following options:

- Self Test
- Accessory Test
- GPS Diagnostic View.

Exit System Status by powering your Fishfinder off.

**Self Test** displays results from the internal diagnostic self test, including unit serial number, Printed Circuit Board (PCB) serial number, software revision, total hours of operation, and the input voltage.

Self Test Screen

SYSTEM STATUS	
SELF TEST	
PASSED	
S/N	MODEL
0-1-1000000000	597ci
SOFTWARE VERSION	
4.311	
VOLTAGE	TOTAL TIME
13.8 <sup>v</sup>	84 <sup>hrs</sup>
PCB S/N	
0-0-0000000	
Press VIEW for Next Screen	

**Accessory Test** lists the accessories connected to the system.

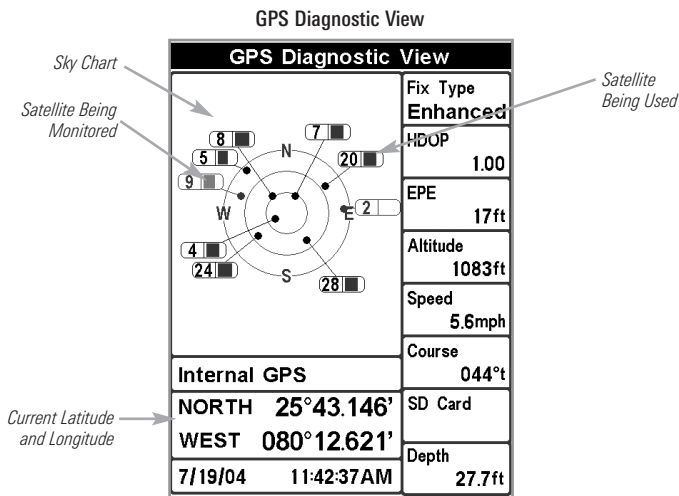
System Status Accessory Test Screen

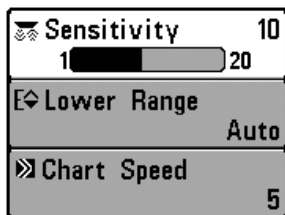
SYSTEM STATUS	
ACCESSORY TEST	
Speed	CONNECTED
Temperature	CONNECTED

***NOTE:** The speed accessory will be detected only if the paddlewheel has moved since your Fishfinder was powered up.*

**GPS Diagnostic View** shows a sky chart and numerical data from the GPS receiver. The sky chart shows the location of each visible GPS satellite with its satellite number and a signal strength bar. A dark gray bar indicates that the satellite is being used to determine your current position. A light gray bar indicates that the satellite is being monitored, but is not yet being used.

This view also reports the current position, local time and date, and other numeric information. The current GPS Fix Type is reported as No Fix, 2D Fix, 3D Fix, or Enhanced. An Enhanced fix has been augmented using information from WAAS, EGNOS, or MSAS. A 3D or Enhanced Fix is required for navigation. HDOP (the Horizontal Dilution of Precision) is a GPS system parameter which depends on the current satellite configuration. HDOP is used to calculate the Estimated Position Error.





X-Press™ Menu

## X-Press™ Menu

The X-Press™ Menu provides a shortcut to your most frequently-used settings. The options provided on the X-Press™ Menu correspond with the current view. For example, if you are in a Sonar View and press the MENU key once, the Sonar X-Press™ Menu will display.

### To use an X-Press™ Menu:







1. In any view, press the MENU key once to open the X-Press™ Menu.
2. Press the UP or DOWN Cursor keys to highlight an X-Press™ Menu option, then use the RIGHT or LEFT Cursor keys to change the menu setting.

***NOTE:** The X-Press™ Menu will collapse temporarily and the screen will update if it is affected by your menu setting change, which allows you to see the effects of your change immediately.*

3. Reactivate the X-Press™ Menu by pressing the UP or DOWN Cursor keys.

**Total Screen Update** - When you change any menu settings that affect the current view, the view will update immediately (i.e. you don't have to exit the menu to apply the change to the screen).

Menu options can be simplified or expanded by setting the User Mode to Normal or Advanced. See **Main Menu: User Mode** for details.

 Alarms					
Depth Alarm		Off			
Fish ID Alarm					
Low Battery Alarm		Off			
Temp. Alarm		Off			
Off Course Alarm		300ft			
Arrival Alarm		150ft			
Drift Alarm		Off			
Alarm Tone		Medium			

Main Menu, Normal User Mode

## Main Menu

The Main Menu provides the standard set of menu options, including the settings that are changed less frequently. The Main Menu is organized under the following tabs to help you find a specific menu item quickly: Alarms, Sonar, Navigation, Setup, Views.

***NOTE:** Menu options can be expanded or simplified by setting the User Mode to Advanced or Normal. See **Main Menu: User Mode** for details.*

### To use the Main Menu:

1. In any view, press the MENU key twice to open the Main Menu.
2. Press the RIGHT or LEFT Cursor keys to highlight a menu tab.
3. Press the DOWN or UP Cursor keys to select a specific menu option under that tab.
4. Press the RIGHT or LEFT Cursor keys again to change a menu setting.
  - A down arrow at the bottom of a menu means that you can scroll to additional menu options using the DOWN Cursor key.
  - A right or left arrow on a menu option means that you can use the RIGHT or LEFT Cursor keys to make changes or to see more information.
  - Press the EXIT key to move quickly to the top of the tab.

**Total Screen Update** - When you change any menu settings that affect the current view, the view will update immediately (i.e. you don't have to exit the menu to apply the change to the screen).

## Quick Tips for the Main Menu

---

- **From any menu option on a menu tab**, press the EXIT key to jump directly to the top of the tab.
- **From the bottom of a menu tab**, press the DOWN key to jump directly to the top of the tab.
- **From the top of a menu tab**, press the LEFT or RIGHT Cursor keys to scroll to the next tab. You can also jump to the beginning or end of the tab rotation by repeatedly pressing the RIGHT or LEFT Cursor keys.
- If there is a **down arrow at the bottom of a menu tab**, press the DOWN Cursor key to scroll to additional menu options.
- If there is a **right or left arrow on a menu option**, press the RIGHT or LEFT Cursor keys to make setting changes or see more information.
- If you press the MENU key or EXIT key to leave the Main Menu and then **return to the Main Menu at a later time**, the menu will open to the same tab as the last time the Main Menu was displayed.



## User Mode (Normal or Advanced)

---

Menu options can be simplified or expanded by setting your Fishfinder User Mode to Normal or Advanced.

**Normal Mode** is the default setting when you first power on your 500 Series™ Fishfinder. Normal mode is provided for users who want greater simplicity and fewer menu choices.

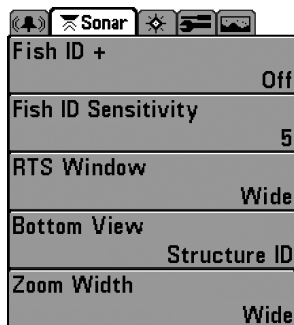
**Advanced Mode** is provided for users who want the highest level of control over the Fishfinder. Several menu settings are added to the Main Menu when the User Mode is changed to Advanced.

### To change the User Mode setting:

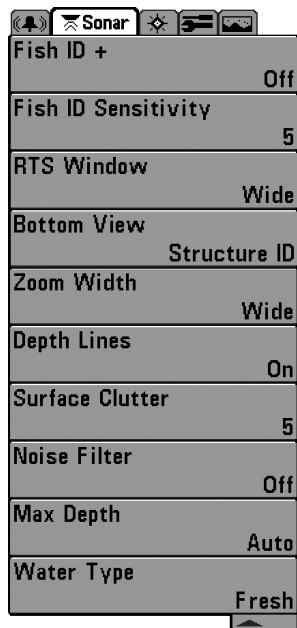
1. Press the MENU key twice to access the Main Menu.
2. Press the RIGHT Cursor key until the Setup tab is selected.
3. Press the DOWN Cursor key to highlight User Mode on the Setup main menu.
4. Press the LEFT or RIGHT Cursor keys to change the User Mode setting. (Normal, Advanced, Default = Normal)

**NOTE:** Any changes made while in Advanced Mode will remain in effect after you switch back to Normal Mode.






*For example, the Select Readouts menu option is available when the User Mode is set to Advanced. If you change the Select Readouts settings while operating in Advanced User mode, the Select Readouts you choose will continue to display on the screen even if you switch back to Normal User Mode.*



Sonar Tab, Normal Mode



Sonar Tab, Advanced Mode

 Sensitivity	16
 Upper Range	0ft
 Lower Range	48ft
 Chart Speed	7
 Cancel Navigation	

Sonar X-Press™ Menu

## Sonar X-Press™ Menu

*(Sonar Views only)*

The **Sonar X-Press™ Menu** provides a shortcut to your most frequently-used settings. Press the MENU key once while in any of the Sonar Views to access the Sonar X-Press™ Menu.

**NOTE:** Menu options can be expanded or simplified by setting the Fishfinder User Mode to Advanced or Normal. See **Main Menu: User Mode** for details.

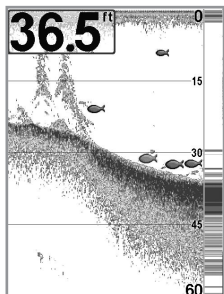


## Sensitivity

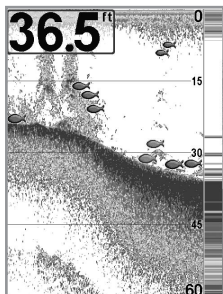
**Sensitivity** controls how much detail is shown on the display and will adjust the sensitivity of all sonar frequencies. Increasing the sensitivity shows more sonar returns from small baitfish and suspended debris in the water; however, the display may become too cluttered.

When operating in very clear water or greater depths, increased sensitivity shows weaker returns that may be of interest. Decreasing the sensitivity eliminates the clutter from the display that is sometimes present in murky or muddy water. If Sensitivity is adjusted too low, the display may not show many sonar returns that could be fish.

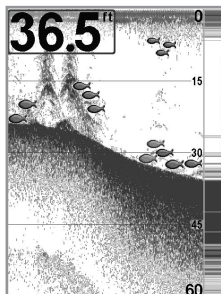
Sensitivity at Low



Sensitivity at Medium



Sensitivity at High



### To adjust the Sensitivity:

1. Highlight Sensitivity on the Sonar X-Press™ Menu.
2. Press the RIGHT or LEFT Cursor keys to increase or decrease the Sensitivity setting. (Low = 1, High = 20, Default = 10)



## Upper Range

*(Advanced: Sonar and  
Big Digits Views only)*

**Upper Range** sets the shallowest depth range that will be displayed on the Sonar and Big Digits Views. The Upper Range menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*) and can only be accessed from the Sonar and Big Digits Views. Upper Range is often used with Lower Range.

For example, if you are only interested in the area between 20 and 50 feet deep, you should set the Upper Depth Range to 20 and the Lower Depth Range to 50. The Sonar View will then show the 30 foot area between 20 and 50 and will not show the surface or the bottom (assuming the bottom is deeper than 50 feet). Greater detail will be shown for the area between 20 and 50 feet.

**NOTE:** A minimum distance of 10 feet will be maintained between the Upper and Lower Range regardless of the manual settings entered.

### To adjust the Upper Range:

1. Make sure the User Mode is set to Advanced, then highlight Upper Range on the Sonar X-Press™ Menu.

**NOTE:** See *Main Menu: User Mode* to change the User Mode to Advanced.

2. Press the RIGHT or LEFT Cursor keys to increase or decrease the Upper Range setting. (0 to 990 feet or 0 to 327 meters [*International Models only*], Default = 0)



## Lower Range

**Lower Range** sets the deepest depth range that will be displayed by the unit. Auto is the default setting.

**Auto:** The Lower Range will be adjusted by the unit to follow the bottom automatically. Auto is the default setting.

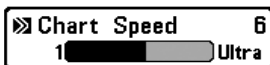
**Manual:** You can adjust the Lower Range to lock the unit on a particular depth. "M" will be displayed in the lower right corner of the screen to indicate the unit is in Manual mode. Adjust the Upper and Lower Range together to view a specific depth range, especially when looking for fish or bottom structure.

For example, if you are fishing in 60 feet of water but are only interested in the first 30 feet (surface to a depth of 30 feet), you should set the Lower Depth Range limit to 30. The display will show the 0 to 30 foot range, which allows you to see a more detailed view than you would see if the display went all the way to the bottom.

**NOTE:** A minimum distance of 10 feet will be maintained between the Upper and Lower Range regardless of the manual settings entered.

### To adjust the Lower Range:

1. Highlight Lower Range on the Sonar X-Press™ Menu.
2. Press the RIGHT or LEFT Cursor keys to increase or decrease the Lower Range setting. (AUTO, 10 to 1000 feet, 3 to 330 meters [*International Models only*], Default = AUTO)



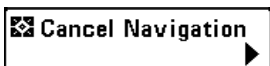
## Chart Speed

**Chart Speed** determines the speed at which the sonar information moves across the display, and consequently the amount of detail shown.

A **faster speed** shows more information and is preferred by most anglers; however, the sonar information moves across the display quickly. A **slower speed** keeps the information on the display longer, but the bottom and fish details become compressed and may be difficult to interpret. Regardless of the Chart Speed setting, the RTS Window™ will update at the maximum rate possible for the depth conditions. Adjust Chart Speed to your personal preference.

### To adjust the Chart Speed:

1. Highlight Chart Speed on the Sonar X-Press™ Menu.
2. Press the RIGHT or LEFT Cursor keys to increase or decrease the Chart Speed setting. (1-9, Ultra, where 1 = Slow, 9 = Fast, Ultra = Fastest, Default = 5)



## Cancel Navigation

*(only when Navigating)*

**Cancel Navigation** discards the current route and exits Navigation Mode. This menu option will only appear when you are currently navigating a route. This will not delete a previously-saved route.

### To Cancel Navigation:

1. Highlight Cancel Navigation on the Sonar X-Press™ Menu.
2. Press the RIGHT Cursor key to initiate canceling navigation.
3. The Confirm dialog box will appear. To cancel navigation, press the RIGHT Cursor key once more. To avoid canceling navigation, press the LEFT Cursor key.

● Waypoint 001
⊕ Cursor To Waypoint
📁 Save Current Track
✕ Clear Current Track
📁 Save Current Route
↻ Skip Next Waypoint
✦ Cancel Navigation
🎯 Remove Target
🗪 Remove Grid
🖼️ Sonar Window
Medium
● Waypoint 00153

Navigation X-Press™ Menu

## Navigation X-Press™ Menu

*(Navigation Views only)*

The **Navigation X-Press™ Menu** provides a shortcut to your most frequently-used settings. Press the MENU key once while in the Bird's Eye, Chart, or Combo View to access the Navigation X-Press™ Menu.

**NOTE:** Menu options will vary depending on system settings, such as whether you are currently navigating.

**NOTE:** Menu options can be expanded or simplified by setting the User Mode to Advanced or Normal. See **Main Menu: User Mode** for details.



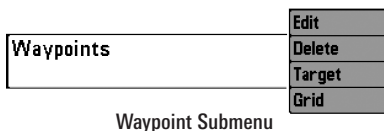
## Waypoint [Name]

*(Only with an active cursor on a waypoint)*

**Waypoint [Name]** allows you to view the Waypoints submenu for the waypoint under your cursor.

### To view the Waypoint [Name] Submenu:

1. Use the 4-WAY Cursor Control key to move the cursor onto an existing waypoint and press the MENU key once, or use **Cursor to Waypoint** to select a waypoint from the saved waypoints list.
2. Highlight **Waypoint [Name]** on the Navigation X-Press™ Menu.
3. Press the RIGHT Cursor key to view the Waypoints submenu.



*NOTE: See **Navigation Menu Tab** for more Waypoints information.*

### The Waypoint Submenu contains the following menu options:

**Edit** allows you to edit the Name, Position (Latitude and Longitude), and select the Icon that will be used to represent the waypoint in the Chart and Combo Views.

**Delete** allows you to delete a waypoint from the saved waypoints list.

**Target** allows you to apply a target to a waypoint selected from the saved waypoints list.

**Grid** allows you to apply a trolling grid to a waypoint selected from the saved waypoints list.



**Cursor to Waypoint** allows you to quickly move the cursor to any saved waypoint so that you can locate it or edit it.

**NOTE:** *This X-Press™ Menu option only appears if you have saved waypoints.*

### To move the cursor to a saved waypoint:

1. Highlight Cursor to Waypoint on the Navigation X-Press™ Menu.
2. Press the RIGHT Cursor key to initiate Cursor to Waypoint.
3. Press the UP or DOWN Cursor keys to select a waypoint, then press the RIGHT Cursor key to select the destination waypoint.



**Save Current Track** allows you to save the current track being displayed. After the current track is saved, a new current track is started.

**NOTE:** *Save Current Track appears on the Navigation X-Press™ Menu after navigation is stopped.*

### To Save Current Track:

1. Highlight Save Current Track on the Navigation X-Press™ Menu.
2. Press the RIGHT Cursor key to initiate saving the current track.
3. The Confirm dialog box will appear. To save the current track, press the RIGHT Cursor key once more. To cancel saving the current track, press the LEFT Cursor key.

**☒ Clear Current Track**

## Clear Current Track

**Clear Current Track** allows you to clear the current track being displayed and start a new track at the present position.

### To Clear Current Track:

1. Highlight Clear Current Track on the Navigation X-Press™ Menu.
2. Press the RIGHT Cursor key to initiate clearing the current track.
3. The Confirm dialog box will appear. To clear the current track, press the RIGHT Cursor key once more. To cancel clearing the current track, press the LEFT Cursor key.

**☒ Save Current Route**

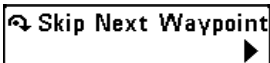
## Save Current Route

*(only when Navigating)*

**Save Current Route** allows you to save the current route being displayed. This menu option will only appear when you are currently navigating a route.

### To Save Current Route:

1. Highlight Save Current Route on the Navigation X-Press™ Menu.
2. Press the RIGHT Cursor key to initiate saving the current route.
3. The Confirm dialog box will appear. To save the current route, press the RIGHT Cursor key once more. To cancel saving the current route, press the LEFT Cursor key.



## Skip Next Waypoint

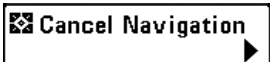
*(only when Navigating)*

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**Skip Next Waypoint** removes the next waypoint from the current route. This menu option will only appear when you are currently navigating a route.

### To Skip Next Waypoint:

1. Highlight Skip Next Waypoint on the Navigation X-Press™ Menu.
2. Press the RIGHT Cursor key to initiate skipping the next waypoint.
3. The Confirm dialog box will appear. To skip the next waypoint, press the RIGHT Cursor key once more. To cancel skipping the next waypoint, press the LEFT Cursor key.



## Cancel Navigation

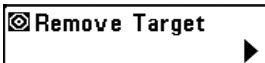
*(only when Navigating)*

---

**Cancel Navigation** discards the current route and exits Navigation Mode. This menu option will only appear when you are currently navigating a route. This will not delete a previously-saved route.

### To Cancel Navigation:

1. Highlight Cancel Navigation on the Navigation X-Press™ Menu.
2. Press the RIGHT Cursor key to initiate canceling navigation.
3. The Confirm dialog box will appear. To cancel navigation, press the RIGHT Cursor key once more. To avoid canceling navigation, press the LEFT Cursor key.



## Remove Target

*(only if a Target is Active)*

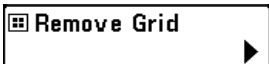
---

**Remove Target** removes the waypoint target from the display. This menu option will only appear when a target has already been applied to a waypoint.

*NOTE: See Introduction to Navigation: Add a Waypoint Target or Trolling Grid for more information.*

### To Remove a Target:

1. Highlight Remove Target on the Navigation X-Press™ Menu.
2. Press the RIGHT Cursor key to remove the target.



## Remove Grid

*(only if a Grid is Active)*

---

**Remove Grid** removes the waypoint grid from the display. This menu option will only appear when a grid has already been applied to a waypoint.

*NOTE: See Introduction to Navigation: Add a Waypoint Target or Trolling Grid for more information.*

### To Remove a Grid:

1. Highlight Remove Grid on the Navigation X-Press™ Menu.
2. Press the RIGHT Cursor key to remove the grid.



## Sonar Window

*(Combo View only)*

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**Sonar Window** sets the size of the Sonar Window in the Combo View. Sonar Window can only be accessed from the Combo View.

### To Set the Size of the Sonar Window in the Combo View:

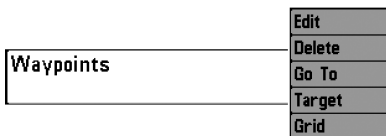
1. Highlight Sonar Window on the Navigation X-Press™ Menu.
2. Press the LEFT or RIGHT Cursor keys to adjust the size of the sonar window. (Wide, Medium, Narrow, Default = Medium)

**Waypoint [Name]** allows you to view the waypoints submenu for the most recently created waypoint.

***NOTE:** You must have pressed the MARK key at least once since you last powered up the Fishfinder for this menu option to appear.*

**To view the Waypoint [Name] Submenu:**

1. Use the 4-WAY Cursor Control key to move the cursor to a position on the screen, and press the MARK key once to save a waypoint.
2. Highlight Waypoint[Name] on the Navigation X-Press™ Menu.
3. Press the RIGHT Cursor key to view the Waypoints submenu.



Waypoint [Name] Submenu

***NOTE:** See **Navigation Menu Tab** for more Waypoints information.*

**The Waypoint Submenu contains the following menu options:**



**Edit** allows you to edit the Name, Position (Latitude and Longitude) and select the Icon that will be used to represent the waypoint in the Chart and Combo Views.

**Delete** allows you to delete a waypoint from the saved waypoints list.

**Go To** allows you to select a waypoint and start navigation toward that waypoint, or add that waypoint to the end of the current route.

**Target** allows you to apply a target to a waypoint selected from the saved waypoints list.

**Grid** allows you to apply a trolling grid to a waypoint selected from the saved waypoints list.

	
Depth Alarm	Off
Fish ID Alarm	
Low Battery Alarm	Off
Temp. Alarm	Off
Off Course Alarm	300ft
Arrival Alarm	150ft
Drift Alarm	Off
Alarm Tone	Medium

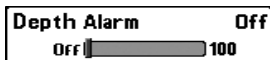
Alarms Menu

## Alarms Menu Tab

From any view, press the MENU key twice to access the Main Menu. The Alarms tab will be the default selection.

**NOTE:** When an alarm is triggered, you can silence it by pressing any key. The alarm will be silenced, and will not be triggered again until a new instance of the alarm condition is detected.

**NOTE:** Menu options can be expanded or simplified by setting the User Mode to Advanced or Normal. See *Main Menu: User Mode* for details.



## Depth Alarm

**Depth Alarm** sounds when the depth becomes equal to or less than the menu setting.

### To change the Depth Alarm setting:

1. Highlight Depth Alarm on the Alarms main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Depth Alarm setting. (OFF, 1 to 100 feet, or 0.5 to 30 meters [*International Models only*], Default = OFF)



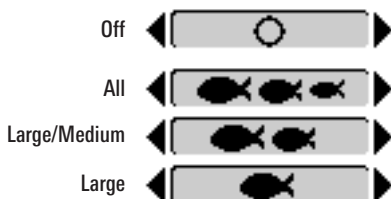
## Fish ID Alarm

**Fish ID Alarm** sounds when the Fishfinder detects fish that correspond to the alarm setting. Fish ID Alarm will only sound if Fish ID+™ is on.

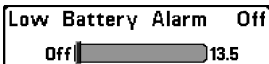
For example, if you've set the Fish ID Alarm to sound for Large fish only, the Fish ID alarm will sound when a large-sized fish is detected.

### To change the Fish ID Alarm setting:

1. Highlight Fish ID Alarm on the Alarms main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Fish ID Alarm setting. (Off, All, Large/Medium, Large, Default = Off)







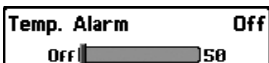
## Low Battery Alarm

**Low Battery Alarm** sounds when the input battery voltage is equal to or less than the menu setting. The battery alarm will only sound for the battery that is connected to the Fishfinder. The Low Battery Alarm should be set to warn you when the battery voltage drops below the safety margin that you have determined.

For instance, if you are running a trolling motor (battery operated), you would want to set the Low Battery Alarm to sound before the battery voltage drops too low for it to be used to start your main, gasoline-powered engine.

### To change the Low Battery Alarm setting:

1. Highlight Low Battery Alarm on the Alarms main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Low Battery Alarm setting. (Off, 8.5V - 13.5V, Default = Off)




## Temp. Alarm

**Temp. Alarm** sounds when the water temperature detected by the Fishfinder reaches the Temp. Alarm setting, which is either set in degrees Fahrenheit or Celsius [*International Models only*].

For example, if the Temp. Alarm is set to 58 degrees Fahrenheit, and the water temperature falls from 60 degrees to 58 degrees, the Temp. Alarm will sound. Similarly, if the water temperature rises from 56 degrees to 58 degrees, the Temp. Alarm will also sound.

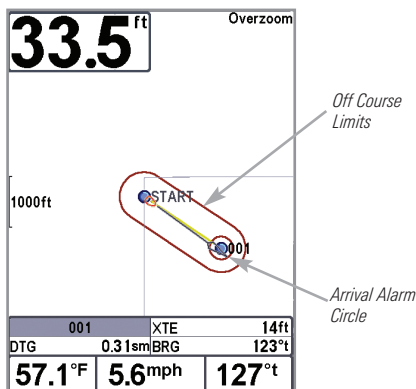
### To change the Temp. Alarm setting:

1. Highlight Temp. Alarm on the Alarms main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Temp. Alarm setting. (Off, 33-120 [Fahrenheit], 0-50 [Celsius], Default = Off)

Off Course Alarm	300ft
Off 	3000

## Off Course Alarm

Off Course Alarm allows you to set how far the boat is allowed to move off course before the Off Course Alarm will sound during navigation.



### To change the Off Course Alarm setting:

1. Highlight Off Course Alarm on the Alarms main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Off Course Alarm setting. (Off, 25 to 3000 feet, 10 to 1000 meters [*International Models only*], Default = 300 ft, 100 m)

Arrival Alarm	150ft
Off 	3000

## Arrival Alarm

Arrival Alarm sounds when the boat has either exceeded the distance to the destination waypoint, or has entered the Arrival Alarm Circle, based on the menu setting when navigating. Arrival Alarm allows you to set how close the boat must be to the destination waypoint before the Arrival Alarm will sound.

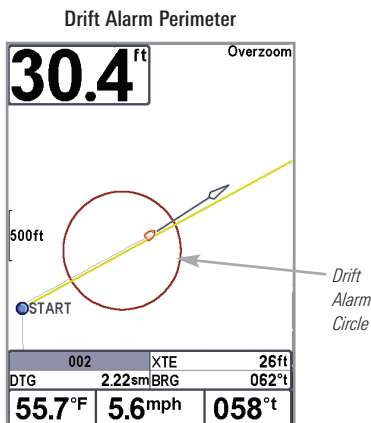
### To change the Arrival Alarm setting:

1. Highlight Arrival Alarm on the Alarms main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Arrival Alarm setting. (Off, 25 to 3000 feet, 10 to 1000 meters [*International Models only*], Default = 150 ft, 50 m)

Drift Alarm	Off
Off	3000

## Drift Alarm

**Drift Alarm** allows you to set the size of a perimeter around the boat's anchored position. If the anchored boat drifts outside of that perimeter, the Drift Alarm will sound.



### To change the Drift Alarm setting:

1. Highlight Drift Alarm on the Alarms main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Drift Alarm setting. (Off, 25 to 3000 feet, 10 to 1000 meters [*International Models only*], Default = Off)



## Alarm Tone

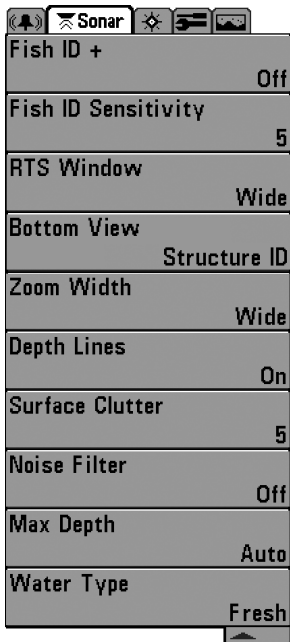
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**Alarm Tone** selects the pitch of the alarm sound.

A brief tone will be produced as you adjust the Alarm Tone so that you can select the tone that you can hear best.

### To change the Alarm Tone setting:

1. Highlight Alarm Tone on the Alarms main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Alarm Tone setting.  
(High, Medium, Low, Default = Medium)



Sonar Menu

## Sonar Menu Tab

Press the MENU key twice to access the Main Menu and then press the RIGHT Cursor key to select the Sonar tab.

**NOTE:** Menu options can be expanded or simplified by setting the User Mode to Advanced or Normal. See *Main Menu: User Mode* for details.

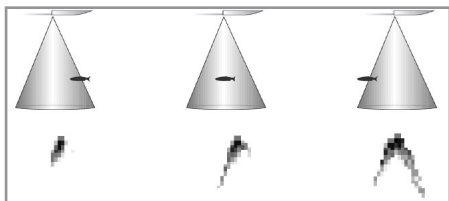
**Fish ID+™** uses advanced signal processing to interpret sonar returns and will display a Fish Symbol when very selective requirements are met. When a fish is detected, a fish icon and its depth are displayed above the return that has been classified as being a fish. Three different fish size icons represent the intensity of the sonar return and provide an indicator of relative fish size.

**DualBeam** sonar models represent targets detected in the 200 kHz narrow beam as Orange Fish Symbols and targets detected in the 83 kHz wide beam as Blue Fish Symbols.



When Fish ID+™ is turned off, the Fishfinder shows only the raw sonar returns on the display. These returns will often result in “arches” forming on the display, indicating potential targets. Due to the transducer beam angle, the distance to a fish decreases as the fish moves into the beam, and then increases as it moves out again, creating a Fish Arch when this distance change is shown on the display. Boat speed, chart speed, and the position of the fish within the sonar beam greatly affect the shape of the arch.

Transducer Cone and Fish Arches



### To turn Fish ID+™ on or off:

1. Highlight Fish ID+ on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to turn the Fish ID+™ setting On or Off. (Off, On, Default = On)



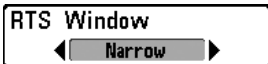
## Fish ID Sensitivity

**Fish ID Sensitivity** adjusts the threshold of the Fish ID+™ detection algorithms. Selecting a higher setting allows weaker returns to be displayed as fish. This is useful for identifying smaller fish species or baitfish. Selecting a lower setting displays fewer fish from weak sonar returns. This is helpful when seeking larger species of fish.

Fish ID Sensitivity is used in conjunction with Fish ID+™. Fish ID+™ must be On for Fish ID Sensitivity to affect the ability of the Fishfinder to identify sonar returns as fish.

### To change the Fish ID Sensitivity setting:

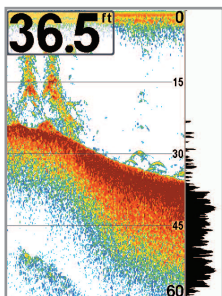
1. Highlight Fish ID Sensitivity on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Fish ID Sensitivity setting. (Low = 1, High = 10, Default = 5)



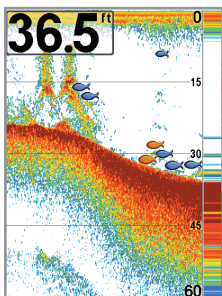
## Real Time Sonar (RTS™) Window

**RTS Window™** sets the RTS Window™ to either Wide or Narrow, or turns it off in the Sonar View. The RTS Window™ always updates at the fastest rate possible and only displays returns that are within the transducer beam. See *What's on the Sonar Display* for more information.

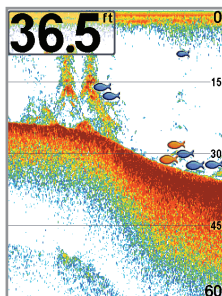
RTS Window™ (Wide)



RTS Window™ (Narrow)

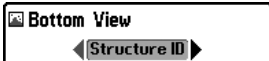


RTS Window™ (Off)



### To change the RTS Window™ setting:

1. Highlight RTS Window on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to change the RTS Window™ setting. (Wide, Narrow, Off, Default = Narrow)



## Bottom View

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**Bottom View** selects the method used to represent bottom and structure on the display.

**Structure ID®** represents weak returns in blue and strong returns in red.

**WhiteLine™** highlights the strongest sonar returns in white resulting in a distinctive outline. This has the benefit of clearly defining the bottom on the display.

See *What's on the Sonar Display: Bottom Presentation* for more information.

### To adjust the Bottom View:

1. Highlight Bottom View on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Bottom View setting. (Structure ID®, WhiteLine™, Default = Structure ID®)



## Zoom Width

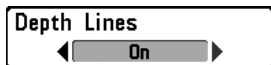
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**Zoom Width** adjusts the width of the Zoom window on the Sonar Zoom View.

### To change the Zoom Width Setting:

1. Highlight Zoom Width on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Zoom Width setting. (Narrow, Medium, Wide, Default = Wide)

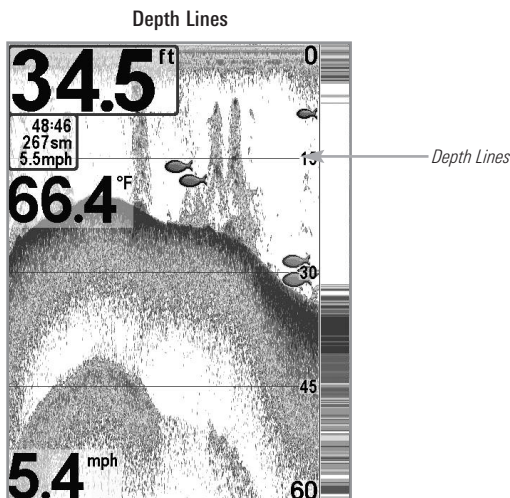




## Depth Lines

(Advanced)

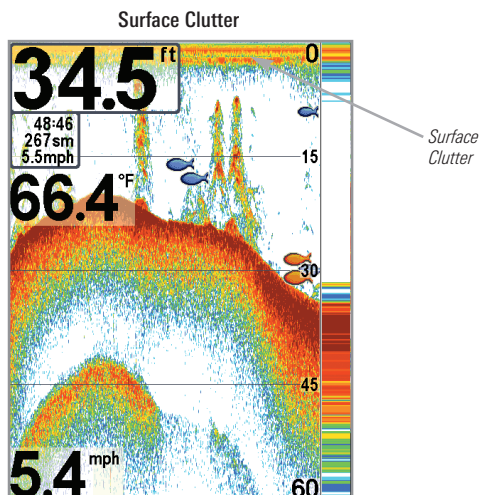
**Depth Lines** divide the display into four equal sections which are separated by three horizontal depth lines. The depth of each line is displayed along the depth scale. You can turn Depth Lines On or Off. The Depth Lines menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).



### To change the Depth Lines setting:

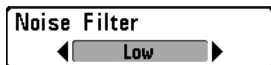
1. Make sure the User Mode is set to Advanced, then highlight Depth Lines on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to turn the Depth Lines setting On or Off. (Off, On, Default = Off)

**Surface Clutter** adjusts the filter that removes surface clutter noise caused by algae and aeration. The lower the setting, the less surface clutter will be displayed. The Surface Clutter menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).



## To change the Surface Clutter setting:

1. Make sure the User Mode is set to Advanced, then highlight Surface Clutter on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Surface Clutter setting. (Low = 1 to High = 10, Default = 5)



## Noise Filter

(Advanced)

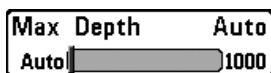
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**Noise Filter** adjusts the sonar Noise Filter to limit interference on the display from sources such as your boat engine, turbulence, or other sonar devices. The Noise Filter menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

**NOTE:** The Off setting removes all filtering. Low, Medium, and High1, High2, High3 settings add progressive filtering of the sonar returns. High1, High2, and High3 are useful when there is excessive trolling motor noise, but in some deep water situations, the High settings may actually hinder your unit's ability to find the bottom.

### To change the Noise Filter setting:

1. Make sure the User Mode is set to Advanced, then highlight Noise Filter on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Noise Filter setting. (Off, Low, Medium, High1, High2, High3, Default = Low)



## Max Depth

(Advanced)

---

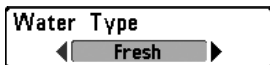
**Max Depth** controls the maximum depth of operation. When Max Depth is set to Auto, the Fishfinder will acquire bottom readings as needed (within the capacity of the unit). When Max Depth is set to match your fishing maximum depth, your Fishfinder will not attempt to acquire sonar data below that depth, so more detail will be shown on the screen.

**NOTE:** If the bottom is deeper than the Max Depth setting, the digital depth readout will flash, indicating that the Fishfinder cannot locate the bottom.

**NOTE:** The Max Depth menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

### To change the Max Depth setting:

1. Make sure the User Mode is set to Advanced, then highlight Max Depth on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Max Depth setting. (AUTO, 10 to 1000 feet, 3 to 330 meters [*International Models only*], Default = AUTO)



## Water Type

(Advanced)

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**Water Type** configures your unit for operation in fresh or salt water. In salt water, you can also choose the shallow or deep setting. The Water Type menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

***NOTE:** Make sure that the Water Type is set accurately, especially in salt water, as this affects the accuracy of deep water depth readings. In salt water, what would be considered a large fish might be 2 to 10 times bigger than a large fish in fresh water (depending on the type of fish you are seeking). The salt water setting allows for a greater range in fish size adjustment to account for this difference.*

### To change the Water Type setting:

1. Make sure the User Mode is set to Advanced, then highlight Water Type on the Sonar main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Water Type setting. (Fresh, Salt (shallow), Salt (deep), Default = Fresh)



## Navigation Menu Tab

Current Track	
Saved Tracks	
Waypoints	
Routes	
Chart Orientation	North-Up
Chart Detail Level	All
Map Borders	Hidden
Lat/Lon Grid	Hidden
Spot Soundings	Hidden
Shaded Depth	15 ft
Chart Select	Auto
North Reference	True
Waypoint Decluttering	On
Grid Rotation	0°
Trackpoint Interval	15 seconds
Track Min Distance	16ft
Map Datum	WGS 84 (Default)
Set Simulation Position	
Set Map Offset	
Course Projection Line	Visible
Clear Map Offset	
Export All Nav Data	
Delete All Nav Data	

Press the MENU key twice to access the Main Menu, then press the RIGHT Cursor key to select the Navigation tab.

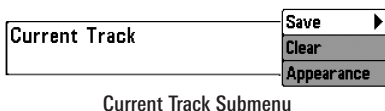
*NOTE: Menu options will vary depending on system settings, such as whether you are currently navigating.*

*NOTE: Menu options can be expanded or simplified by setting the User Mode to Advanced or Normal. See **Main Menu: User Mode** for details.*

**Current Track** allows you to view the Current Track submenu.

### To view the Current Track Submenu:

1. Highlight Current Track on the Navigation main menu.
2. Press the RIGHT Cursor key to view the Current Track submenu.



### The Current Track Submenu contains the following menu options:

**Save** allows you to save the current track.

**Clear** allows you to clear the current track.

**Appearance** allows you to change the style and color of the current track. (Breadcrumb Trail, Dashed Line, Solid Line or Wide Line, and if a line, the color of the line).

**Saved Tracks** allows you view the Saved Tracks submenu.

Saved Tracks Submenu

### To view the Saved Tracks Submenu:

1. Highlight Saved Tracks on the Navigation main menu.
2. Press the RIGHT Cursor key to view the Saved Tracks submenu.

### The Saved Tracks Submenu contains the following menu options:

**Edit** allows you to select a saved track and change its Name, Visibility, Style and Color. Select Edit and press the RIGHT Cursor key to display the saved tracks list. Select a track 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 and make changes to the following categories:

**Name:** Use the 4-WAY Cursor Control key to change the name of the saved track. Press the LEFT or RIGHT Cursor keys to move between name fields, and press the UP or DOWN Cursor keys to change the letter or number of each field. All upper and lower case letters are available, as well as digits 0-9 and some punctuation characters.

**Visibility:** Press the UP or DOWN Cursor keys to select Hidden or Visible.

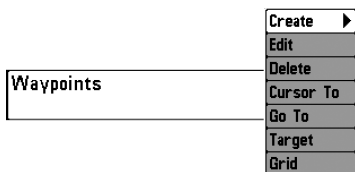
**Style:** Press the UP or DOWN Cursor keys to choose the track style (appearance).

**Color:** If the track style you've chosen is a line style, the color field will appear. Press the UP or DOWN Cursor keys to choose a color or shade.

***NOTE:** You can exit these fields with the LEFT or RIGHT Cursor keys or by pressing the EXIT key. Select Save to confirm your changes.*

**Delete** allows you to delete a track from the saved tracks list. Select Delete and press the RIGHT Cursor key to display the saved tracks list. Select the track you want to delete and press the RIGHT Cursor key. To delete the track, press the RIGHT Cursor key once more. To cancel deleting the track, press the LEFT Cursor key.

**Default** sets the default appearance of your tracks. Select Default and press the RIGHT Cursor key to display the Default Track dialog box. Use the 4-WAY Cursor Control key to move between fields and change the settings for Visibility, Style and Color.



Waypoints Submenu

## Waypoints

**Waypoints** allows you to view the Waypoints submenu.

### To view the Waypoints Submenu:

1. Highlight Waypoints on the Navigation main menu.
2. Press the RIGHT Cursor key to view the Waypoints submenu.

### The Waypoints Submenu contains the following menu options:

**Create** allows you to create a new waypoint and edit it immediately. The current boat position will be used as the default, but you can set the coordinates to any valid position. The icon used to represent the waypoint in the Chart and Combo Views can also be changed. Press the RIGHT Cursor key to create a waypoint and make changes to the following settings:

**Name:** Press the LEFT or RIGHT Cursor keys to move between name fields, and press the UP or DOWN Cursor keys to change the letter or number of each field. All upper and lower case letters are available, as well as digits 0-9 and some punctuation characters.

**Latitude & Longitude:** Press the LEFT or RIGHT Cursor keys to move between latitude or longitude fields, and press the UP or DOWN Cursor keys to change the coordinates of each field.

**Icon:** Select the Icon field and use the Up or Down Cursor keys to scroll through a variety of icons to assign to your waypoint.

***NOTE:** You can exit these fields by pressing the LEFT or RIGHT Cursor keys or by pressing the EXIT key. Select Save to confirm your changes.*

**Edit** allows you to choose from the saved waypoints list, and then edit the Name and Position (Latitude and Longitude), as well as assign an Icon to represent the waypoint in the Chart and Combo Views. Select Edit, and press the RIGHT Cursor key to display the saved waypoints list. Use the UP or DOWN Cursor keys to choose a waypoint from the list, and press the RIGHT Cursor key to display the Edit Waypoint Dialog box. Refer to the details above to change waypoint settings.



**Delete** allows you to delete a waypoint from the saved waypoints list. Select Delete, and press the RIGHT Cursor key to display the saved waypoints list. Use the UP or DOWN Cursor keys to choose a waypoint, and press the RIGHT Cursor key. The Confirm dialog box will appear. To delete the waypoint, press the RIGHT Cursor key once more. To cancel deleting the waypoint, press the LEFT Cursor key.

**Cursor To** allows you to move the cursor quickly to a waypoint from the saved waypoints list. Select Cursor To, and press the Right Cursor key to view the saved waypoints list. Use the UP or DOWN Cursor keys to choose a waypoint from the list, and press the Right Cursor key again to initiate the cursor to that waypoint.

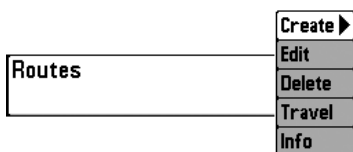
**Go To** allows you to select a waypoint and start navigation toward that waypoint or add that waypoint to the end of the current route. Select Go To, and press the Right Cursor key to view the saved waypoints list, and use the UP or DOWN Cursor keys to choose a waypoint from the list. Press the Right Cursor key again to initiate navigation.

**Target** allows you to apply a target to a waypoint selected from the saved waypoints list. Select Target, and press the Right Cursor key to view the saved waypoints list. Use the UP or DOWN Cursor keys to choose a waypoint from the list. Press the Right Cursor key to apply a target to the waypoint you choose.

**Grid** allows you to apply a trolling grid to a waypoint selected from the saved waypoints list. Select Grid, and press the Right Cursor key to view the saved waypoints list. Use the UP or DOWN Cursor keys to choose a waypoint from the list. Press the Right Cursor key to apply a trolling grid to the waypoint you choose.

***NOTE:** Only one waypoint can have either 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 gridlines on the trolling grid is 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.*



## Routes

**Routes** allows you to view the Routes submenu.

### To view the Routes Submenu:

1. Highlight Routes on the Navigation main menu.
2. Press the RIGHT Cursor key to view the Routes submenu.

### The Routes Submenu contains the following menu options:

**Create** allows you to create a new route from an empty route and add saved waypoints to it immediately. Press the RIGHT Cursor key to access the Create Route dialog box and make adjustments to the following settings:

**Name:** Press the LEFT or RIGHT Cursor keys to move between name fields, and press the UP or DOWN Cursor keys to change the letter or number of each field. All upper and lower case letters are available, as well as digits 0-9 and some punctuation characters.

**Waypoints:** Press the UP or DOWN Cursor keys to highlight saved waypoints, and press the RIGHT Cursor key to add them to the In Route list.

**In Route:** Highlight a waypoint in the In Route list, and press the RIGHT Cursor key to access the Waypoint In Route submenu. From this submenu, you can move the waypoint up or down in the route order or delete it from the list.

***NOTE:** You can exit these fields by pressing the LEFT Cursor key or by pressing the EXIT key. Select Save to confirm your changes.*

**Edit** allows you to select a saved route and change its name and the waypoints in it. Select Edit, and press the RIGHT Cursor key to display the saved routes list. Use the UP or DOWN Cursor keys to choose a route from the list, and press the RIGHT Cursor key to display the Edit Route dialog box. Refer to the details above to change route settings.

**Delete** allows you to delete a route from the saved routes list. Select Delete, and press the RIGHT Cursor key to display the saved routes list. Use the UP or DOWN Cursor keys to choose a route, and press the RIGHT Cursor key. The Confirm dialog box will appear. To delete the route, press the RIGHT Cursor key once more. To cancel deleting the route, press the LEFT Cursor key.

**Travel** allows you to choose a route from the saved routes list and use it as your current route. Routes can be traveled in either the forward or reverse direction. Select Travel, and press the RIGHT Cursor key to display the saved routes list. Press the RIGHT or LEFT Cursor keys to set the Direction you want to travel. Then, use the UP or DOWN Cursor keys to choose a route, and press the RIGHT Cursor key to select it. Navigation will begin immediately.

**Info** provides information about the route you choose from the saved routes list, including the distance and bearing from each waypoint to the next. Select Info, and press the RIGHT Cursor key to display the saved routes list. Use the UP or DOWN Cursor keys to choose a route, and press the RIGHT Cursor key to view information about that route.



## Chart Orientation

**Chart Orientation** allows you to select whether the Chart and Combo Views should be drawn North-Up or Course-Up.

### To change the Chart Orientation setting:

1. Highlight Chart Orientation on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Chart Orientation setting. (North-Up, Course-Up, Default = North-Up)

***NOTE:** The Chart Orientation setting does not apply to the Bird's Eye View.*

## Chart Detail Level

**Chart Detail Level** allows you to select how much chart detail you want displayed on the Navigation Views.

- **Basic** shows land areas, ports, obstructions and restricted areas.
- **Navigation** shows nav aids, landmarks, ferryways and navigation routes in addition to the Basic information.
- **Underwater** shows depth contours, fishing areas, underwater wrecks, tides and currents in addition to the Basic and Navigation information.
- **All** shows roads, buildings, railways, and other notations in addition to the Basic, Navigation, and Underwater information.

### To change the Chart Detail Level setting:

1. Highlight Chart Detail Level on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Chart Detail Level setting. (Basic, Navigation, Underwater, All, Default = All)

***NOTE:** Some chart details are only available with optional-purchase MMC/SD cards.*

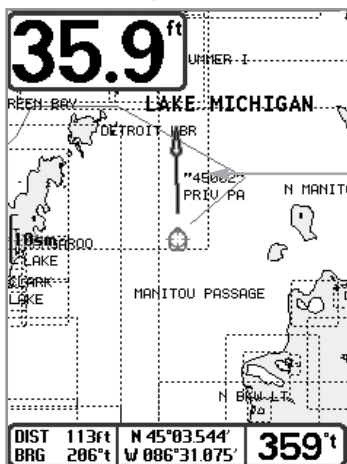
## Map Borders

◀ MMC/SD Only ▶

## Map Borders

**Map Borders** allows you to display or hide map borders. The dotted lines of a Map Border indicate an area which contains a different map.

Map Borders



### To change the Map Borders setting:

1. Highlight Map Borders on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Map Borders setting. (Hidden, MMC/SD Only, All Visible, Default = MMC/SD Only)

## Lat/Lon Grid

◀ Hidden ▶

## Lat/Lon Grid

**Lat/Lon Grid** allows you to display or hide a grid showing latitude and longitude lines.

### To change the Lat/Lon Grid setting:

1. Highlight Lat/Lon Grid on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Lat/Lon Grid setting. (Hidden, Visible, Default = Hidden)

## Spot Soundings

◀ Hidden ▶

## Spot Soundings

**Spot Soundings** allows you to display or hide spot soundings, which are depth measurements shown on the chart.

*NOTE: Spot Soundings are only available with optional-purchase MMC/SD cards.*

### To change the Spot Soundings setting:

1. Highlight Spot Soundings on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Spot Soundings setting. (Hidden, Visible, Default = Hidden)

Shaded Depth 15ft  
Off  60

## Shaded Depth

**Shaded Depth** allows you to change the depth used for shading on the chart views.

### To change the Shaded Depth setting:

1. Highlight Shaded Depth on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Shaded Depth setting. (Off, 1 to 180 Feet, or 1 to 60 Meters [*International Units only*], Default = 15 ft, 5 m)

## Chart Select

◀ Auto ▶

## Chart Select

**Chart Select** allows you to choose which chart to use if you have built-in charts or a map card. If you select Auto, your unit will select a chart automatically.

### To activate or de-activate Chart Select:

1. Highlight Chart Select on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to select which chart to use (Default = Auto)

**North Reference**True

## North Reference

**North Reference** allows you to have bearings displayed with one of two orientations: True North or Magnetic North.

### To change the North Reference setting:

1. Highlight North Reference on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the North Reference setting. (True, Magnetic, Default = True)

**Waypoint Decluttering**On

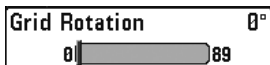
## Waypoint Decluttering

*(Advanced)*

**Waypoint Decluttering** allows you to set the declutter feature On or Off. 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. The Waypoint Decluttering menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

### To change the Waypoint Decluttering setting:

1. Make sure the User Mode is set to Advanced, then highlight Waypoint Decluttering on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Waypoint Decluttering setting. (On, Off, Default = On)



## Grid Rotation

**Grid Rotation** allows you to set the orientation of the trolling grid in degrees, where a setting of 0° displays a standard North, South, East, West alignment. See *Navigation Menu Tab: Waypoints* for information on how to set a Grid.

**NOTE:** This feature may appear as either Trolling Grid Rotation or Grid Rotation, depending on your model.

### To change the Grid Rotation setting:

1. Highlight Grid Rotation on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Grid Rotation setting. (0° to 89°, Default = 0°)



## Trackpoint Interval

**Trackpoint Interval** allows you to select the time period between trackpoints. The current track can only contain up to 20,000 trackpoints, so longer time periods cause the track to extend back further in time, but will be less detailed.

**NOTE:** Trackpoint Interval works in conjunction with Track Min Distance. Both conditions must be met before a trackpoint is added to the current track.

### To change the Trackpoint Interval setting:

1. Highlight Trackpoint Interval on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Trackpoint Interval setting. (1 second, 5 seconds, 10 seconds, 15 seconds, 30 seconds or 60 seconds, Default = 1 second)

**NOTE:** During slow travel or drift, setting both Trackpoint Interval and Track Min Distance to small values will allow you to increase the track resolution.





## Track Min Distance

(Advanced)

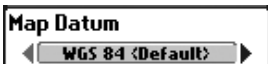
**Track Min Distance** allows you to set a minimum distance of travel before a trackpoint is added to the track. The Track Min Distance menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

*NOTE: Track Min Distance works in conjunction with Trackpoint Interval. Both conditions must be met before a trackpoint is added to the current track.*

### To change the Track Minimum Distance setting:

1. Make sure the User Mode is set to Advanced, then highlight Track Min Distance on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Track Min Distance setting. (1 to 300 feet or 1 to 100 meters [*International Units only*], Default = 16 ft, 5 m)

*NOTE: During slow travel or drift, setting both Trackpoint Interval and Track Min Distance to small values will allow you to increase the track resolution.*



## Map Datum

(Advanced)

**Map Datum** allows you to change the map coordinate system used by the Fishfinder to match those of a paper map. The Map Datum menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

### To change the Map Datum setting:

1. Make sure the User Mode is set to Advanced, then highlight Map Datum on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Map Datum setting. (Default = WGS 84)

**Set Simulation Position** allows you to set the position of the boat used in the Simulator. The Set Simulation Position menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

**To set the Simulation Position:**

1. Press any arrow on the 4-WAY Cursor Control key to activate the cursor and move it to the coordinates where you want start the simulation.

***NOTE:** The cursor must be active in order for this procedure to work.*

2. Make sure the User Mode is set to Advanced, then highlight Set Simulation Position on the Navigation main menu.
3. Press the RIGHT Cursor key to change the Simulation Position setting. The Confirm dialog box will appear. To confirm the setting, press the RIGHT Cursor key once more. To cancel the setting, press the LEFT Cursor key.

***NOTE:** If the cursor was not active before you began this procedure, an error message will appear. Exit the menu, set the cursor, then try again.*

**Set Map Offset** allows you to change the map offset used by your Fishfinder. The Set Map Offset menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

***NOTE:** The Map Offset will be applied to all maps and not just the map that requires the correction. The Map Offset should be cleared if a different map is to be used.*

### To change the Map Offset setting:

1. Press the 4-WAY Cursor Control key to activate the cursor and move it to the location where the Map Offset will be applied.

***NOTE:** The cursor must be active in order for this procedure to work.*

2. Make sure the User Mode is set to Advanced, then highlight Set Map Offset on the Navigation main menu.
3. Press the RIGHT Cursor key to set the Map Offset. The Confirm dialog box will appear. To confirm the setting, press the RIGHT Cursor key once more. To cancel the setting, press the LEFT Cursor key.

***NOTE:** If the cursor was not active before you began this procedure, an error message will appear. Exit the menu, set the cursor, then try again.*

**Course Projection Line** allows you to display or hide an arrow extending from the bow of the boat that projects your current course, and shows where the boat will go if you continue on your present course.

### To change the Course Project Line setting:

1. Highlight Course Projection Line on the Navigation main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Course Projection Line setting. (Hidden, Visible, Default = Visible)

**Clear Map Offset** allows you to clear the Map Offset. The Clear Map Offset menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*) and a Map Offset is currently active.

**To Clear Map Offset:**

1. Make sure the User Mode is set to Advanced, then highlight Clear Map Offset on the Navigation main menu.
2. Press the RIGHT Cursor key to clear the Map Offset.

**Export All Nav Data** allows you to export all saved Tracks, Waypoints, and Routes to an MMC/SD card.

**To Export All Navigation Data:**

1. Make sure that an optional-purchase MMC/SD card is installed in the slot, then highlight Export All Nav Data on the Navigation main menu.
2. Press the RIGHT Cursor key to export all navigation data. The Confirm dialog box will appear. To confirm export, press the RIGHT Cursor key once more. To cancel export, press the LEFT Cursor key.

***NOTE:** If no MMC card is installed, an error message will be displayed. Insert the MMC card and try again.*








**Delete All Nav Data** allows you to delete all saved Tracks, Waypoints, and Routes. The Delete All Nav Data menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

This menu option should be used with caution!

**To Delete All Navigation Data:**

1. Make sure the User Mode is set to Advanced, then highlight Delete All Nav Data on the Navigation main menu.
2. Press the RIGHT Cursor key to delete all navigation data. The Confirm dialog box will appear. To delete all navigation data, press the RIGHT Cursor key once more. To cancel deleting all navigation data, press the LEFT Cursor key.

    	
Units - Depth	Feet
Units - Temp	°F
Units - Distance	Statute Miles
Units - Speed	mph
User Mode	Advanced
Language	English
Triplog Reset	
Restore Defaults	
Select Readouts	
Depth Offset	0.0ft
Temp. Offset	0.0°
Speed Calibration	0%
Local Time Zone	EST (UTC-5)
Daylight Saving Time	Off
Position Format	dd°mm.mmm'
Time Format	12-Hour
Date Format	mm/dd/yy
NMEA Output	Off
Sonar	On

Setup Menu Tab

## Setup Menu Tab

From any view, press the MENU key twice to access the tabbed Main Menu, then press the RIGHT Cursor key until the Setup tab is selected.

**NOTE:** Menu options will vary depending on which accessories are attached to the unit.

**NOTE:** Menu options can be expanded or simplified by setting the User Mode to Advanced or Normal. See **Main Menu: User Mode** for details.

**Units - Depth**◀ **Feet** ▶**Units - Depth**

**Units - Depth** selects the units of measure for all depth-related readouts.

**To change the Units - Depth setting:**

1. Highlight Units - Depth on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Units - Depth setting. (Domestic Models: Feet, Fathoms; International Models: Meters; Default = Feet/Meters)

**Units - Temp**◀ **°C** ▶**Units - Temp***(International only)*

**Units - Temp** selects the units of measure for all temperature-related readouts. *International Models only.*

**To change the Units - Temp setting:**

1. Highlight Units - Temp on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Units - Temp setting. (Celsius, Fahrenheit; Default = Celsius)

**Units - Distance**◀ **Statute Miles** ▶**Units - Distance**

**Units - Distance** selects the units of measure for all distance-related readouts, and will appear in the menu if a Temp/Speed Accessory is connected and the paddlewheel has moved at least once, or if the GPS Receiver is connected.

**To change the Units - Distance setting:**

1. Highlight Units - Distance on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Units - Distance setting. (Domestic Models: Statute Miles, Nautical Miles, Default = Statute Miles; International Models: Meters/Kilometers, Meters/Nautical Miles, Feet/Statute Miles, Feet/Nautical Miles, Default = Meters/Kilometers)

**Units - Speed**

## Units - Speed

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**Units - Speed** selects the units of measure for speed-related readouts, and will appear in the menu if a Temp/Speed Accessory is connected and the paddlewheel has moved at least once, or if the GPS Receiver is connected.

### To change the Units - Speed setting:

1. Highlight Units - Speed on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Units - Speed setting. (Domestic Models: mph, kts; International Models: kph; Default = mph/kph)

**User Mode**

## User Mode

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**User Mode** sets the menu system to Normal or Advanced. When set to Normal (default setting), the basic set of menu options are shown in the menu system. When set to Advanced, additional menu options are added to the menu system. See *Main Menu: User Mode* for details.

### To change the User Mode setting:

1. Highlight User Mode on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the User Mode setting. (Normal, Advanced, Default = Normal)

**Language**

## Language

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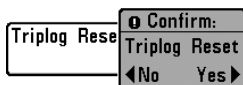
*(International only)*

**Language** selects the display language for menus. *International Models only.*

### To change the Language setting:

1. Highlight Language on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Language setting. (Default = English)





## Triplog Reset

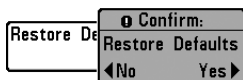
**Triplog Reset** resets the Triplog to zero, and will appear in the menu if a Temp/Speed Accessory is connected and the paddlewheel has moved at least once, or if the GPS Receiver is connected.

The Triplog provides the following information: timer for elapsed time, distance traveled since last reset, and average speed.

***NOTE:** See **Setup Menu Tab: Select Readouts (Advanced)** to find out how to display Triplog information on the screen.*

### To Reset Triplog:

1. Highlight Reset Triplog on the Setup main menu.
2. Press the RIGHT Cursor key to initiate Triplog Reset.
3. The Confirm dialog box will appear. To reset the Triplog, press the RIGHT Cursor key once more. To cancel Reset Triplog, press the LEFT Cursor key.



## Restore Defaults

**Restore Defaults** resets ALL menu settings to their factory defaults.

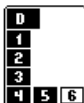
Use this menu choice with caution!

### To Restore Defaults:

1. Highlight Restore Defaults on the Setup main menu.
2. Press the RIGHT Cursor key to initiate restoring defaults.
3. The Confirm dialog box will appear. To reset the defaults, press the RIGHT Cursor key once more. To cancel Restore Defaults, press the LEFT Cursor key.

Select Readouts	
Readout 1	Temperature
Readout 2	Off
Readout 3	Off
Readout 4	Speed
Readout 5	Time+Date
Readout 6	Off

Select Readouts



*The readout position on the screen is shown in the Select Readouts Window.*

## Select Readouts

*(Advanced, Sonar View only)*

**Select Readouts** sets individual digital readouts on the Sonar View. This Advanced feature allows you to select what data will be displayed in each of 6 fixed-position data windows arranged around the left and bottom edges of the Sonar View screen, or whether a particular window will be turned off, displaying nothing in that area. This menu option is available when User Mode is set to Advanced (see *Main Menu: User Mode*).

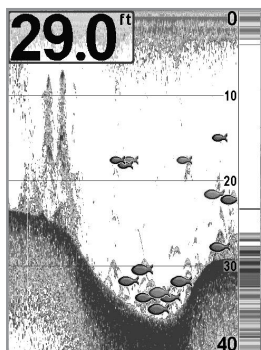
Data windows can display readouts from supported accessories such as GPS Receiver or Temp/Speed. Each data window can be empty or contain one of the following information categories:

- Course
- Navigation
- Position
- Speed
- Temperature
- Time + Date
- Triplog
- Voltage

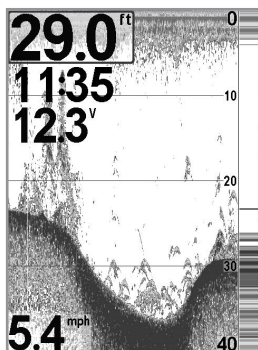
### To change Select Readouts:

1. Make sure the User Mode is set to Advanced, then highlight Select Readouts on the Setup main menu.
2. Press the RIGHT Cursor key to access the Select Readouts submenu.
3. Press the UP or DOWN Cursor keys to select a Readout position, then press the RIGHT or LEFT Cursor keys to choose what will be displayed in that position. To hide the data window, select Off. (Course, Navigation, Off, Position, Speed, Temperature, Time+Date, Triplog, Voltage)

Default Sonar View



Customized Sonar View



**NOTE:** The availability of the digital readout information corresponds with the view selected, the accessory attached, and whether or not you are navigating.



## Depth Offset

(Advanced)

Depth Offset will adjust the digital depth readout to indicate depth from the waterline or boat's keel. Enter a positive vertical measurement from the transducer to the waterline to read the depth from the waterline. Enter a negative vertical measurement from the transducer to keel to read the depth from the keel. This menu option is available when the User Mode is set to Advanced (see *Main Menu: User Mode*).

### To change the Depth Offset setting:

1. Make sure the User Mode is set to Advanced, then highlight Depth Offset on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Depth Offset setting. (-10.0 to +10.0 feet or -3 to 3 meters [*International Models only*], Default = 0)



## Temp. Offset

*(Advanced, with Temp/Speed only)*

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**Temp. Offset** will adjust the temperature readout by the amount entered, and will appear in the menu if a Temp/Speed Accessory is connected and the paddlewheel has moved at least once. This menu option is available when the User Mode is set to Advanced (see *Main Menu: User Mode*).

### To change the Temp. Offset setting:

1. Make sure the User Mode is set to Advanced, then highlight Temp. Offset on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Temp. Offset setting. (-10.0 to +10.0 degrees, Default = 0)



## Speed Calibration

*(Advanced, with Temp/Speed only)*

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**Speed Calibration** will adjust the speed readout by the percentage entered, and will appear in the menu if a Temp/Speed Accessory is connected and the paddlewheel has moved at least once, and when the User Mode is set to Advanced (see *Main Menu: User Mode*).

### To change the Speed Calibration setting:

1. Make sure the User Mode is set to Advanced, then highlight Speed Calibration on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Speed Calibration setting. (-20% to +20%, Default = 0%)

**Local Time Zone****Local Time Zone***(Advanced)*

---

**Local Time Zone** selects your time zone in reference to the time reported by the GPS receiver when Time+Date is selected as a Digital Readout on the Sonar View (see *Setup Menu Tab: Select Readouts*). This menu option is available when the User Mode is set to Advanced (see *Main Menu: User Mode*).

**To change the Local Time Zone:**

1. Make sure the User Mode is set to Advanced, then highlight Local Time Zone on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Local Time Zone (Default = EST [UTC-5] - Eastern Standard Time).

**Daylight Saving Time****Daylight Saving Time***(Advanced)*

---

**Daylight Saving Time** adjusts the time display to account for local Daylight Saving Time when Time+Date is selected as a Digital Readout on the Sonar View (see *Setup Menu Tab: Select Readouts*).

Selecting On adds one hour to the time display adjusted for your local time zone. Selecting Off leaves the time display as adjusted for your local time zone. This menu option is available when the User Mode is set to Advanced (see *Main Menu: User Mode*).

**To change the Daylight Saving Time setting:**

1. Make sure the User Mode is set to Advanced, then highlight Daylight Saving Time on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to turn Daylight Saving Time On or Off. (Off, On, Default = Off)

## Position Format

(Advanced)

**Position Format** selects the format of the latitude and longitude position display. This menu option is available when the User Mode is set to Advanced (see *Main Menu: User Mode*).

### To change the Position Format setting:

1. Make sure the User Mode is set to Advanced, then highlight Position Format on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Position Format. (dd.ddddd°, dd°mm.mmm', or dd°mm'ss", Default = dd°mm.mmm')

## Time Format

(Advanced, International only)

**Time Format** changes the time format used by the unit. This menu option is available when the User Mode is set to Advanced (see *Main Menu: User Mode*). *International Models only*.

Time Format selects a 12 hour or 24 hour format for the time of day displayed when Time + Date is selected as a Digital Readout on the Sonar View (see *Setup Menu Tab: Select Readouts*).

### To change the Time Format:

1. Make sure the User Mode is set to Advanced, then highlight Time Format on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Time Format. (12 hour, 24 hour, Default = 12 hour)

**Date Format**A rectangular button with a black border. Inside, the text "mm/dd/yy" is centered between two small black triangles pointing left and right.

## Date Format

*(Advanced, International only)*

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**Date Format** changes the date format used by the unit. This menu option is available in International Models only and when the User Mode is set to Advanced (see *Main Menu: User Mode*).

Date Format selects the format for the date display when Time + Date is selected as a Digital Readout on the Sonar View (see *Setup Menu Tab: Select Readouts*).

### To change the Date Format:

1. Make sure the User Mode is set to Advanced, then highlight Date Format on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Date Format. (mm/dd/yy, dd.mm.yy or yy.mm.dd, Default = mm/dd/yy)

**NMEA Output**A rectangular button with a black border. Inside, the text "Off" is centered between two small black triangles pointing left and right.

## NMEA Output

*(Advanced)*

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**NMEA Output** turns the NMEA\* output on or off. This menu option is available when the User Mode is set to Advanced (see *Main Menu: User Mode*).

NMEA Output should be turned On if you connect the NMEA Output wires of the GPS Receiver cable to another NMEA-compatible device, such as an autopilot.

*\*NMEA 0183 is a National Marine Electronics Association standard for data communication.*

### The following NMEA sentences are output when NMEA Output is turned On:

DPT- Depth

MTW - Water Temperature

GLL - Lat/Lon Position

GGA - GPS Fix Data

RMC - Recommended Minimum Specific GNSS Data

VTG - Course Over Ground and Ground Speed

ZDA - Time and Date

**When navigating, the following NMEA sentences are also output when NMEA Output is turned On:**

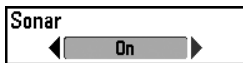
APB - Autopilot Sentence B

BWR - Bearing and Distance to Waypoint

RMB - Recommended Minimum Navigation Info

**To turn NMEA Output on or off:**

1. Make sure the User Mode is set to Advanced, then highlight NMEA Output on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the NMEA Output to On or Off. (Off, On, Default = Off)



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## Sonar

**Sonar** deactivates Sonar and removes the Sonar Views from the view rotation.

**To turn Sonar on or off:**

1. Highlight Sonar on the Setup main menu.
2. Press the LEFT or RIGHT Cursor keys to change the Sonar to On or Off. (Off, On, Default = On)



Views	
Bird's Eye View	Visible
Chart View	Visible
Combo View	Visible
Sonar View	Visible
Sonar Zoom View	Visible
Big Digits View	Visible
Accessory Test	Hidden
Self Test	Hidden
GPS Diagnostic View	Hidden

Views Menu

## Views Menu Tab

From any view, press the MENU key twice to access the tabbed Main Menu, then press the RIGHT Cursor key until the Views tab is selected.

This menu tab allows you to set the available views to either hidden or visible in the view rotation. The view will be removed from the view rotation if it is set to Hidden and will be displayed in the view rotation if it is set to Visible.

*NOTE: See **Views** for more information.*

### To Hide or Show a view:

1. Press the UP or DOWN Cursor keys to select a View from the Views main menu.
2. Press the LEFT or RIGHT Cursor keys to change the status of the view from Hidden to Visible or vice versa.

## **Troubleshooting**

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Before contacting the Humminbird® Customer Resource Center, 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.

### **Fishfinder Doesn't Power Up**

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If your Fishfinder 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 Fishfinder 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.
- 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.

### **Fishfinder Defaults to Simulator with a Transducer Attached**

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A connected and functioning transducer will cause the newly-started Fishfinder to go into Normal operating mode automatically. If, when you power up the Fishfinder, 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 Fishfinder, check to make sure that the transducer cable is securely connected to the Fishfinder. Reconnect if necessary, and power up the Fishfinder 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

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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 Cause
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.	<p>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.</p> <p>Electrical noise from the boat's engine may be interfering with sonar reception. See <i>Finding the Cause of Noise</i> for more information.</p>
There are no fish detected, even when you know they are in the water under the boat, or sonar readings seem weak or faulty.	<p>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.</p> <p>Low battery voltage may be affecting the power of signal transmission.</p> <p>Electrical noise from the boat's engine may be interfering with sonar reception. See <i>Finding the Cause of Noise</i> for more information.</p>

## Finding the Cause of Noise

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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.

## 500 Series™ Fishfinder Accessories

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Accessories customize the Humminbird® Fishfinder to your needs and enable you to stay on the edge of new technology. When an accessory is connected to the Humminbird® Fishfinder, additional menus and readouts are added automatically to the Main Menu System. Accessories available today that are supported by your Humminbird® include:

**Temperature/Speed:** Simply plugs into the Humminbird® control head and provides real time speed and temperature readouts, as well as a valuable Triplog function.

***NOTE:** If an external Temperature/Speed (TS-W) or Temperature (TG-W) accessory is connected AND a transducer with temperature built in is connected at the same time, the TS-W or TG-W accessory will override the temperature built into the transducer.*

Be sure to check out our web site **[www.humminbird.com](http://www.humminbird.com)** for additional new and exciting accessories to grow your Humminbird® Fishfinder!

***NOTE:** Each accessory requires a separate purchase. You can visit our web site at **[www.humminbird.com](http://www.humminbird.com)** or contact our Customer Resource Center at **1-800-633-1468** for additional details.*

# Specifications

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**Depth Capability**..... 1000 ft (330 m)

**Power Output**..... 300 Watts (RMS)  
2400 Watts (Peak to Peak)

**Operating Frequency**..... 200 kHz and 83 kHz DualBeam

**Area of Coverage**..... DualBeam: 60° @ -10 dB in 83 kHz  
20° @ -10 dB in 200 kHz

**Target Separation** ..... 2 1/2 Inches (63.5 mm)

**Power Requirement**..... 10-20 VDC

**LCD Matrix** ..... 587ci: 320 V x 240 H  
597ci: 640 V x 480 H

**Transducer**..... XNT 9 20 T

**Transducer Cable Length** ..... 20 ft (6 m)

***NOTE:** Humminbird® verifies maximum stated depth in saltwater conditions, but actual depth performance may vary due to transducer installation, water type, thermal layers, bottom composition and slope.*

***NOTE:** Product specifications and features are subject to change without notice.*

# Glossary

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## Sonar Terms:

**Alarm, Depth:** Depth Alarm is a user-controllable, audible alert that sounds when depth is less than or equal to the setting.

**Alarm, Temperature:** Temperature Alarm is a user-controllable, audible alert that sounds when the water surface temperature equals the setting.

**Backlight:** Backlight is a user-controllable illumination for the LCD for night and low light use.

**Beam (Sonar Beam):** A sonar beam is the wide, cone-shaped projection of sound waves formed as sound travels underwater. See *Cone Angle*.

**Big Digits View:** Big Digits View is a Humminbird® feature that displays the sonar graph and enlarged digital readouts for easy reading from a distance. This is a great tool when monitoring the digital depth is important - such as with higher boat speeds, or when viewing the unit from a distance. When speed input is available, the Big Digits View also shows the TripLog. See *TripLog*.

**Bottom Black:** Bottom Black is a Humminbird® feature that “fills in” the area of the display below the bottom contour. Bottom Black is preferred by some anglers because of its high contrast and easy readability, even though it can obscure bottom hardness information.

**Bottom Contour:** Bottom Contour is the profile of the bottom graphed to the display as the depth changes.

**Bottom Hardness:** Bottom Hardness is the density (or composition) of the bottom, which can often be determined by interpreting the main sonar return. Varying levels of hardness can be determined by interpreting the “thickness” of the sonar return. Hard returns appear thin and black, softer returns appear thicker and less black. It is important to note that a sonar return from a sloping bottom can have the appearance of a softer bottom.

**Cavitation:** Cavitation is the effect of air bubbles created as the propeller rotates and the boat moves through the water.

**Chart Speed:** Chart Speed is a user-controllable feature that sets the speed at which sonar information moves across the display. A faster setting displays sonar information from more pings and shows more detail, but the information moves quickly across the display: a slower setting permits viewing of more sonar history, but does not display as much detail. The best setting is often the user's personal choice.

**Cone Angle:** The cone angle is the angular measurement of the sonar beam at a specific dB down point (i.e. -10 dB). See *dB Down Point*.

**Customizable Digital Readouts:** Customizable Digital Readouts is a Humminbird® feature that permits the user to select the specific digital information that appears in the main Sonar view (i.e. Speed, Temperature, Barometric Pressure, TripLog, etc.)

**Dead Zone:** The dead zone is the area of the sonar beam that receives the sonar signal after the main bottom return. Fish and other objects close to the bottom that fall within the dead zone will probably not be visible in the sonar beam. Precision sonar beams, such as the Humminbird® 20° beam, have a smaller dead zone than wider sonar beams.

**Decibel:** A Decibel is the measurement for sound pressure level, or "intensity" of the sonar return. See *dB Down Point*.

**dB Down Point:** The dB Down Point is the standard decibel level at which the sonar cone angle is measured, and is written as "@ -10 dB" or "@ -3 dB". Measurements at smaller down points (bigger negative numbers) indicate that the less intensive sonar signals are being used for the measurement.

**Display, FSTN:** FSTN is an acronym for Film Super-Twist Nematic. FSTN is a monochrome display technology characterized by black, high-contrast pixels. All monochrome fixed mount Humminbird® products use FSTN technology.

**DualBeam PLUS™:** DualBeam PLUS™ is a Humminbird® sonar configuration that uses two sonar beams simultaneously, and combines the information from both beams into one view by overlapping the data on-screen, or shows each beam individually side by side, or permits each beam to be viewed individually full screen.



**Feature Memory:** Feature Memory is a Humminbird® feature that retains the user's menu settings in permanent memory. Settings are retained even when the unit is powered off indefinitely.

**Fish Arch:** A Fish Arch is the apparent "arch" that appears on the display when any object moves through the sonar cone. The arch results from a gradual decrease in distance to an object as it moves into the sonar cone. The distance to an object changes due to the conical shape of the sonar beam, which causes the distance to be greater at the edges of the beam than at the center of the beam. When this distance change is graphed on the display, an arch appears.

**Fish ID+™:** Fish ID+™ is a Humminbird® feature that uses advanced sonar processing algorithms to determine if a detected object is likely to be a fish. When the sonar signal from an object meets strict parameters, the unit draws a Fish Symbol (or icon) and the digital depth of the target. On DualBeam and DualBeam PLUS™ units, fish detected in the narrow center beam are shown as shaded symbols, and fish detected in the wider beam are shown as hollow symbols.

**Fish Symbol:** A Fish Symbol is the graphic that is displayed on the screen when Fish ID+™ determines that a sonar return is likely to be a fish. See *Fish ID+™*.

**Freeze Frame:** Freeze Frame is a Humminbird® feature that pauses the sonar scrolling so that the image on screen can be studied with greater detail. See *Instant Image Update*.

**Frequency:** Frequency is a measure of the number of sound wave cycles per second of a sound impulse transmitted underwater. A typical frequency for fishfinders is 200 kHz, which offers a good balance of performance under many conditions. Lower frequencies, such as 50 kHz, are capable of penetrating to greater depths, but with less resolution. Higher frequencies, such as 455 kHz, offer greater resolution, but are limited in depth performance. Humminbird® uses a variety of frequencies that are optimized for specific applications.

**Grayscale:** Grayscale is the use of varying shades of gray to represent the strength of the sonar signal on the display, and is a very intuitive method of presenting information. Traditionally, the strongest sonar signals are represented in black, and progressively weaker signals are represented in progressively lighter shades of gray.

**Grayscale, Inverse:** Inverse Grayscale is a Humminbird® feature that reverses the correlation of sonar signal strength and the shade of gray typically used to represent it. The strongest sonar signals are represented by “white”, and progressively weaker signals are represented in progressively darker shades of gray. While somewhat counter-intuitive, this method makes the sonar images crisper, and has the benefit of enhancing the apparent sensitivity because the weaker signals appear bolder. Inverse grayscale works well in very clear water. Debris-laden water often appears as a lot of clutter on the screen.

**Instant Image Update:** Instant Image Update is a Humminbird® feature that updates all the sonar information on the display when Sensitivity and a variety of sonar settings (Bottom View, Range, etc.) are modified. This differs from the traditional functionality that only updates the new sonar information collected after the setting change. Instant Image Update permits more accurate fine-tuning of the display because the user can see the results on the complete sonar graph. When combined with the Freeze Frame feature, the user can adjust and understand the effects of many different sonar settings quickly and easily.

**Maximum Depth Menu:** The Maximum Depth Menu is a Humminbird® feature that optimizes performance based on the maximum operational depth set by the user. Many Humminbird® units can operate across a very broad depth range (up to 2500 feet) which causes the unit to “look” up to that full depth under some circumstances. Due to the speed of sound in water, this can result in less responsiveness because the unit has to wait for a longer period of time to receive the sonar signal. When the Maximum Depth menu is set to a lower value, the unit only looks up to the setting, which increases the responsiveness of the unit. This is an important feature for anyone operating in shallower depths!

**Noise:** Noise is unintentional, external sound waves that interfere with the optimal operation of sonar. Noise appears as random “dots” on the display, and is caused by a variety of sources. Electrical noise (from trolling motors, bilge pumps, VHF radios) typically manifests as a consistent dot pattern. Electrical noise can be isolated by selectively turning on and off other electrical devices to determine the source. Often re-routing the power cable, or connecting to an alternative power supply (second battery) can help overcome electrical noise. Hydrodynamic noise (from propeller and/or hull cavitation) has a more random appearance and is generally related to boat speed, so that faster operation results in more noise. Hydrodynamic noise can be overcome by proper transducer installation. Many

Humminbird® products have a Noise Filter menu setting that allows the user to clear the screen of noise that is difficult to eliminate.

**Pixels:** Pixels are the “picture elements”, or small square blocks, that make up the image on the LCD. Measured as a vertical by horizontal number (i.e. 640V x 320H), this key specification typically indicates the quality of resolution. In fishfinders, the total resolution (vertical multiplied by horizontal) is often less important than the “Vertical Pixel” resolution. See *Pixels, Vertical*.

**Pixels, Vertical:** Vertical Pixels are a number of vertical picture elements in a single column on an LCD display. A greater number of vertical pixels provide finer resolution of targets detected by sonar. Essentially, a vertical distance (the depth), when divided by a larger number, breaks that distance into smaller samples, each representing a smaller area and thus providing more detail. In fishfinders, vertical pixels are more critical than horizontal pixels because the horizontal axis of the display represents time, or history. Sonar information on the horizontal axis can vary greatly, depending on boat speed and the Chart Speed setting. A greater number of horizontal pixels show more sonar history that the boat has passed through. On many models, Humminbird® provides the most vertical pixels to provide a better display resolution. See *Chart Speed* and *Pixels*.

**Power Output:** Power output is the amount of sound energy emitted into the water by the sonar transmitter. Power output is measured using either RMS (Root Mean Square) or P-T-P (Peak-to-Peak) measurement systems. Either method is acceptable, but it is important, when comparing power outputs, to make sure that the same measurement system is being used for both outputs, because P-T-P numbers are 8 times higher than RMS numbers. Greater power output allows the sonar signal to penetrate through weeds and thermoclines, reach deeper depths and operate more effectively in noisy environments, such as when the boat is running at high speed.

**Pulse Width (Pulse Length):** Pulse Width is the length of time that a sonar sound burst is transmitted into the water. Shorter pulse widths provide better target separation, but cannot travel to great depths. Longer pulse widths provide better depth penetration, but result in poorer target separation. Humminbird® varies pulse width based on depth to optimize both target separation and depth performance. See *Target Separation*.

**QuadraBeam PLUS™:** QuadraBeam PLUS™ is a Humminbird® sonar configuration that uses four sonar beams for a more detailed bottom image. QuadraBeam PLUS™ uses the DualBeam PLUS™ configuration for downlooking, and also adds two additional beams to look to the left and right. The sonar beams pointing to the left and right provide the ability to spot fish and structure over a wide 90° area, and to identify on which side of the boat they are located. See *DualBeam PLUS™*.

**Quick Disconnect Mount:** The Quick Disconnect Mounting system is an exclusive Humminbird® feature that permits the unit to be easily removed from the mounting base by pressing a release button, and re-installed by simply snapping it back into place. All cable connections are made when installing, so that no separate wiring connections are required. Additionally, the mount offers 90° tilt and 360° swivel capability to adjust the viewing angle of the unit as you move about the boat.

**Real Time Sonar:** Real Time Sonar is a Humminbird® technology that delivers ultra-fast sonar transmitter/receiver operation and results in a more detailed instantaneous view of what is under the boat. The Real Time Sonar window is a vertical band at the right side of the display that shows the instantaneous sonar return from the transducer at a particular instant. The RTS Window™ menu option permits the user to adjust the window to show the full sonar signal return, or just a narrower band that indicates intensity using grayscale. Real Time Sonar relies on very fast Sonar Update Rate (Ping Speed). See *Sonar Update Rate*.

**Receiver:** See *Transmitter*.

**Second Return:** The Second Return is a term that describes the appearance of a second sonar return below the primary sonar return (bottom contour) at exactly twice the true depth. The second return is caused by the same sonar energy bouncing off the bottom once, rebounding to the water surface and then traveling back down to the bottom to be reflected again. Second returns are more common in shallow water and over hard bottoms; it is actually possible to see a third sonar return under some circumstances. The second return provides useful information to help determine bottom hardness, as areas with harder bottoms will generally create a second return. The second return can be used as a guide to set Sensitivity when in shallower water.

**Sensitivity:** Sensitivity is a user feature that adjusts the sensitivity of the sonar system to show more or less detail in the water. Higher sensitivities are often preferred, however, when the water contains debris (silt, storm debris, etc.) and it can be difficult to pick out targets. Conversely, if sensitivity is set too low, relevant targets may be missed.

**SONAR:** SONAR is the acronym for SOUNd and NAVigation Ranging. Sonar technology uses precision sound bursts transmitted underwater to determine the distance and other attributes of objects in the water. Distance can be determined because the speed of sound in water is constant, and the time for the signal to return is measured. Sound also travels very quickly underwater, making sonar a responsive, cost-effective tool. Sonar is the basic technology behind all recreational and commercial fishfinding and depthfinding devices.

**Sonar Echo Enhancement:** Sonar Echo Enhancement is a Humminbird® feature that describes the high degree of sonar sensitivity achieved through a combination of transmitter/receiver and software algorithms. The result of Sonar Echo Enhancement is to display virtually everything in the water that is of interest to the angler, including bait fish, game fish, thermoclines, weed beds, subtle structure, and more.

**Sonar Update Rate:** Sonar Update Rate is the number of times per second that the transmitter/receiver sends and receives sonar signals. A very fast sonar update rate collects more information and provides a more detailed image of the bottom, fish and structure. Many Humminbird® units operate at up to 40 times per second when in single frequency operation. Due to the limitation of the speed of sound in water, the update rate begins to slow as depth increases to deeper than 50 feet. In very shallow water (less than 10 feet), however, update rates as much as 60 times per second can be achieved.

**Speed:** Speed is the rate at which the boat moves through the water. Boat speed can be measured as Speed Over Ground or Speed Through Water. Speed Over Ground is provided by GPS, and is the measurement of the boats progress across a given distance. Speed Through Water is provided by a speed paddlewheel, and is the measurement of the flow past the boat, which may vary depending on current speed and direction. Speed Through Water is most critical for anglers using downriggers, as it impacts the running depth of the down riggers. Speed Over Ground is optimal for navigation, as accurate destination times can be derived from this measurement. Humminbird® products allow for input and display of both sources.

**Structure:** Structure is a general term for objects on the bottom that present a discontinuity and are a likely attractor for fish. This includes bottom contour features (drop-offs, humps, and holes), standing structure (stumps, timbers, brush piles) and a wide range of other potential objects (sunken boats, reefs). Humminbird® units excel at showing structure with great detail over a wider area due to unique sonar configurations developed for the angler.

**Structure ID®:** Structure ID® is a Humminbird® feature that describes the traditional grayscale method of presenting sonar information. See *Grayscale*.

**Surface Clutter:** Surface Clutter is a phenomenon where sonar returns are reflected off of tiny objects near the surface of the water, including algae and even air bubbles. Typically, saltwater environments have significantly greater surface clutter than freshwater due to continuous wind and wave action that causes aeration at the surface. The Surface Clutter menu provides manual control to bias the default settings under extreme conditions.

**Target Separation:** Target Separation is the measurement of minimum distance that a fishfinder needs to be able to recognize two very close objects as two distinct targets (i.e. two fish hanging very close, or a fish hanging very close to structure). Humminbird® fishfinders provide a very good 2 1/2 inches of target separation in shallower than 100 feet of depth. Target separation decreases as depth increases due to the need for longer Pulse Width to achieve greater depth. See *Pulse Width*.

**Thermoclines:** Thermoclines are water layer(s) of distinctly different temperatures that create a sonar reflection due to the density of the differing water temperatures. Typically a thermocline will appear as a continuous band across the display at some distance above the bottom contour. Thermoclines are of interest to anglers because fish will suspend above or below the thermocline as they seek the optimum temperature and oxygen levels.

**Time Variable Gain:** Time Variable Gain is a processing step applied to the sonar return to “normalize” the data so that objects of equal size (i.e. fish) appear to be the same size, even if they are separated by a good distance. Time Variable Gain is a fundamental attribute of good sonar, but is often promoted as a feature.

**Total Screen Update®:** A Humminbird® feature that refreshes and updates all the sonar information on the display when a range change occurs. Without Total Screen Update®, only the most recent sonar information would be drawn to the

new range, and the old sonar information would continue to scroll off the screen at the old range.

**Transducer:** The transducer is part of the sonar system, which mounts on the boat and is in contact with the water, that converts the electrical energy from the transmitter into sound energy, and that forms the sonar beam in turn. Internally, the transducer consists of one or more piezo electric disks that expand by very minute amounts to create the sound wave. This element also works in reverse, converting the returned sound energy back into an electrical signal that the receiver interprets. Transducers are available for many specific mounting applications for the boat, such as a transom mount, trolling motor mount, etc. Humminbird® offers many sophisticated transducers, often with multiple piezo electric elements designed to form specifically-shaped sonar beams, providing the angler with superior tools for finding and catching fish. See *Transmitter* and *SONAR*.

**Transmitter:** The transmitter and receiver are matched parts of the sonar system that send (transmit) and listen to (receive) the sonar signals, and work in conjunction with the transducer. Humminbird® transmitters have an extremely fast cycling design that can send signals up to 60 times per second, as well as produce the varying levels of power output needed for different depths and conditions. Additionally, the transmitter has the capability to create very precise sonar pulses needed for a high degree of target separation. Humminbird® receivers are extremely sensitive, but within a narrow “bandwidth” to discriminate against noise from external sources. Additionally, the receiver offers a wide “dynamic range” which provides the ability to receive very strong signals alternating with very weak signals, without the strong signal overwhelming the weak signal. See *Transducer* and *Noise*.

**TripLog:** TripLog is a Humminbird® feature that provides an on-screen counter for Elapsed Time, Average Speed and Total Distance traveled, and requires a speed input to activate the feature. TripLog appears on the Big Digits View, and can be reset to zero through the TripLog menu.

**TrueArch®:** TrueArch® is a Humminbird® feature that provides true fish arches, not artificial arches or symbols. Humminbird® units are capable of producing fish arches due to the wide 60° sonar beam of DualBeam PLUS™, an extremely sensitive sonar receiver. See *Fish Arch*.

**Viewing Angle:** Viewing Angle is an attribute of an LCD that characterizes visibility of the display when viewing from off the central axis, such as when standing to the side of the fishfinder. Wider viewing angles are better because the information remains visible even when viewing from the side.

**WhiteLine™:** WhiteLine™ is a Humminbird® feature that highlights the strongest sonar return on the display using a very light gray band. This is preferred by some anglers who have grown accustomed to the feature on paper graph chart recorders.

**WideSide®:** WideSide® is a Humminbird® sonar configuration used in an optional transducer. WideSide® uses three sonar beams pointing to the left, right and down. Beams pointing to the left and right are effective for spotting fish and structure near the surface or on the bank. The downlooking beam provides depth information directly below the boat.

**X-Press™ Menu:** X-Press™ Menus are a Humminbird® feature that make the most commonly-used menu selections available with one press of the MENU key. Items that appear on the X-Press™ Menu are related to the current view, and present the most logical options for that view. Sonar View X-Press™ menus will differ from Chart View X-Press™ menus, etc. X-Press™ menus are one of the principal reasons that Humminbird® products are easier to use.

**Zoom:** Zoom is a feature that focuses in on a smaller area of the bottom to provide enhanced resolution. With enhanced resolution, the angler can more easily see fish hanging in structure or multiple fish hanging close together. Split screen zoom divides the display into the full range view on the right, and the zoomed view on the left. Humminbird® offers One-Touch® Zoom which allows the zoom feature to be easily accessed from the regular sonar view with just one key press, eliminating the need to use menus to access the feature.

**Zoom, Bottom Lock:** Bottom Lock Zoom is a feature that focuses on a smaller area just above the bottom to provide enhanced resolution. Unlike regular zoom, it continuously graphs the bottom at a constant point on the display regardless of changes in depth. This “flattens” out the bottom contour, but is effective at showing fish on or near the bottom, and is preferred by many saltwater anglers.



## **GPS & Navigation Terms:**

**Acquisition Time:** The length of time that a GPS receiver typically takes to determine a position from at least three satellites. Humminbird® GPS receivers provide very fast acquisition times (under one minute), permitting users to get out on the water faster.

**Alarm, Arrival:** The audible alert that sounds when the boat is equal to or less than the alarm setting (25 feet – 3000 feet) from the location of the destination waypoint.

**Alarm, Drift:** Drift Alarm is an audible alert that sounds when the boat is equal to or over the alarm setting (25 feet – 3000 feet) from the location where the alarm was turned on.

**Alarm, Off-Course:** Off-Course Alarm is an audible alert that sounds when the boat's distance from the intended Track, (Cross Track Error), is equal to or over the alarm setting (25 feet – 3000 feet). See *Track* and *Cross Track Error*.

**Altitude:** Altitude measures height above sea level. Altitude is a measurement that can be provided by GPS.

**Bearing (BRG):** Bearing is the direction to a destination waypoint measured in degrees from North (i.e. 321°, where 000° is North, 090° East, 180° is South, 270° is West).

**Chartplotter:** Chartplotter describes a navigation device that shows Present Position on a Map, along with Tracks, Waypoints, and Routes. All Chartplotters are also considered Trackplotters. All Humminbird® GPS Combo units are Chartplotters. See *Trackplotter*.

**Cold Start:** Cold Start refers to the procedure that a GPS receiver must perform when it does not have historical information regarding its current location. This procedure typically lasts for several minutes, and may be experienced upon first power up of the receiver, or if the receiver has been moved a great distance.

**Course Over Ground (COG):** Course Over Ground is the current direction the boat is traveling measured in degrees from North (i.e. 321°, where 000° is North, 090° East, 180° is South, 270° is West). When the Course Over Ground is equal to Bearing, the boat is said to be "On Course" and will arrive at the destination in the most efficient manner. COG is often confused with Heading. See *Heading*.

**Cross Track Error (XTE):** Cross Track Error is the straight-line distance of the boat from the intended Track. XTE measures how far the boat is off course, and also triggers the Off Course Alarm. See *Track*.

**Differential GPS (DGPS):** Differential GPS is a system to improve the position accuracy of the Department of Defense GPS through the use of secondary “correction signals” broadcast from ground stations around the coastal United States and on some inland waterways. These correction signals are provided by the USCG and received by an auxiliary Differential Beacon Receiver (DBR) that connects to the GPS receiver. The advent of WAAS has largely negated the need for the added expense of a DBR in the United States.

**Distance To Go:** Distance To Go is the straight-line distance between Present Position and the Destination Waypoint. DTG and SOG (Speed Over Ground) are used to calculate Time To Go. See *Time to Go* and *Speed Over Ground*.

**Estimated Position Error (EPE):** Estimated Position Error is a calculation that indicates the potential position inaccuracy the user may experience due to a variety of GPS factors which include satellite position in the sky, signal strength and others factors.

**Fix Type:** Fix Type indicates whether the GPS receiver is providing 2D fix or 3D fix. A 2D fix requires only three satellites and provides only latitude and longitude. A 3D fix requires four or more satellites, and provides latitude, longitude and altitude.

**GPS:** GPS is an acronym for Global Positioning System. GPS provides accurate position (latitude, longitude, altitude) information virtually anywhere on the earth through satellite technology and personal receivers on the ground. A series of geosynchronous satellites broadcast a unique signal toward the earth once per second. A GPS receiver, such as that included with many Humminbird® products, receives the signals from these satellites and is able to determine position based on very slight differences in the time each signal is received and the receiver’s knowledge of the location of each of the satellites.

**Heading:** Heading describes the direction the boat is pointing and is measured in degrees (i.e. 321°, where 000° is North, 090° East, 180° is South, 270° is West). Due to wind and waves, the boat is often traveling in a slightly different direction than it is heading, and therefore Heading is often confused with Course Over Ground. See *Course Over Ground*.

**Map Datum:** A Map Datum refers to a particular survey of the earth's surface that was referenced when creating a chart (i.e. WGS84). Since the earth is not flat, and not even consistently round, a mathematical model must be used to translate coordinates from the sphere of the earth to the flat surface of a chart. This mathematical model is the Map Datum. Historically, many different Map Datums have been used around the world to create maps; often a reference to the Map Datum can be found in the legend of a paper map. It is important to select the correct Map Datum setting in your fishfinder when comparing GPS position to a paper chart to avoid slight position inaccuracies. Almost all electronic charts use the WGS84 Map Datum and therefore, they do not require setting changes.

**MMC:** MMC is an acronym for Multi Media Card. An MMC is a postage stamp-sized memory device used to store electronic data such as maps, waypoints, routes and other information. MMC is a very rugged format suitable for the marine environment, but it is not waterproof. The MMC is removable from Humminbird® products, and can be used in a PC that is equipped with an appropriate card reader. MMC is the same format that many digital cameras use. See *SD*.

**North, Magnetic:** North is the principle reference point of the compass (i.e. North is 000°). Magnetic North relies on the earth's magnetic field to align a metal pointer generally towards True North. However, due to local variations in the earth's magnetic field around the globe, the difference between True North and Magnetic North can be greater than 10°. See *True North*.

**North, True:** North is the principle reference point of the compass (i.e. North is 000°). True North uses the axis of the rotation of the earth as the reference for North and is constant for all points on the earth. Most GPS units default to True North as the setting. The GPS heading may vary from the boat compass heading because the compass uses Magnetic North. Humminbird® GPS units provide the option of selecting True or Magnetic readouts by using the North Reference menu. See *Magnetic North*.

**Present Position:** Present Position is the current location (latitude, longitude) determined by GPS. The Present Position is indicated on-screen by a directional boat icon if the boat is moving, or a round symbol if the boat is stationary.

**Route:** A Route is series of waypoints linked together in a specific sequence to define a navigation path between two points, and saved in the fishfinder's

memory. Routes are often used when frequently traveling between two or more locations because it is a faster and more accurate method than repeatedly selecting individual waypoints each time one travels through the same area. Routes consist of a Start Waypoint, an End Waypoint, and a series of waypoints in between. Users can begin navigation at the beginning, the end (to run the route in reverse) or at any waypoint in between. See *Waypoint*.

**SD:** SD is an acronym for Secure Digital. An SD card is virtually identical in function to an MMC; however, the speed at which information can be accessed is generally faster, the storage capacity is generally larger, and the card has security features which can be used to prevent extracting the data from the card. SD is the same format that many digital cameras use. See *MMC*.

**Selective Availability:** Selective Availability (SA) is a GPS system “feature” that can be implemented by the U.S. Department of Defense (DoD) to degrade the accuracy of GPS positioning information. With SA active, the GPS is accurate to within 100 meters 95% of the time. With SA inactive, the GPS is accurate to within 45 meters 95% of the time. Currently, SA is inactive and the consumer can enjoy the greater precision GPS provides; however, the DoD reserves the right to activate SA at any time.

**Speed Over Ground (SOG):** Speed Over Ground is the measurement of the boat’s progress across a given distance, and is the speed measurement provided by GPS. An alternate, Speed Through Water, is provided by a speed paddlewheel, and is the measurement of the flow past the boat, which may vary depending on current speed and direction. Speed Over Ground is optimal for navigation because accurate destination times can be derived from this measurement. Humminbird® products allow for input and display of both speed measurements.

**Time To Go (TTG):** Time To Go is the estimated time required to reach the destination waypoint. TTG is calculated using the SOG and DTG. See *SOG* and *DTG*.

**Track:** A Track is a series of saved points that define the past path of the boat. These Track Points are saved at regular time intervals. Tracks are a useful and quick method to see where you’ve been, and an easy guide to follow to get you back to the starting point. Generally, all GPS units have a limited number of Track Points that can be saved before the unit runs out of memory and begins erasing the first track points saved. Because of this, the user can adjust the Track Point Interval

menu to increase the amount of time between when points are saved, and thus extend the distance covered by a track. Tracks can also be permanently saved to memory, and re-displayed at the user's option.

**Track Line (TRK):** The Track Line is the planned line of travel between two waypoints, and it represents the most efficient path between the two points because it is a straight line. The TRK is measured in degrees (i.e. 321°, where 000° is North, 090° East, 180° is South, 270° is West). See *Cross Track Error* and *Course Over Ground*.

**Trackplotter:** Trackplotter describes a navigation device that shows Present Position, along with Track, Waypoint, and Routes, but NO MAP in the background. See *Chartplotter*.

**Trolling Grid:** Trolling Grid is a Humminbird® feature that displays a precise reference grid around a waypoint. This grid is used as a guide pattern for trolling around a specific area to assure a more efficient and complete coverage of that area. Trolling Grid resolution be changed by zooming in or out on the chart. The Trolling Grid can also be rotated on the display to orient it for optimal boat course for wave and wind conditions.

**UTC:** UTC is an acronym for Universal Time Constant. UTC is the "standard time" used in navigation, and is the local time in Greenwich England. (UTC is equivalent to Greenwich Mean Time (GMT)). To display the correct Local Time in a Humminbird® GPS unit, the user must use the Local Time Zone menu and select the time zone (i.e. EST, CST).

**WAAS:** WAAS is an acronym for Wide Area Augmentation System. WAAS is complementary technology to GPS that provides enhanced accuracy through correction signals broadcast from Federal Aviation Administration WAAS satellites stationed over the USA. These secondary signals are automatically received by the standard Humminbird® GPS Receiver. With WAAS signal, GPS accuracy is improved to within 3 meters 95% of the time. Outside the United States, regional governmental coalitions have created similar systems such as EGNOS (Europe) and MSAS (Japan).

**Waypoint:** A Waypoint is the saved location (latitude, longitude) of a point of interest that is stored in a GPS receiver's memory. This can include a marker buoy, dock, fishing hole or anywhere else the user may want to return to. Humminbird® products offer the ability to name and assign a symbol to the saved location. Depth, Date and Time of Day when the waypoint was created is also saved.

**Waypoint Target:** Waypoint Target is a Humminbird® feature that displays a precise "bull's eye" around a selected waypoint. This bull's eye is used to easily monitor boat position relative to a waypoint, and is useful for fishing over submerged structure. With Waypoint Targets, a quick look at the screen lets you know how far off the waypoint the boat has drifted.

## Contact Humminbird®

Contact the Humminbird® Customer Resource Center  
in any of the following ways:

By Telephone:

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

**1-800-633-1468**

By e-mail:

(typically we respond to your e-mail within three business days):

**[cservice@johnsonoutdoors.com](mailto:cservice@johnsonoutdoors.com)**

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