

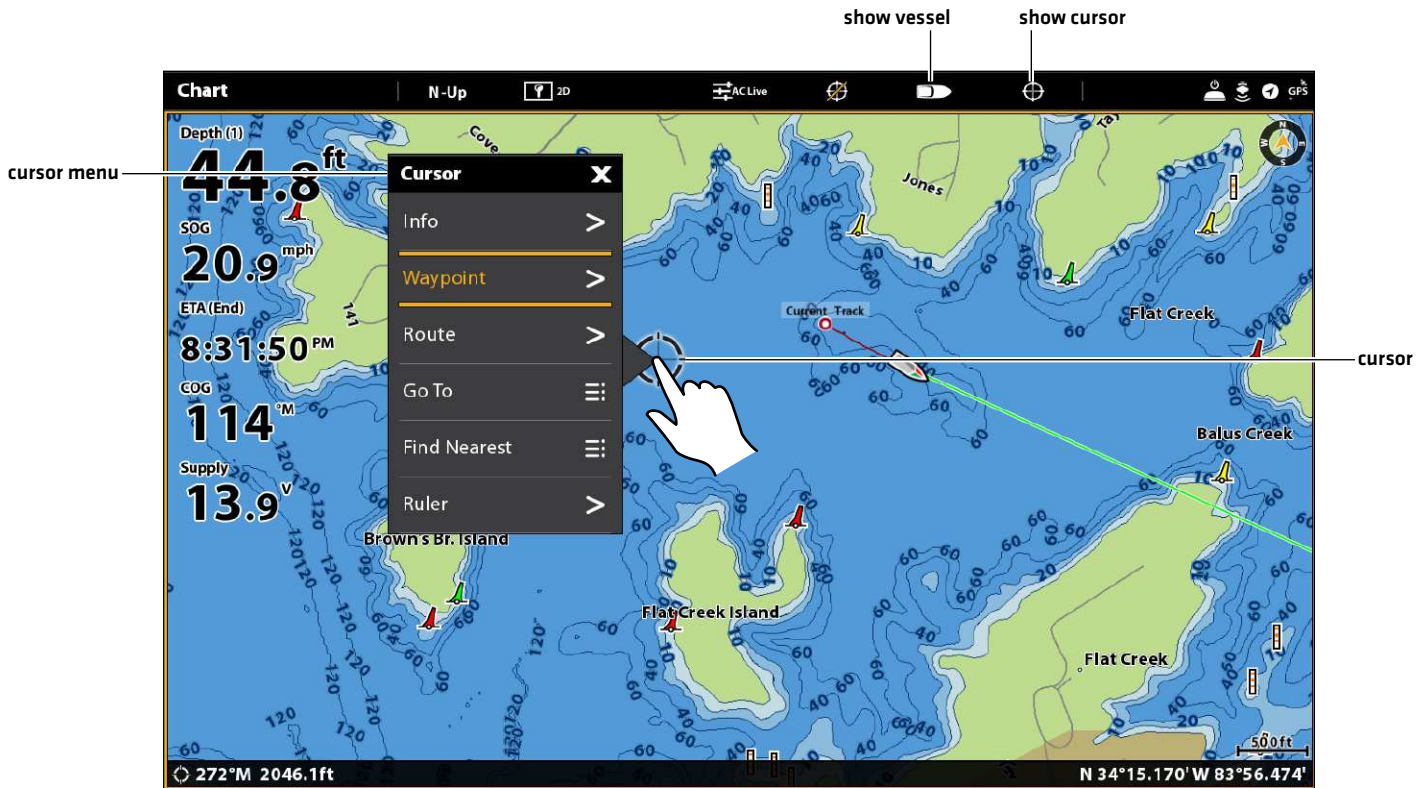
Cursor Menu

The **Cursor menu** is another way to use the touch screen and mark a waypoint, create a route, or start a search. The Cursor menu is only available with the 2D Chart View, Sonar Views, or Radar View displayed on-screen.

Open the Cursor Menu

1. Press and hold a position on the Chart View.

Displaying the Cursor Menu



Press and Hold

WAYPOINTS



Waypoints are saved latitude/longitude positions. They mark a position of interest such as your favorite fishing area, structure, or marker buoy. The control head saves the position and allows you to edit the waypoint name, icon, and more [see *Manage your Navigation Data*]. You can save 10,000 waypoints to the control head.

Mark Waypoints

Waypoints can be marked at the vessel position or cursor position. To edit the waypoint, see *Edit a Waypoint in the Chart View* or *Manage your Navigation Data*. To display waypoints on the chart as they are marked, see *Change the Chart View Overlays*.

Mark a Waypoint at the Vessel Position

Touch Screen

1. Tap Chart in the status bar.
2. Select Mark.
3. Select Waypoint.
4. The Favorites menu will be displayed so you can edit the waypoint using the options you set in Favorite Settings.

Keypad

1. Press the MARK key twice.
2. The Favorites menu will be displayed so you can edit the waypoint using the options you set in Favorite Settings.

Mark a Waypoint at the Cursor Position

Touch Screen

1. Press and hold a position on the Chart View.
2. Select Waypoint.
3. The Favorites menu will be displayed so you can edit the waypoint using the options you set in Favorite Settings.

Keypad

1. Use the Joystick to move the cursor to a position on the chart.
2. Press the MARK key twice.
3. The Favorites menu will be displayed so you can edit the waypoint using the options you set in Favorite Settings.

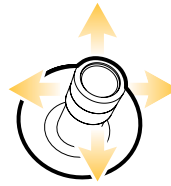
Marking a Waypoint at the Cursor Position

The Mark menu opens when you press the MARK key or select Mark from the Navigation X-Press Menu.



Press and Hold

OR



Move the Joystick
to Activate the Cursor



Press the
MARK key Twice

Quick Mark Waypoints (on the go)

If you set the Mark Mode to Quick Mark, the waypoint name and icon is automatically assigned based on the Quick Mark Settings. The waypoint can be edited at a later time. See **Manage your Navigation Data** for more information.

1. Press the HOME key.
2. Select the Nav Data tool.
3. Under Options, select Waypoints.
4. Select Mark Mode > Quick Mark.
5. Close the Nav Data tool and display a Chart View on-screen.

When you mark a waypoint, the waypoint name and icon will be automatically assigned.

Mark + Edit Waypoints (on the go)

If you set the Mark Mode to Mark + Edit, you can edit a waypoint immediately when you mark it in the Chart View. See **Manage your Navigation Data** for more information.

1. Press the HOME key.
2. Select the Nav Data tool.
3. Under Options, select Waypoints.
4. Select Mark Mode > Mark + Edit.
5. Close the Nav Data tool and display a Chart View on-screen.

When you mark a waypoint, the Waypoint Info menu will be displayed so you can edit the waypoint.

Move a Waypoint in the Chart View

1. Use the Joystick to move the cursor to a waypoint on the chart.
2. Press the ENTER key.
3. Select Move.
4. The menu will close. Use the Joystick to move the waypoint to a new position.
5. Press the ENTER key to confirm the new position.

Edit a Waypoint in the Chart View

1. Tap the waypoint icon to select it. Tap the Waypoint Name.

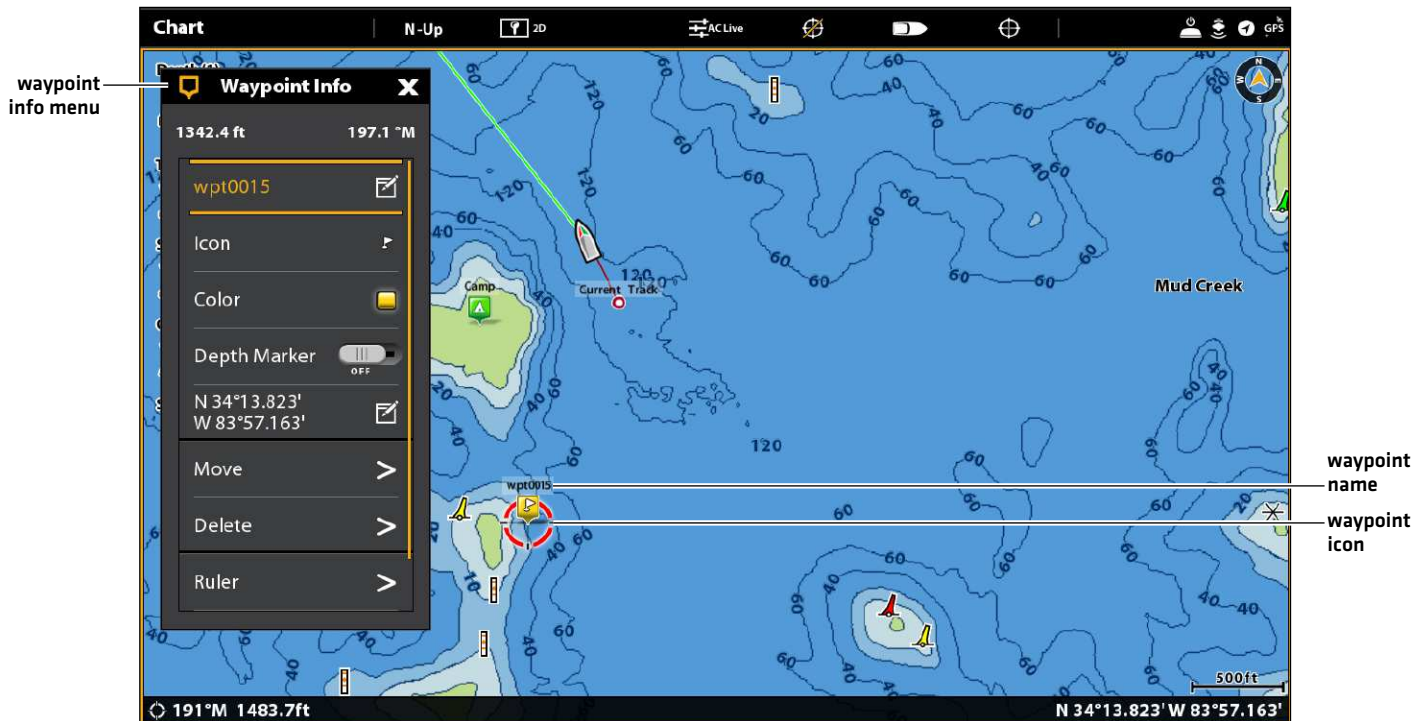
OR

Use the Joystick to move the cursor to a waypoint icon. Press the ENTER key.

2. Use the Waypoint Info menu to edit the waypoint name, icon, color, and more (see *Manage your Navigation Data* for more information).

3. **Close:** Press the EXIT key.

Editing a Waypoint on the Chart View



Create a Depth Marker

To save depth information with a waypoint, mark the waypoint at the vessel position. If the waypoint is marked at the cursor position, the depth information will not be available, but you can enter a depth manually. When Depth Marker is turned on, the Depth Marker icon is displayed on the Chart View.

1. Tap Chart in the status bar. Select Mark > Waypoint.

OR

Press the MARK key twice.

2. Select the Waypoint icon on the Chart View.

3. Press the ENTER key.

4. Select Depth Marker. Tap the on/off button, or press the ENTER key, to turn it on.

To change a depth marker back to a waypoint icon, turn off Depth Marker.



NOTE: If the waypoint was marked at the cursor position, select Full Info > Edit Depth. Use the on-screen keyboard to enter a depth. If you turn on Depth Marker, the depth you enter will be displayed.

Set the Waypoint Radius and Avoidance

A radius can be set around a selected waypoint. If you select Avoidance, the radius will be highlighted around the waypoint. To receive an alarm when the waypoint avoidance radius has been crossed, turn on the Waypoint Avoidance Alarm [see [Navigation Alarms Overview](#)].

1. Tap the waypoint icon to select it. Tap the Waypoint Name.

OR

Use the Joystick to move the cursor to a waypoint icon. Press the ENTER key.

2. Select Full Info.
3. Select Radius, and turn it on.
Press and hold the slider, or press and hold the ENTER key, to adjust the radius setting.
4. To set the waypoint to avoidance, select Avoidance. Tap the check box, or press the ENTER key, to add a check mark to it.
5. **Optional:** To receive an alarm when the radius has been crossed, turn on Waypoint Avoidance in the Navigation Alarms menu [Home > Alarms > Navigation > Waypoint Avoidance > On]

Display/Hide a Trolling Grid

The Trolling Grid applies a grid to the Chart View that can be used as a guide when trolling around a specific position. The trolling grid can be applied to any position on the chart.

1. Tap a position on the Chart View.

OR

Use the Joystick to move the cursor to a position on the Chart View.

2. Tap Chart in the status bar, or press the ENTER key.
3. Select Trolling Grid.
4. Use the menu options to set the grid size and rotation.

Display the Grid: Select Set Grid.

Remove the Grid: Select Remove Grid.

Delete a Waypoint in the Chart View

1. Tap the waypoint icon to select it. Tap the Waypoint Name.
2. **OR**
Use the Joystick to move the cursor to a waypoint icon. Press the ENTER key.
3. Select Delete.

ROUTES



Routes link two or more points together to create a path for navigation. A route represents your intended navigation and shows the shortest path from each data point to the next. The distance between each route point is a **route leg**. You can save 50 routes to the control head.



Route Points are stored latitude/longitude positions that connect to form route navigation.



Route Start Point



Route End Point



WARNING! You should always be aware of your surroundings and watch for any potential obstacles.

Quick Route Navigation

A Quick Route allows you to connect route points and waypoints and start navigation immediately. A Quick Route can be started with the GO TO key or with the touch screen. Quick Routes can be saved or discarded. To create a saved route, see **Create a Saved Route** or **Manage your Navigation Data**.

Start Quick Route Navigation

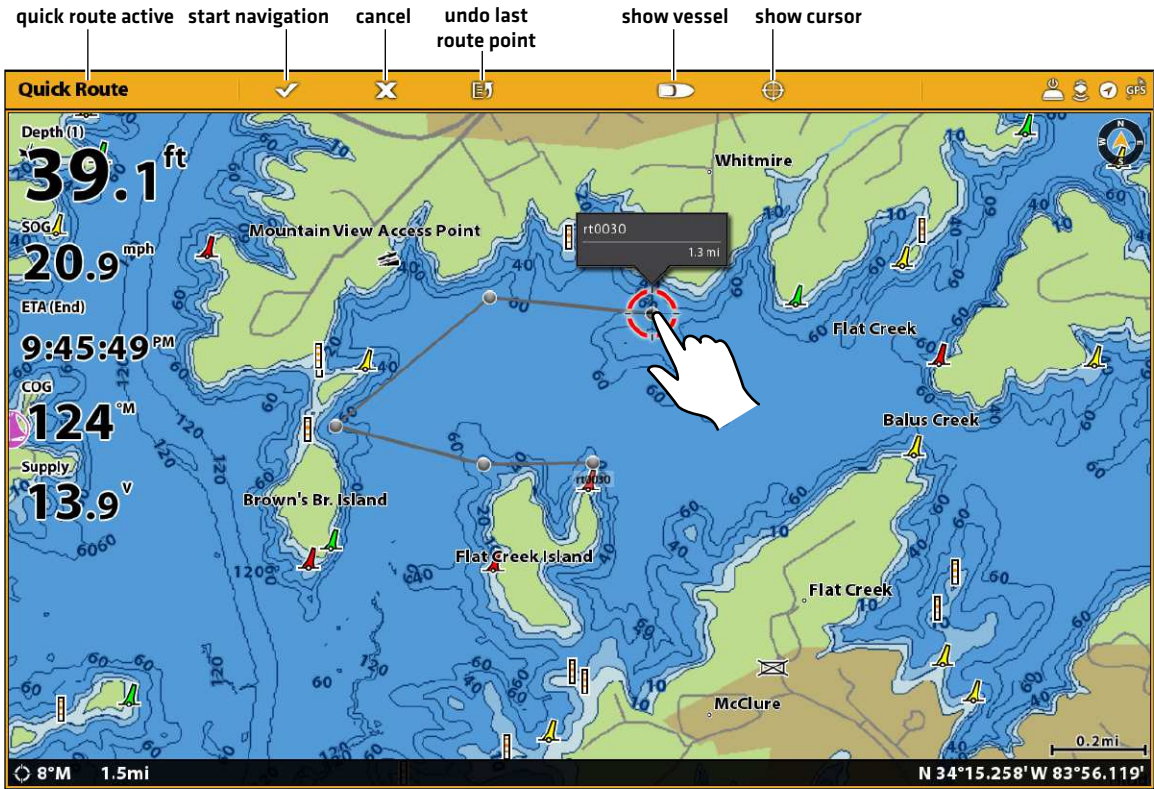
Touch Screen

1. Tap Chart in the status bar.
2. Select Go To.
3. Select Quick Route.
4. Tap the chart in the positions where you want to mark a route point.
Undo Last Route Point: Tap the Back icon.
Cancel Route Creation: Tap the X icon.
5. To start navigation, tap the check icon in the status bar.

Keypad

1. Press the GO TO key.
2. Select Quick Route.
3. Use the Joystick to move the cursor to a position or waypoint. Press the Joystick to mark the first route point.
4. Repeat Step 3 to connect more than one route point.
Undo Last Route Point: Press the EXIT key once.
Cancel Route Creation: Press and hold the EXIT key.
5. To start navigation, press the ENTER key.

Marking Route Points with the Touch Screen



Tap to Mark
Route Points

Starting Quick Route Navigation with the Keypad

quick route active start navigation cancel undo last route point show vessel show cursor

Quick Route

Depth (1) **39.1** ft

SOG **20.9** mph

ETA (End) **9:45:49** PM

COG **124** °M

Supply **13.9** V

rt0030 1.3 mi

Whitmire

Mountain View Access Point

Flat Creek

Balus Creek

Brown's Br. Island

Flat Creek Island

Flat Creek

McClure

0.2 mi

8°M 1.5mi

N 34°15.258' W 83°56.119'

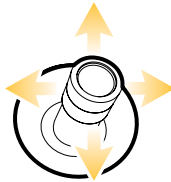
route leg

route point

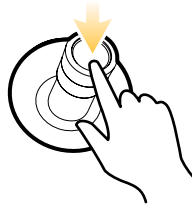
cursor marking a route point



Open Go To Menu



Move Cursor Position



Mark Route Points



Start Navigation

Change Route Order During Navigation

1. During navigation, tap Chart in the status bar. Select Go To.

OR

Press the GO TO key.

2. Select one of the following menu options:

Restart Course: Resets navigation to start from the current vessel position to the next point in the route.

Next Point: Skips to the next point in the route.

Reverse Route: Reverses the currently navigated route. Navigation will start from the vessel position and continue in the opposite order.

Cancel Quick Route Navigation

1. During navigation, tap Chart in the status bar. Select Go To.

OR

Press the GO TO key.

2. Select Cancel Navigation.
3. Select Save Route or Discard Route.

Start Navigation to a Saved Waypoint or Route

Use the cursor to select a saved waypoint or route point on the Chart View, and you can start navigation to it. If you select a route point, you can also choose a navigation order for the selected route.

Start Navigation

Touch Screen

1. Tap a waypoint icon or route point.
2. Tap Chart in the status bar.
3. Select Go To.
4. Select Go To: Route or Go To: Point.

Cancel Navigation: Tap Chart in the status bar. Select Go To > Cancel Navigation.

Keypad

1. Use the Joystick to move the cursor to a waypoint or route point.
2. Press the GO TO key.
3. Select Go To: Route or Go To: Point.

Cancel Navigation: Press the GO TO key. Select Cancel Navigation.

Program a Position and Start Navigation

Use the instructions in this section to enter a latitude/longitude position and start navigation to it.

Start Navigation to a Latitude/Longitude Position

1. Tap Chart in the status bar. Select Go To.

OR

Press the GO TO key.

2. Select Lat/Long.
3. Use the on-screen keyboard to enter a position.
4. Select Go To.

Cancel Navigation: Press the GO TO key. Select Cancel Navigation.

Create a Saved Route

The instructions in this section allow you to create a route in the Chart View and save it for navigation later. The steps are similar to creating a Quick Route, but you will use the Mark menu to start.

Save Location: The route is saved to the Nav Data tool.

Navigation: To start navigation on the route, see *Start Navigation to a Saved Waypoint or Route*.

Overlay: To display saved routes on the Chart View, press the MENU key once.
Select Chart Options > Overlays > Nav Data > Routes [Saved].

Create a Saved Route

Touch Screen

1. Tap Chart in the status bar.
2. Select Mark.
3. Select Route.
4. Tap the screen in the positions where you want to mark a route point.

Undo Last Route Point: Tap the Back icon.

Cancel Route Creation: Tap the X icon.

5. To save the route, tap the check icon in the status bar.

Keypad

1. Press the MARK key.
2. Select Route.
3. Use the Joystick to move the cursor to a position or waypoint. Press the Joystick to mark the first route point.
4. Repeat Step 3 to connect more than one route point.

Undo Last Route Point: Press the EXIT key once.

Cancel Route Creation: Press and hold the EXIT key.

5. To save the route, press the ENTER key.

Creating a Saved Route with the Keypad

creating a saved route save route cancel undo last route point show vessel show cursor

Depth (1)
38.9 ft

Time
10:40 AM

SOG
3.8 mph

COG
110 M

Supply
13.2 V

rt0024
3672.7 ft

Current Track

Big Creek

Gaines Ferry Islands

0.2 mi SW

60 M 4855.6ft

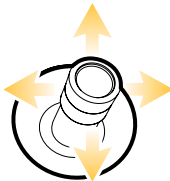
N 34°12.088' W 83°59.135'

cursor marking a route point

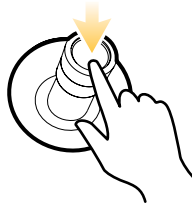
waypoint



Open Mark Menu



Move Cursor Position



Mark Route Point



Save

Edit a Route in the Chart View

1. Tap the route to select it. Tap the Route Name.

OR

Use the Joystick to move the cursor to a route on the chart. Press the ENTER key.

2. Use the Route Info menu to edit the route name, color, and more [see *Manage your Navigation Data* for more information].

3. **Close:** Press the EXIT key.

Add or Delete Points in a Route

1. Tap the route to select it. Tap the Route Name.

OR

Use the Joystick to move the cursor to a route on the chart. Press the ENTER key.

2. Select Add Point, Extend Route, or Delete Point.

Delete a Route in the Chart View

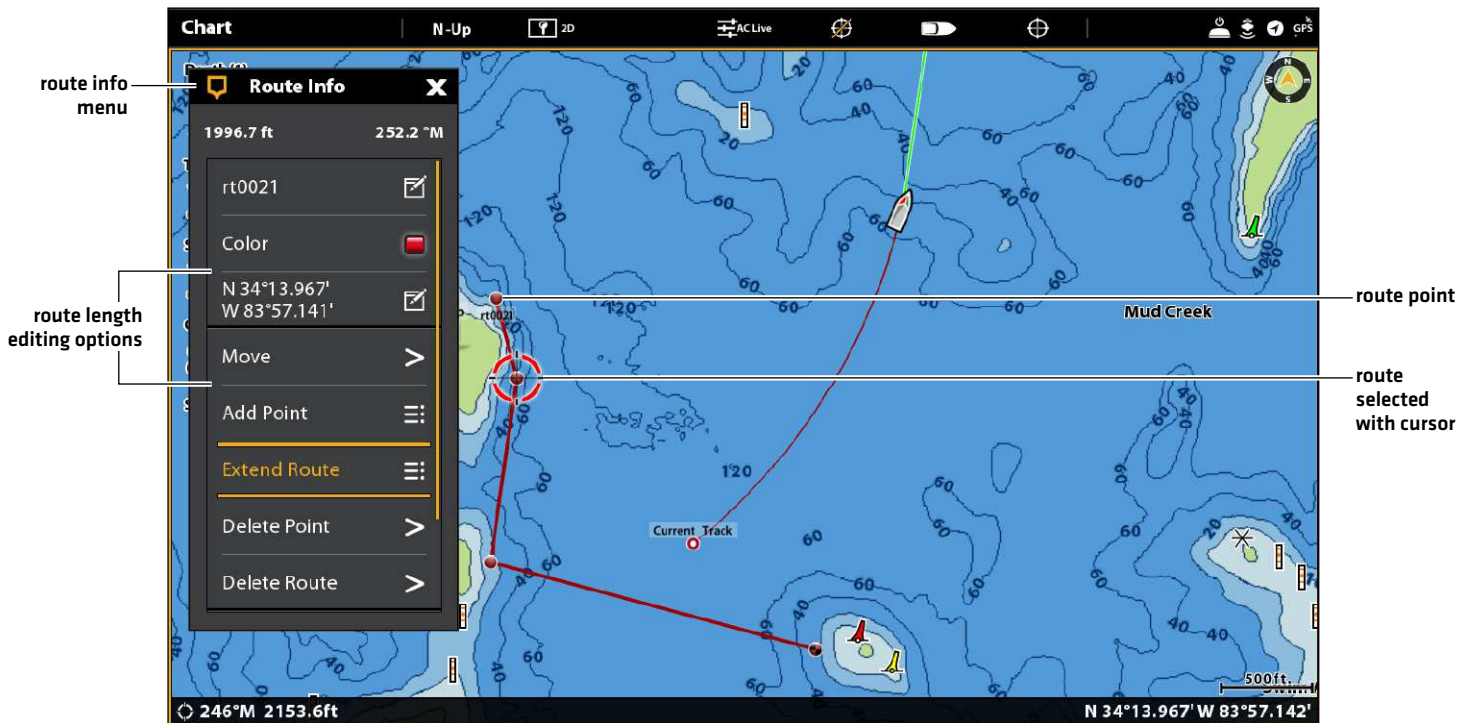
1. Tap the route to select it. Tap the Route Name.

OR

Use the Joystick to move the cursor to a route on the chart. Press the ENTER key.

2. Select Delete Route.

Editing a Route on the Chart View



SEARCH

There are many ways to search the area for ports, services, tide stations, current stations, and other points of interest. You can also search the nearest waypoints, routes, and tracks. In many cases, you can also use the Go To menu to start navigation to your selection. The search options and the search area distance are determined by the selected map source.



NOTE: For more information about the ENTER key and the Info menu, see **Navigation Menu Overview**.

Search by Vessel Position

If Navionics is selected as the map source, you can run a search based on the vessel position.

1. Tap Chart in the status bar. Select Info.

OR

Press the ENTER key.

2. Select an item from the displayed list. Tap the item, or press the ENTER key, to see more information if it is available.
3. To start navigation to your selection, press the GO TO key.

Search by Cursor Position

If Navionics is selected as the map source, you can run a search based on the cursor position.

1. Press and hold a position on the Chart View.

OR

Use the Joystick to move the cursor to a position on the Chart View. Press the ENTER key.

2. Select Info.
3. Select an item from the displayed list. Tap the item, or press the ENTER key, to see more information if it is available.
4. To start navigation to your selection, press the GO TO key.

Search for a Lake

If Humminbird is selected as the map source, you can search for lakes in the area.

1. Tap Chart in the status bar. Select Info.

OR

Press the ENTER key.

2. **To search by area**, select Lake List.

To search by name, select Lake Name. Use the on-screen keyboard to enter a name.

3. Select an item from the displayed list. Tap the item, or press the ENTER key, to see more information if it is available.

Find the Nearest Navigation Data

Use the Find Nearest menu to search for the closest waypoints, routes, and tracks.

1. Tap Chart in the status bar. Select Info.

OR

Press the ENTER key.

2. Select Find Nearest.
3. Select Waypoints, Routes, or Tracks.
4. Select an item from the displayed list. Tap the item, or press the ENTER key, to see more information if it is available.
5. To start navigation to your selection, press the GO TO key.

TRACKS



A track is a collection of track points that contains the vessel's detailed position history at set intervals. The Current Track shows the position history since the control head was powered on. Record Track must be turned on to enable this feature [see **Record a Track**]. You can clear the Current Track or save it at any time. To change the track point interval, edit saved tracks, and create track settings, see **Manage your Navigation Data**. You can save 50 tracks (each with 20,000 track points) to the control head.



Start Point



End Point

Set up Tracks

Your control head is set to record tracks and display them on the view. Use the instructions in this section if you've changed the control head default settings.

Record a Track

When Record Track is turned on, the control head will save the current track. If Record Track is turned off, the track will not be recorded or saved.

1. Press the HOME key.
2. Select Nav Data tool.
3. Under Options, select Tracks.
4. Select Record Track. Tap the on/off button, or press the ENTER key, to turn it on.

Auto-Save

When Auto-Save is turned on, the control head will save the current track each time the control head is powered off, and a new track will be started when the control head is powered on again.

When Auto-Save is turned off, the current track will continue until you save it. See **Tracks: Save the Current Track**.

1. Press the HOME key.
2. Select Nav Data tool.
3. Under Options, select Tracks.
4. Select Auto Save. Tap the on/off button, or press the ENTER key, to turn it on.

Display Tracks on the Chart View

You can display saved tracks or active tracks on the Chart View.

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

OR

Press the MENU key once.

2. Select Chart Options.
3. Select Overlays > Nav Data.
4. Add a check mark to Tracks [Active] or Tracks [Saved] to make them visible on the Chart View.



NOTE: To set an individual track to visible or hidden, see **Manage your Navigation Data: Edit a Saved Track**.

Save the Current Track

Use the following instructions to save the current track and start a new track.

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

OR

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

2. Select Save Track.



NOTE: You can also start a new track from the Nav Data tool. See **Manage your Navigation Data: Manage Tracks**.

Clear the Current Track

Use the following instructions to clear the current track and start a new track at the current vessel position.

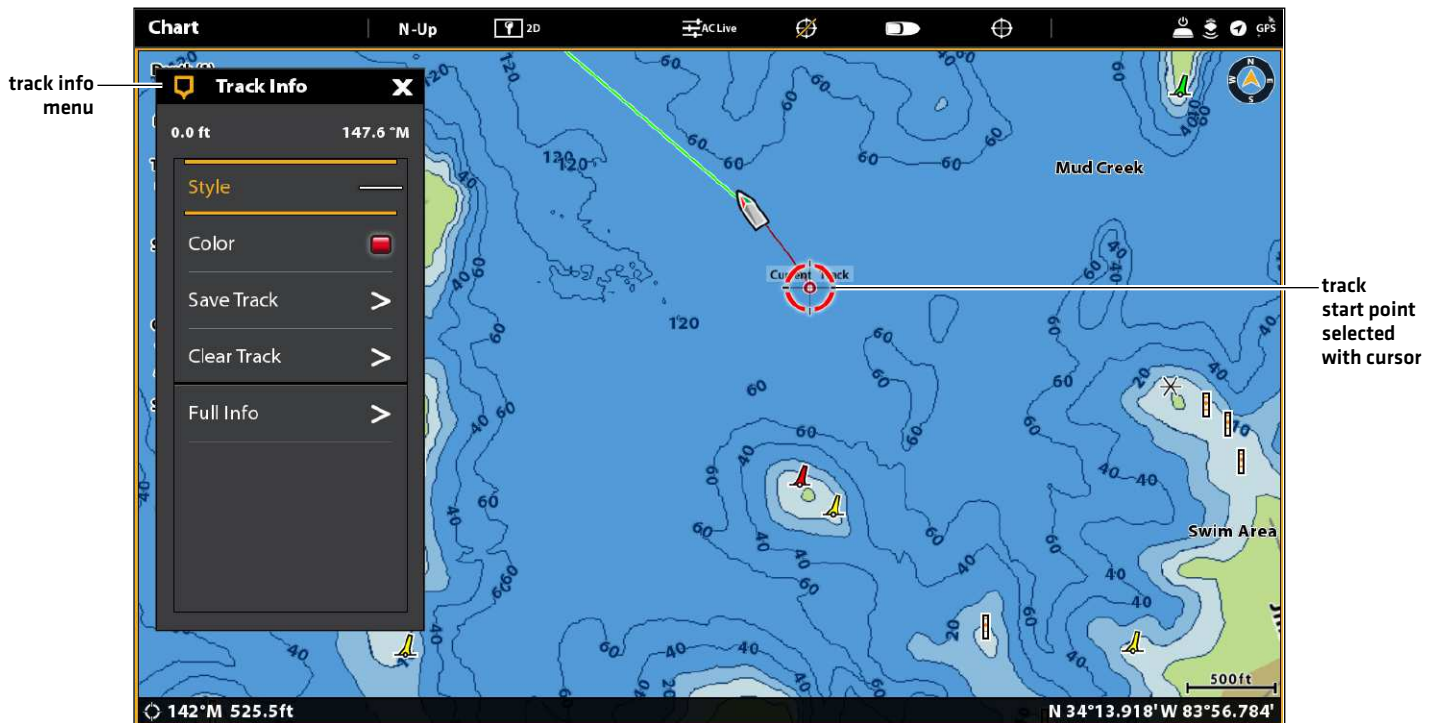
1. Tap a track start point or end point. Tap the Track Name.

OR

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

2. Select Clear Track.

Chart View with a Track Displayed



Edit a Track in the Chart View

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

OR

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

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

3. **Close:** Press the EXIT key.



NOTE: To change the default appearance for new tracks, or to change the Track Point Interval, see **Manage your Navigation Data: Manage Tracks**.

Delete a Saved Track

When you delete a saved track, it is permanently deleted from the control head.

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

OR

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

2. Select Delete Track.

MANAGE YOUR NAVIGATION DATA

Use the Nav Data tool to manage your saved waypoints, routes, tracks, and groups. You can edit your saved navigation data and start navigation from this tool.

Open the Nav Data Tool

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

Sort Lists

1. Select a saved waypoint, route, or track.
2. Press the EXIT key to select the sort bar. Tap a column name, or move the Joystick and press it on a column name. The first tap/Joystick press will sort the column low to high or A to Z. The second tap/Joystick press will sort it high to low or Z to A.

Nav Data Tool

The screenshot shows the Nav Data Tool interface. On the left is a sidebar with 'Nav Data' and 'Waypoints' sections. The main area displays a table of waypoints. A summary window for a selected waypoint is shown at the bottom right.

Name	Group	Distance	Date
wpt0001	My Data	4582 ft	10/30/2015 7:24:24 PM
wpt0002	My Data	4835 ft	10/30/2015 7:26:02 PM
wpt0003	My Data	1.1 mi	10/30/2015 7:26:48 PM
wpt0004	My Data	1.4 mi	10/30/2015 7:27:00 PM

selected waypoint and preview window summary

Position: N 34°11.783' W 84°3.580'
Bearing: 277.9 °M
Depth: 0.0 ft
Cursor Depth: 0.0 ft
Radius: -
Temperature: -
Altitude: -
Notes:

Manage Waypoints

Edit a Waypoint

1. Under Lists, select Waypoints.
2. Press and hold a waypoint. Select Info.

OR

Use the Joystick to select a waypoint. Press the ENTER key.

3. Edit the waypoint using the options in the Waypoint Info menu. To see the complete list of options to edit the waypoint, select Full Info.

Editing Options for Saved Waypoints or Default Settings	
Waypoint Name	Select the waypoint name and use the on-screen keyboard to change it.
Icon	Select an icon category [water, fishing, navigation, POI [point of interest], etc.] and select an icon to represent the selected waypoint on the Chart Views.
Color	Select a color to represent the waypoint on the Chart Views.
Depth Marker	If Depth Marker is turned on, the waypoint will be displayed as a depth marker on the Chart View. The depth is based on the depth at the vessel position. See Waypoints: Create a Depth Marker . If the waypoint was marked at the cursor position, the depth will not be saved. Select Edit Depth to enter a depth manually.
Position	Use the on-screen keyboard to edit the latitude/longitude position of the waypoint.
Radius	Turn on Radius and set the radius around the waypoint. The Radius is used for Waypoint Avoidance [see Navigation Alarms Overview].
Avoidance	Add a check mark to the Avoidance box to display the Waypoint Avoidance Radius.
Visibility	To display the waypoint on the view, select On. To hide the waypoint on the view, select Off. You can also choose to display the icon or the icon and the waypoint name.
My Data [Group Name]	The menu name will vary with the default group name. Select the group name to change where the selected waypoint is saved. See Groups for more information.
Edit Depth	Use the on-screen keyboard to enter a depth for the waypoint if it was not marked at the vessel position. See Depth Marker for more information.
Edit Notes [select Full Info]	Use the on-screen keyboard to add notes about the waypoint.

Change the Mark Mode for New Waypoints

When you mark a waypoint, the control head assigns an alphanumeric name that can be edited from the Nav Data tool. Use these instructions to change how the control head marks a waypoint, allowing you to mark and edit waypoints as you go, or mark waypoints and edit them with your favorite settings.

1. Under Options, select Waypoints.
2. Select Mark Mode.

Mark Mode Options	
Quick Mark	When you mark a waypoint, the waypoint name is alphanumeric and starts with wpt. The waypoint can be edited at a later time. You can also change the Quick Mark settings (icon, color, etc.) for new waypoints. See <i>Change Default Settings for New Waypoints</i> .
Mark + Edit	When you mark a waypoint, the Waypoint Info menu opens so you can edit the waypoint when you mark it.
Mark Favorites (Default)	When you mark a waypoint, the Favorites menu opens so you can assign a favorite icon and color to the waypoint on the go. To create favorite settings, see <i>Create Favorite Settings</i> .

Change Quick Mark Settings for New Waypoints

If you've selected Quick Mark as the Mark Mode for waypoints, each time you mark a new waypoint, the control head will use the Quick Mark settings to save the waypoint. Also, see ***Waypoints: Quick Mark Waypoints (on the go)*** for more information.

1. Under Options, select Waypoints.
2. Select Quick Mark Settings. You can change the default settings for the icon, color, and more. See the table ***Editing Options for Favorite Waypoint Settings*** in this section for details.

Create Favorite Settings

If you've selected Mark Favorites as the Mark Mode for waypoints, use the instructions in this section to preset your favorite icon, color, depth marker, default group, and whether the waypoint is visible or hidden. When you mark a waypoint, you will be given the menu options from your favorite settings to edit the waypoint.

1. Under Options, select Waypoints.
2. Select Favorite Settings. Tap the item or use the Joystick to make your selections.

Selecting 5 Favorite Colors



Editing Options for Favorite Waypoint Settings	
Icon	Select 5 icons to be your favorite icons.
Color	Select 5 colors to be your favorite colors.
Depth Marker	If Depth Marker is turned on, the waypoint will be displayed as a depth marker on the Chart View. The depth is based on the depth at the vessel position. See Waypoints: Create a Depth Marker . If the waypoint was marked at the cursor position, the depth will not be saved. Select Edit Depth to enter a depth manually.
Group	The menu name will vary with the default group name. Select the group name to change where the selected waypoint is saved. See Groups for more information.
Visibility	To display the waypoint on the Chart Views, select On. To hide the waypoint on the Chart Views, select Off.

Delete a Waypoint

1. Under Lists, select Waypoints.
2. Tap a waypoint or use the Joystick to select it.
3. Press the ENTER key.
4. Select Full Info.
5. Select Delete.

Navigate to a Selected Waypoint

1. Under Lists, select Waypoints.
2. Tap a waypoint or use the Joystick to select it.
3. Press the GO TO key.
4. Press the ENTER key, or tap Go To on-screen.

Manage Routes

Edit a Route

1. Under Lists, select Routes.
2. Press and hold a route. Select Info.

OR

Use the Joystick to select a route. Press the ENTER key.

3. Edit the route using the options in the Route Info menu.

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

Editing Options for New Routes or a Saved Route	
Route Name	Select the route name and use the on-screen keyboard to change it.
Color	Select a color to represent the route on the Chart Views.
Visibility	To display the route on the view, select On. To hide the route on the view, select Off.
My Data [Group Name]	The menu name will vary with the default group name. Select the group name to change where the route is saved. See Groups for more information.
Edit Notes [select Full Info]	Use the on-screen keyboard to add notes about the route.

Change Default Settings for New Routes

1. Under Options, select Routes.
2. Select Default Settings.

Selected Route with Route Points

The screenshot shows a navigation application interface. On the left is a sidebar menu with the following items: Lists, Waypoints (4), Routes (2), Tracks (1), Options, Waypoints, Routes, Tracks, Groups, and Delete All. The main area is titled 'Routes' and contains a table with the following data:

Name	Group	Distance	Date
rt0002	My Data	1.9 mi	10/30/2015 7:24:41 PM
rt0001	My Data	2.0 mi	10/30/2015 7:11:28 PM

Annotations in the image indicate that the 'Routes' menu item is selected, and the first row of the table (rt0002) is the selected route. Below the table, a detailed view of the selected route is shown, including position coordinates (N 34°11.673', W 84°3.389'), bearing (291.9 °M), route distance (3124 ft), and route points (5). A map below this information shows the route points on a waterway. A 'Notes' field is also present.

Delete a Route Point

Touch Screen

1. Under Lists, select Routes.
2. Tap a route to open it and display its route points.
3. Press and hold a route point.
4. Select Info.
5. Select Full Info.
6. Select Delete Point.

Keypad

1. Under Lists, select Routes.
2. Use the Joystick to select a route. Press the Joystick to open the route and display its route points.
3. Select a route point.
4. Press the ENTER key.
5. Select Full Info.
6. Select Delete Point.

Delete a Route

This menu option is not available while the selected route is being navigated.

1. Under Lists, select Routes.
2. Press and hold a route. Select Delete.

OR

Use the Joystick to select a route. Press the ENTER key.

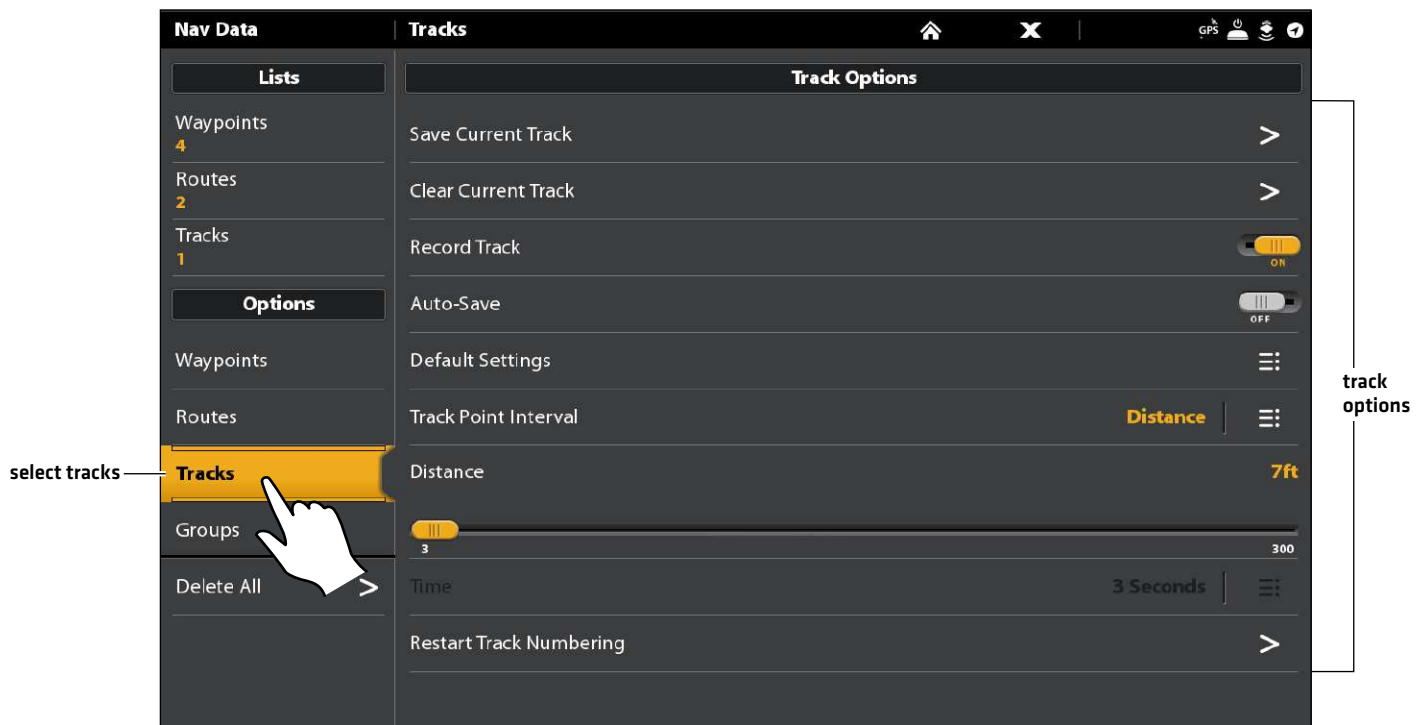
3. Select Full Info.
4. Select Delete Route.

Navigate a Selected Route

1. Under Lists, select Routes.
2. Tap a route or use the Joystick to select it.
3. Press the GO TO key.
4. Press the ENTER key, or tap Go To on-screen.

Manage Tracks

Track Options for the Current Track



Start a New Track

The Record Track menu must be turned on to enable this feature.

1. Under Options, select Tracks.
2. Select New Track.

Record a Track

When Record Track is turned on, the control head will save the current track. If you power off the control head and then power on the control head at a different position, there might be gaps in the track.

If Record Track is turned off, the track will not be displayed on the Chart View, and the track will not be recorded or saved.

1. Under Options, select Tracks.
2. Select Record Track. Tap the on/off button, or press the ENTER key, to turn it on.

Auto-Save

When Auto-Save is turned on, the control head will save the current track each time the control head is powered off, and a new track will be started when the control head is powered on again.

When Auto-Save is turned off, the current track will continue until you save it [see **Tracks: Save the Current Track**].

1. Under Options, select Tracks.
2. Select Record Track. Tap the on/off button, or press the ENTER key, to turn it on. The control head will start recording the current track at the moment the menu is turned on.

Change Default Settings for New Tracks

1. Under Options, select Tracks.
2. Select Default Settings.

Changing the Default Settings for New Tracks	
Style	Select a line style.
Color	Select a color.
Group	Select the group name to change where tracks will be saved. You can also open a new group from this menu. See Groups for more information.

Change the Track Point Interval

1. Under Options, select Tracks.
2. Select Track Point Interval.
3. Select Distance or Time.
4. Select the Back icon on the status bar, or select the Tracks tab under Options to return to the Track Options menu.
5. If you selected Distance in step 3, adjust the Distance slider to adjust the distance between track points.

If you selected Time in step 3, select Time and open the menu. Select the amount of time between track points.

Edit a Saved Track

1. Under Lists, select Tracks.
2. Press and hold a track. Select Info.

OR

Use the Joystick to select a track. Press the ENTER key.

3. Edit the saved track using the options in the Track Info menu.

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

Editing Options for a Saved Track	
Track Name	Select the track name and use the on-screen keyboard to change it.
Style	Select a line style.
Color	Select a color.
Visibility	To display the track on the Chart Views, select On. To hide the track on the Chart Views, select Off.
My Data [Group Name]	The menu name will vary with the default group name. Select the group name to change where the selected track is saved. See Groups for more information.
Edit Notes [select Full Info]	Use the on-screen keyboard to add notes about the selected track.

Delete a Track

1. Under Lists, select Tracks.
2. Press and hold a track. Select Delete.

OR

1. Use the Joystick to select a track. Press the ENTER key.
2. Select Full Info.
3. Select Delete Track.

Manage Groups

Use Groups to organize your navigation data (waypoints, routes, and tracks) in one set. Some anglers prefer to group their navigation data by trip, fish-type, body of water, or time of day. APEX/SOLIX can hold up to 50 groups.

Default Group: Your navigation data is saved to My Data, the default group for your control head. You can create new groups and save new navigation data to them. You can also move saved navigation data to a different group.

Create a New Group

1. Under Options, select Groups.
2. Select New Group.
3. Use the on-screen keyboard to name the new group.
4. Select Save.

Set the Default Group

Your navigation data is saved to My Data as the default group. The instructions in this section allow you to save your new navigation data to a different group, so as a waypoint, route, or track is saved, it will be saved to the group you've set up. You can assign waypoints, routes, and tracks to different groups, or you can assign them to the same group.

1. Under Options, select Waypoints, Routes, or Tracks.
2. Select Default Settings.
3. Select Group.
4. Select a group from the list.
To create a new group, Select New Group.
5. Repeat these instructions for each type of navigation data.


Move Navigation Data to a Group

1. Under Lists, select Waypoints, Routes, or Tracks.
2. Tap a saved item or use the Joystick to select it.
3. Press the ENTER key.
4. Select My Data [or the current group name].
5. Select a group from the list.
To create a new group, select New Group.

Delete All Navigation Data

The Delete All menu allows you to select a navigation data category and delete all items in that category. For example, if you select Delete All > Waypoints, all saved waypoints will be deleted.


To delete individual waypoints, or other individual navigation items, see the previous sections of *Manage your Navigation Data*.

 **WARNING!** Use this menu with caution!

1. Under Options, select Delete All.
2. Select a category. **Follow the on-screen prompts to confirm the deletion.**

Import/Export Navigation Data

APEX and SOLIX allow you to export your waypoints, routes, and tracks, so you can view the data on your personal computer. You can also import your navigation data.

 **WARNING!** Humminbird is not responsible for the loss of data files (waypoints, routes, tracks, groups, snapshots, recordings, etc.) that may occur due to direct or indirect damage to the unit's hardware or software. It is important to back up your control head's data files periodically. See our Web site at humminbird.com for details.

Import Navigation Data

Requirements: Humminbird navigation data saved as a GPX file.

1. Install the SD card (with navigation data) into the front control head port.
2. Press the HOME key.
3. Select the Files tool.
4. Under Import, select Nav Data.
5. Select a .GPX file. The navigation data will be imported to the control head.

Export Navigation Data

1. Install a formatted SD card into the front control head port.
2. Press the HOME key.
3. Select the Files tool.
4. Under Export, select Nav Data.
5. **Select a Save Location:** Select the port where the SD card is installed.

All saved navigation data will be exported to the selected location.

AUTOCHART LIVE OVERVIEW

AutoChart Live uses data from an installed GPS receiver and 2D transducer (down beam, digital CHIRP or single-frequency DualBeam PLUS or DualSpectrum) to create detailed depth maps of your favorite waters.

Map Source: Humminbird CoastMaster, Humminbird LakeMaster or Navionics

Storage: AutoChart Live **saves** 8 hours of mapping data on your control head. After 8 hours of data has been collected, you can erase the data and continue mapping, or you can purchase a ZeroLine Map Card for unlimited mapping.

ZeroLine Map Card: To purchase a ZeroLine Map Card and download the accessory guide, visit our Web site at humminbird.com.

More Information: Visit our Web site for informational videos.

PLAN YOUR MAP

Before getting started, consider the areas where you want to create a map. Review the following tips to help you plan your map:

General Tips

- Start with your favorite fishing hot spots. It is not recommended to record survey data of an entire lake, as it will require a lot of time to map and might include areas you don't want.
- Take a different route to and from each fishing spot every trip. You may discover new and interesting areas to map.
- Start a new track or recording when you start for the day. Record new data every trip to create new maps or improve existing maps.
- Navigate the boat at a consistent speed when recording data.
- See the illustration below for instruction on how to navigate your boat while recording survey data.

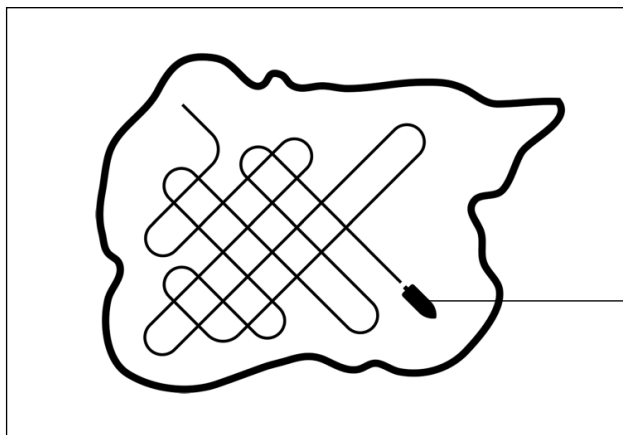
Mapping a Specific Area or Object in Detail

- Navigate the boat across the area rather than alongside.
- Turn the boat where the area and/or object is out of range of the transducer beam[s].
- Try to reduce the measurement time, so as to reduce the error due to possible GPS variations.

Mapping an Entire Lake

- Follow a plan.
- Follow the maximum gradient of the sea floor (up or down).
- Keep a steady speed. Trolling speeds to low speeds are recommended.
- Turn the boat where the bottom is flat if possible.

Navigating the Boat to Record Survey Data



Navigate your boat in a zig-zag pattern, first in one direction and then in the other.

1. PREPARE THE CONTROL HEAD FOR MAPPING

When you start your mapping for the day, it is important to note if the water level is higher or lower than usual. It is also important to use your 2D transducer beams exclusively.

1 | Set the Map Source

AutoChart LIVE can be used when Humminbird CoastMaster, Humminbird LakeMaster or Navionics is set as the map source. When you install a map card, the map source is changed automatically to match the SD card map source. If your control head has two cards installed, you can choose which map source you want to use. You can also change the map source using the Settings tool.

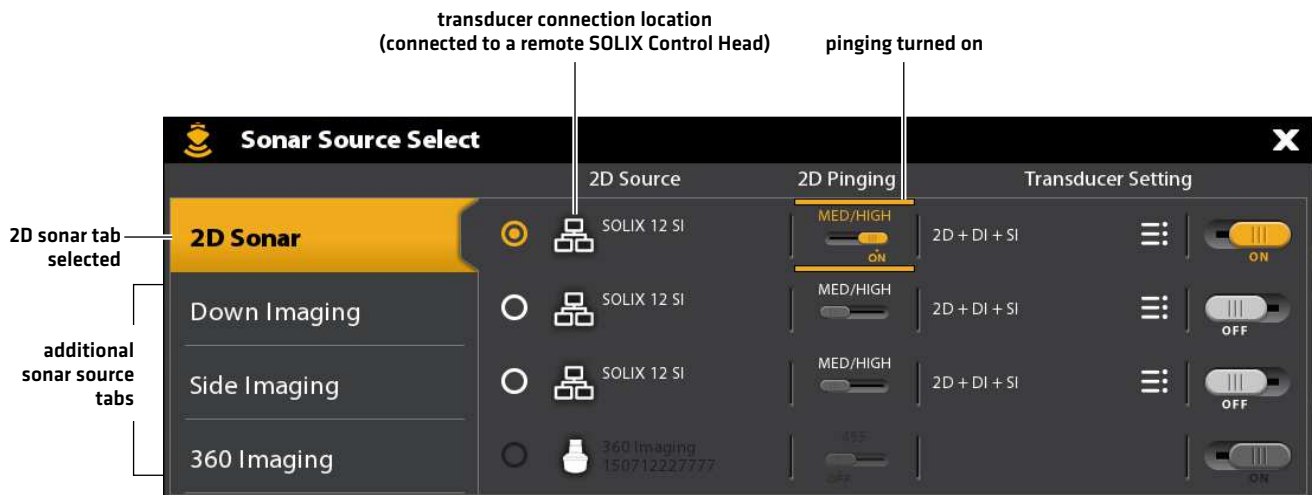
1. Press the HOME key.
2. Select Settings.
3. Select Chart.
4. Select Humminbird or Navionics.


2 | Confirm the 2D Transducer and Turn off Additional Transducers

To record your custom map, you must have a reliable and accurate digital depth from a pinging 2D transducer. You can use your Humminbird CHIRP transducer with 2D (down beam) capabilities, DualBeam PLUS transducer (83/200 kHz or 50/200 kHz), or the Side Imaging transducer with 2D (down beam) capabilities.

When you are recording your map, you should have only one 2D transducer pinging on your boat. If you have other 2D transducers pinging on remote control heads, you should turn them off. Down Imaging and Side Imaging beams can operate at the same time. You do not need to turn them off.

1. Press the HOME key.
2. Select Settings.
3. Select CHIRP Sonar.
4. Select Sonar Source.
5. Select the 2D Sonar tab.
6. Confirm that 2D Pinging is turned on. Tap the **2D Pinging** on/off button, or press the ENTER key, to turn it **on**.



 **NOTE:** For more information about the Sonar Source Select dialog box, see **Set up your Humminbird Network: Select Sonar Sources**.

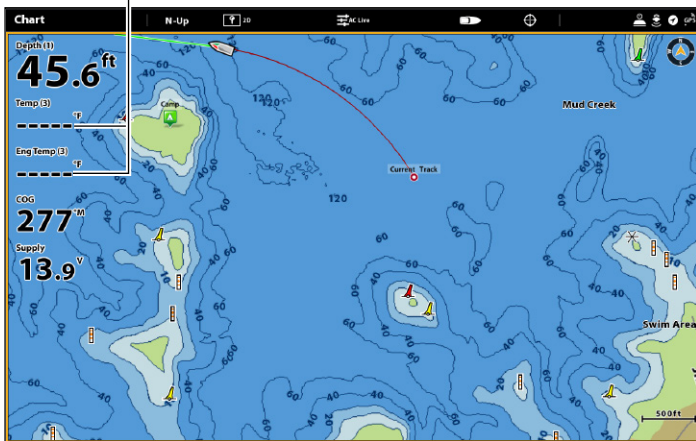
7. Press and hold the EXIT key to close the menu system.

- If there are additional control heads on your boat with a 2D transducer, confirm that they are not pinging while you are mapping. There should be only one 2D transducer pinging on your boat during the recording process.

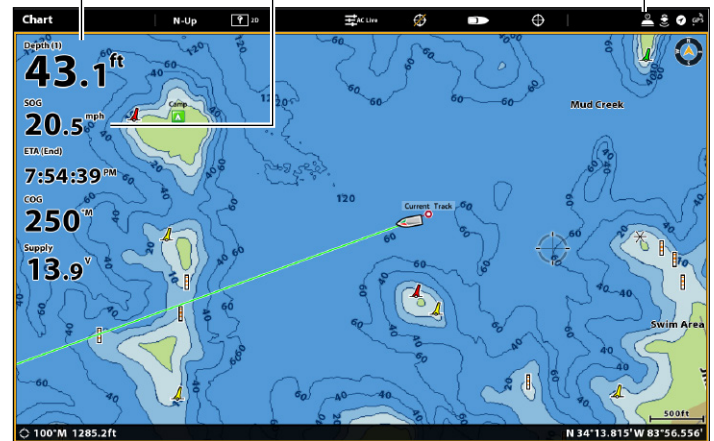
3 | Confirm Digital Depth and GPS Fix

- Press the HOME key.
- Select a Chart View from the Views tool or the Favorites bar.
- Confirm Digital Depth:** Confirm the depth digital readout is displayed. It may take a moment for depth to be displayed.
- Confirm GPS Fix:** Review the status bar and confirm the GPS icon is white. Confirm the speed digital readout is displayed. See *Getting Started: Check Sensor Reception and Connections* for more information.

digital depth missing



digital depth detected speed



4 | Adjust the Water Level Offset

When you start your mapping for the day, it is important to note if the water level is higher or lower than usual. For example, if you know the lake is down 3 feet, set the Water Level Offset to -3.

- With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
- Select Water Level Offset. Tap the on/off button, or press the ENTER key, to turn it on.
- Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

If the water level is higher than normal, set a positive amount.

If the water level is lower than normal, set a negative amount.

If the water level has not changed [normal], turn off Water Level Offset.

5 | Display the Current Track (optional)

It is helpful to display the current track so you can see where the boat has already traveled while you're recording the map.

1. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
2. Select Chart Options.
3. Select Overlays > Nav Data.
4. Tap the Nav Data on/off button, or press the ENTER key, to turn it on.
5. Add a check mark to Tracks [Active].
6. Press and hold the EXIT key until the menu system is closed.

To change the track color, see **Manage your Navigation Data: Manage Tracks**.

6 | Start a Sonar Recording for AutoChart PC (optional)

If you are planning to use AutoChart PC, start a sonar recording before you start recording your custom map. Sonar Recording can be started from the Recordings tool or from the X-Press Menu in a Sonar View. The instructions for the Recordings tool are shown here.

1. Press the HOME key.
2. Select the Recordings tool.
3. Select Record Sonar.
4. Select Recording Sources. Tap 2D Sonar, or press the ENTER key, to add a check mark to the box.
5. Press the EXIT key.
6. Select Start Recording.



NOTE: For more information, see **Sonar Recording**. Also, visit our Web site at **humminbird.com** to purchase AutoChart PC and download the manual.

2. RECORD YOUR CUSTOM MAP

While recording your custom map, Chart View will display the depth contour data in real time. Bottom hardness and vegetation will be recording at the same time, however, the data is not displayed in real time on the Chart View.

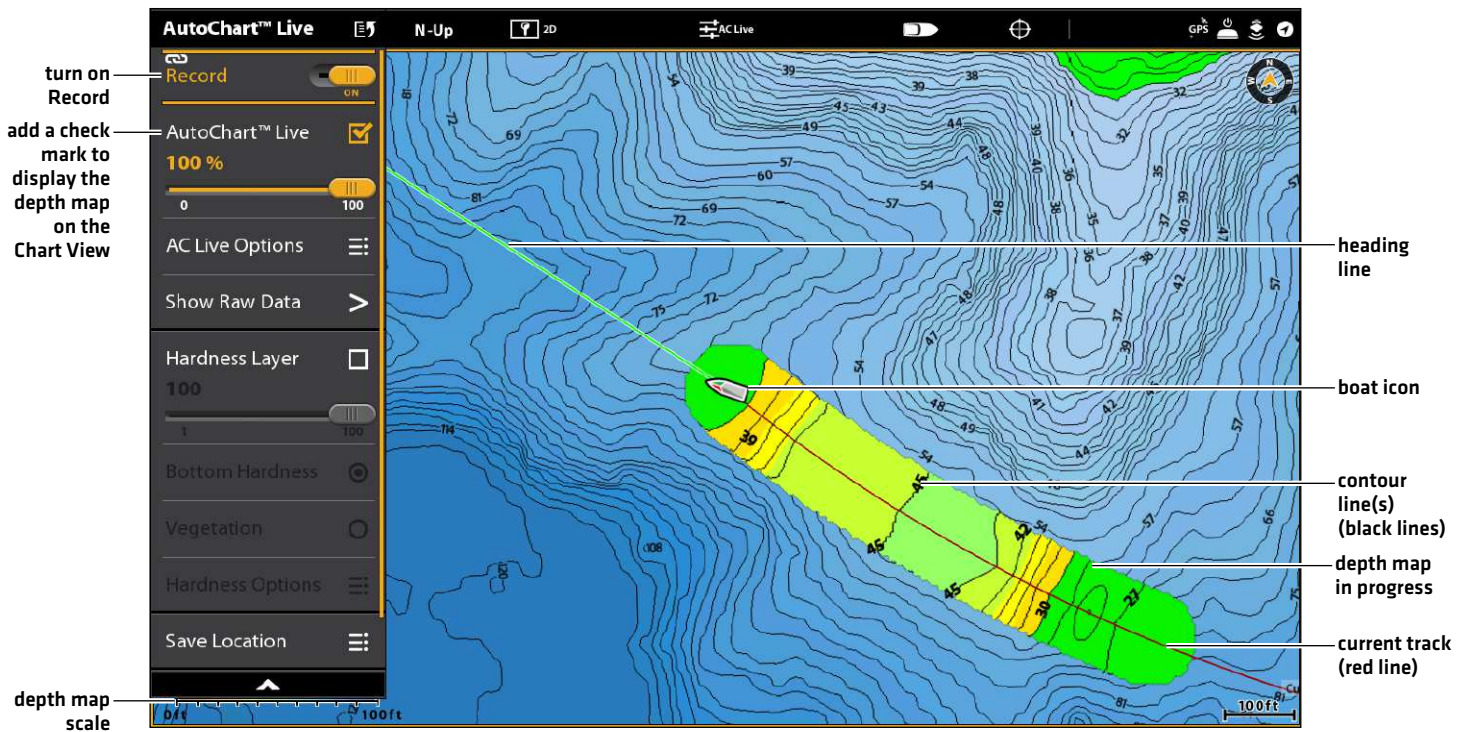
1. **Preparation:** Before you start mapping for the day, confirm that the control head is set up as shown in the section *Prepare the Control Head for Mapping*.
2. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
3. Select AutoChart LIVE.
4. Select Record.
5. Tap the on/off button, or press the ENTER key, to turn it on.

Display: Select AutoChart LIVE. Tap the check box, or press the ENTER key, to add a check mark to it.

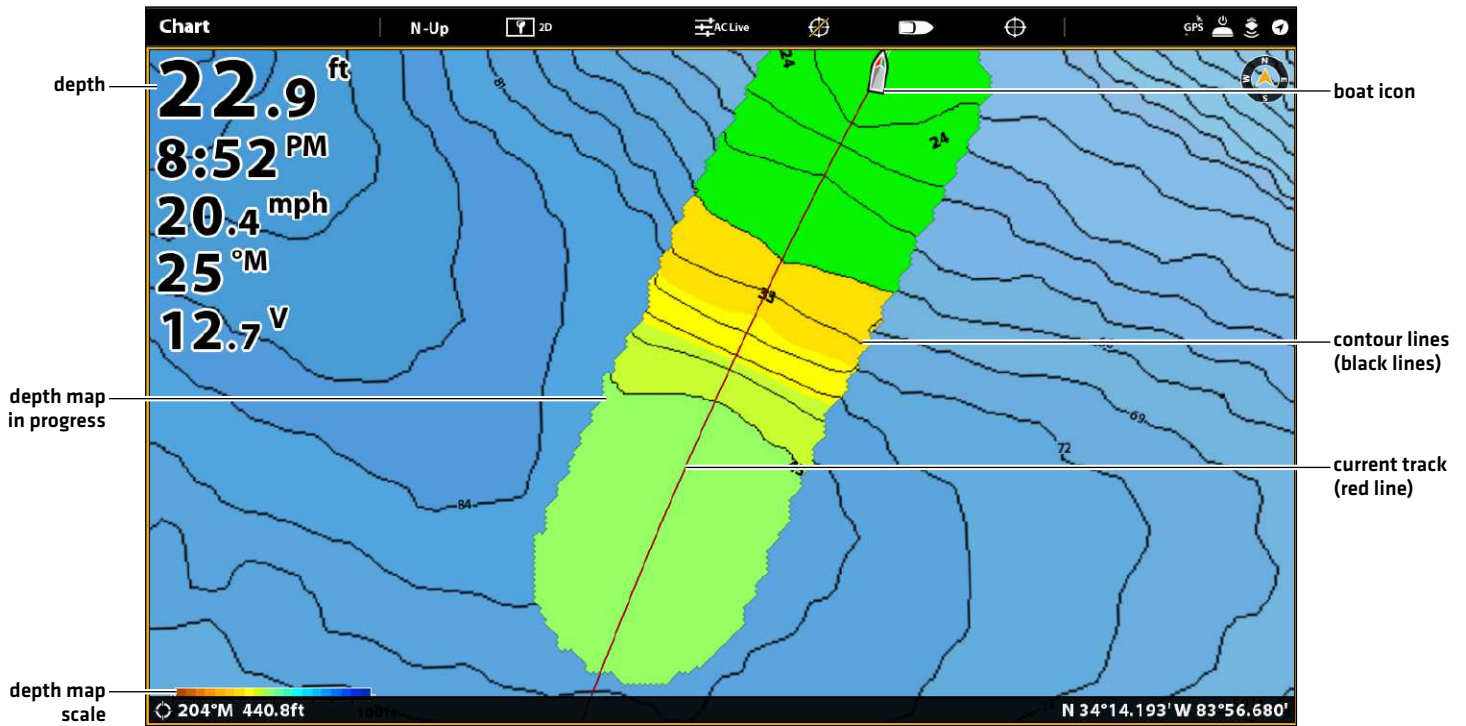
Zoom In: Press the + ZOOM key to see the depth data on the Chart View.

Navigate your boat in a zig-zag pattern, first in one direction and then in the other. Maintain a consistent low speed to trolling speed while you map. See *Plan your Map* for details.

Starting an AutoChart LIVE Recording



Collecting Data for your AutoChart LIVE Map



3. STOP RECORDING

Use the instructions in this section to stop recording. Your map is automatically saved to the control head [internal] or to the ZeroLine Map Card if it is installed.

1. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
2. Select AutoChart LIVE.
3. Select Record. Tap the on/off button, or press the ENTER key, to turn it off.

If you do not have a Zero Line Map Card installed, and the control head storage [8 hours] is reached, the control head will provide a dialog box to Confirm or Clear Data. To save your map and turn off recording, select Confirm. To erase your map and start over, select Clear Data.

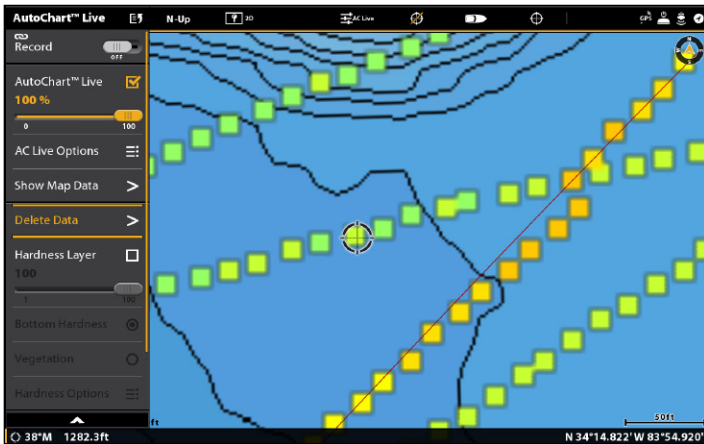
CORRECT DATA

If you see an irregularity in the data [such as lost depth], it can be corrected. Recording must be turned off while you correct the data.

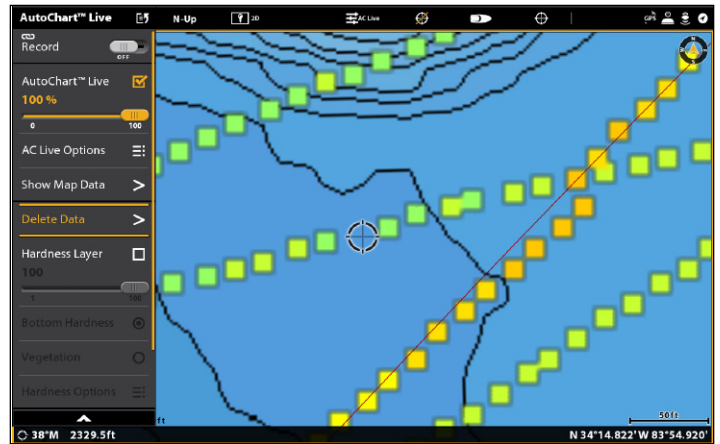
1. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
2. Select AutoChart LIVE.
3. **Turn Off Recording:** Select Record. Tap the on/off button, or press the ENTER key, to turn it off.
4. Select Show Raw Data.
5. Press the +ZOOM key to see individual data points.
6. Tap the data point, or use the Joystick to select the data point.
7. From the AutoChart LIVE menu, select Delete Data.

Optional: Record the area again. See *Record your Custom Map*.

Selecting a Data Point



The Data Point is Removed



DISPLAY THE AUTOCHART LIVE MAP

You can make changes to the AutoChart Live map during recording or after you've saved your map. You can also view bottom hardness or vegetation data, and you can customize how the data is displayed.

Display/Hide your Custom Map

The custom map can be displayed or hidden while you are recording or after the map is saved. You can also adjust the transparency.

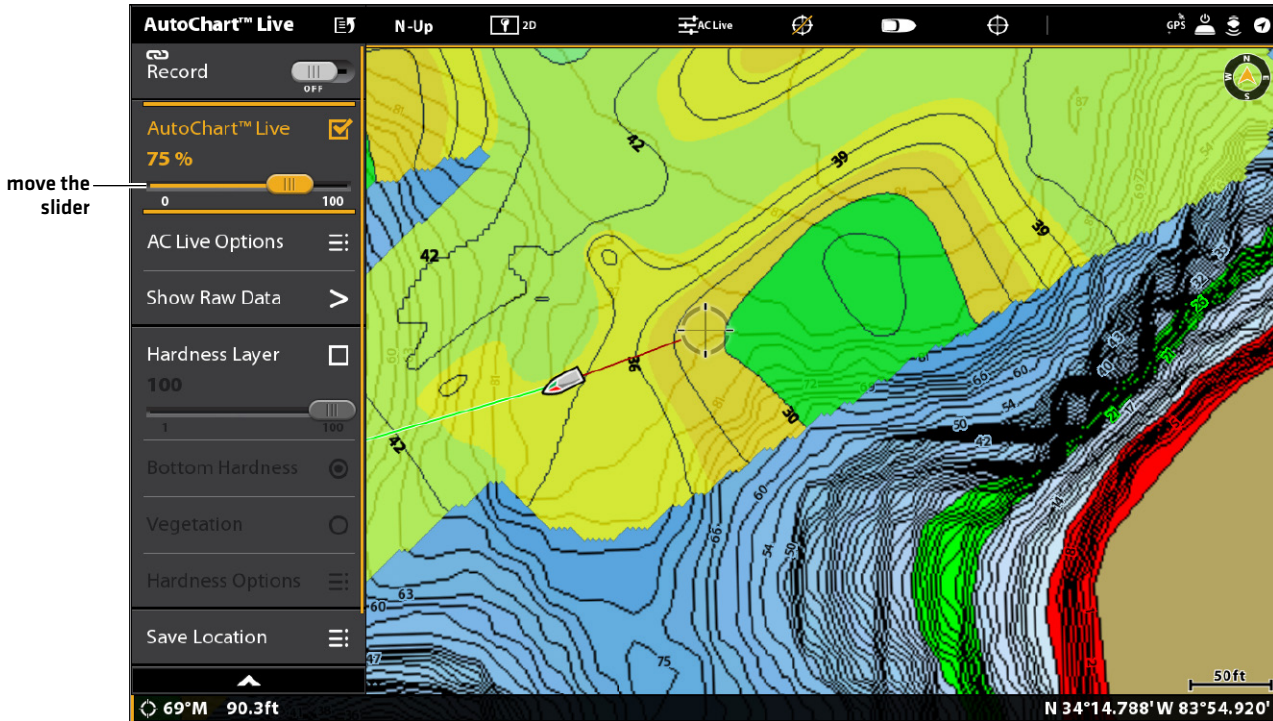
Display the Map

1. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
2. Select AutoChart LIVE.
3. Select AutoChart LIVE. Tap the check box, or press the ENTER key, to add a check mark to it.

Adjust the Transparency

1. Press and hold the AutoChart LIVE slider, or turn the Rotary dial, to adjust the transparency.

Adjusting the Overlay Transparency



Hide the Map

1. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
2. Select AutoChart LIVE.
3. Select AutoChart LIVE. Tap the check box, or press the ENTER key, to remove the check mark.

Display the AC Live Color Bar

The AC Live Color bar allows you to display the palette icon for AutoChart Live or Bottom Type. You can use this icon to see the selected palette and, from left to right, the AutoChart Live depth range [low to high], Bottom Hardness range [soft to hard], or Vegetation range [soft to hard].

Show/Hide the AC Live Color Bar

1. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
2. Select Chart Options.
3. Select Overlays > AC Live Color Bar.
4. Select Color Bar. Tap, or press the ENTER key, to turn it on.
5. Select a display bar.

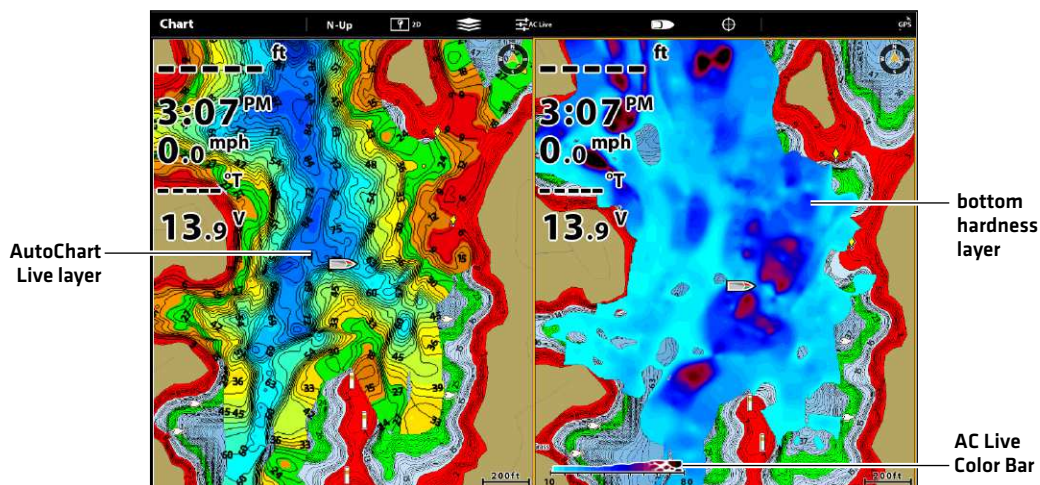
Display AutoChart Live and Bottom Layer in Chart/Chart Combo View

You can also use the Chart/Chart Combo View to display AutoChart Live and Bottom Layer data at the same time. Use the X-Press Menu to make adjustments to each pane.

Display AutoChart Live and Bottom Layer Data in the Chart/Chart Combo View

1. Press the HOME key.
2. Open the Views tool.
3. Select a Chart/Chart Combo View.
4. With the Chart/Chart Combo View displayed on-screen, select a pane.
5. Tap Chart in the status bar, or press the MENU key once.
6. Select AutoChart Live.
7. Select Vegetation Layer or Hardness Layer. Tap the check box, or press the ENTER key, to add a check mark to it.
8. **Adjust the Transparency:** Press and hold the slider, or turn the Rotary dial, to adjust the transparency.
9. **Close:** Press the EXIT key until the menu is closed.
10. **Repeat:** Repeat steps 4 through 6.
11. Select AutoChart Live. Tap the check box, or press the ENTER key, to add a check mark to it.
12. **Adjust the Transparency:** Press and hold the slider, or turn the Rotary dial, to adjust the transparency.

Displaying AutoChart Live and Bottom Layer in Chart/Chart Combo View



ADJUST THE MAP DISPLAY SETTINGS

Use the AutoChart Live Options menu to adjust the depth range, contour interval, and map position. You can also change the color palette and shading.

Some of the menu options in this section may be displayed in other parts of the menu system so that you can access them quickly. No matter where you make the change, the control head will update the setting across the system.

Open the AutoChart Live Options Menu

You will use the AutoChart Live Options menu for all display settings.

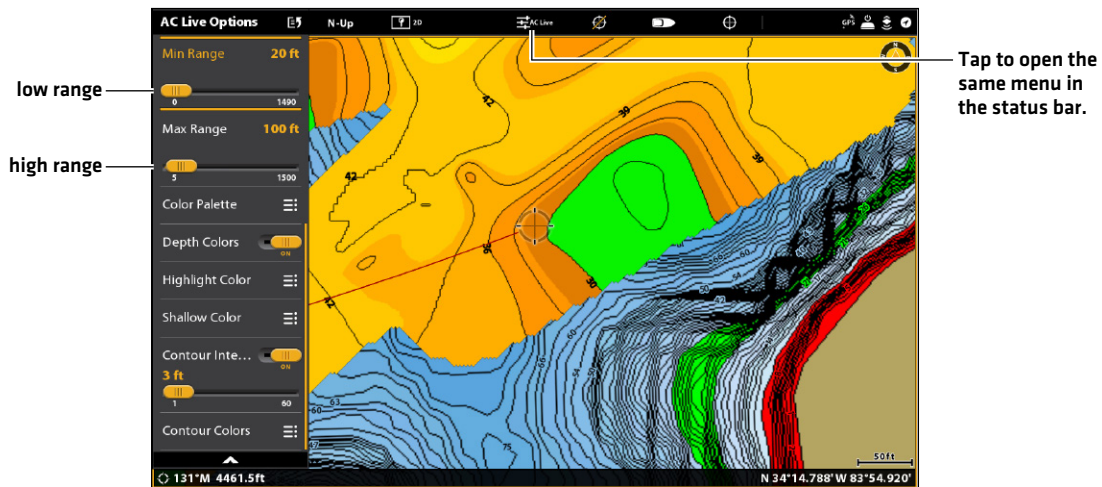
1. With a Chart View displayed on-screen, tap Chart in the status bar, or press the MENU key once.
2. Select AutoChart LIVE.
3. Select AC Live Options.

Adjust the Depth Range

You can adjust the range of data shown on the chart by changing the minimum range and maximum range on the display. The range you select affects how the depth colors are displayed. For best results, set a narrow depth range threshold. For example, set the Min Range to 10 and the Max Range to 30. For related color or shading options, see **Add Settings with Chart Options**.

1. From the AC Live Options menu, select Min Range.
2. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.
3. Select Max Range.
4. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Adjusting the Display Depth Range

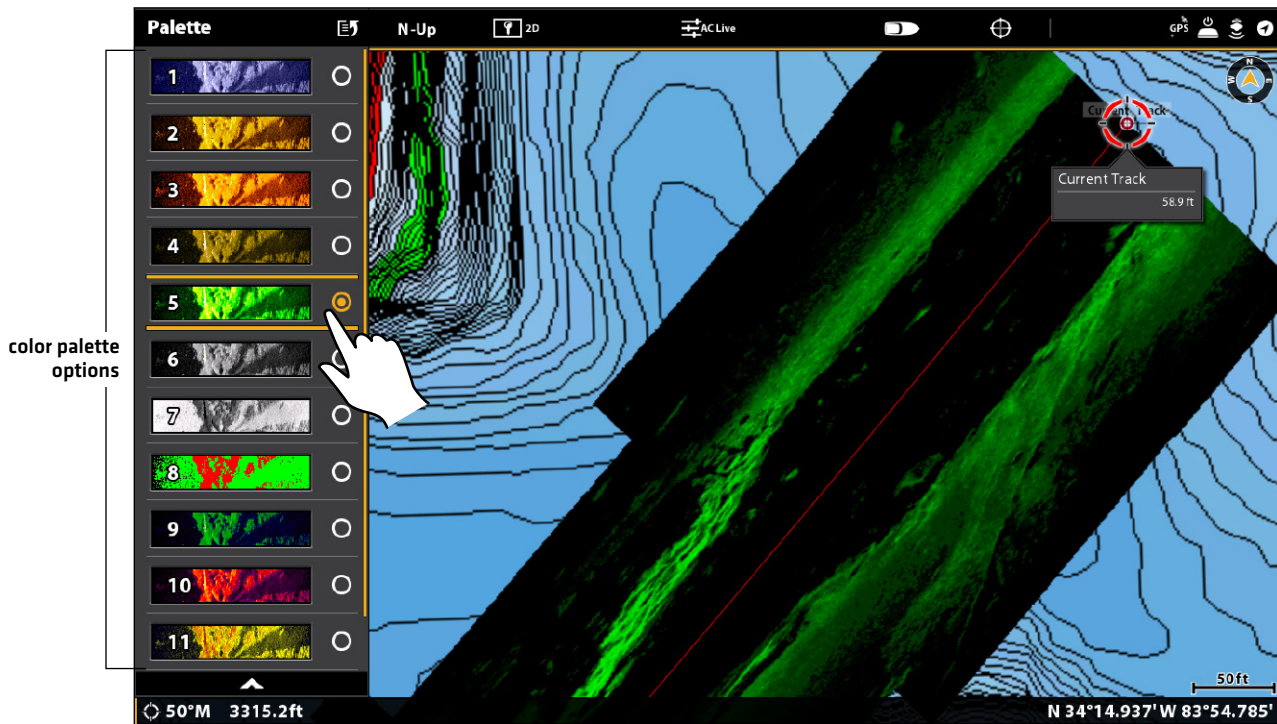


QUICK TIP! You can also select this menu on the status bar. See the illustration above.

Change the Display Colors

Use the following instructions to change the color palette used to display the AutoChart Live map.

Changing the AutoChart Live Color Palette



Change the Color Palette

The Color Palette menu changes the colors used to display the AutoChart Live map. The color range is shown in the AC Live Color bar and is affected by the Min Range and Max Range settings. See [Adjust the Depth Range](#) for more information.

1. From the AutoChart Live Options menu, select Color Palette.
2. Select a palette.

Show/Hide Depth Colors

Use the following instructions to show or hide the depth colors. If you hide the depth colors, the contours will be shown on the display.

1. From the AutoChart Live Options menu, select Depth Colors.
2. Tap the on/off button, or press the ENTER key, to turn it On [visible] or Off [hidden].

Change the Highlight Color

If you've set the Depth Highlight and Depth Highlight Range in the Humminbird Settings menu [Chart X-Press Menu > Humminbird Settings], and it is not easy to see with the AutoChart Live color palette you've selected, you can change the Highlight Color. See [Customize the Chart View](#) for more information.

1. From the AutoChart Live Options menu, select Highlight Color.
2. Select a color.

Change the Shallow Color

If you've set the Shallow Water Highlight in the Humminbird Settings menu [Chart X-Press Menu > Humminbird Settings], and it is not easy to see with the AutoChart Live color palette you've selected, you can change the Shallow Color. See **Customize the Chart View** for more information.

1. From the AutoChart Live Options menu, select Shallow Color.
2. Select a color.

Display or Adjust the Contour Interval

You can display or hide the contour lines on the map, and you can adjust the slider to set the distance between each contour line. Contour Interval is also affected by the Water Level Offset setting.

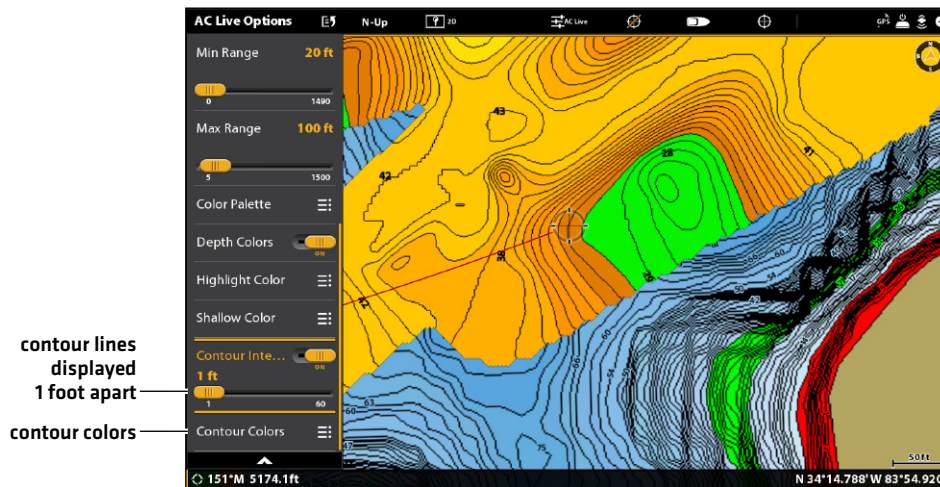
Display the Contour Lines and Adjust the Contour Interval

1. From the AutoChart Live Options menu, select Contour Interval.
2. Tap the on/off button, or press the ENTER key, to turn it on.
3. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Change the Contour Lines Color

1. From the AutoChart Live Options menu, select Contour Colors.
2. Select a color.

Adjusting the Contour Interval



Display Raw or Map Data

Select Show Map Data to display contour lines and depth data. Select Show Raw Data to display individual data points.

1. From the AutoChart Live menu, select Show Raw Data or Show Map Data.
2. Press the ENTER key.

Change the Water Level Offset

When you start your mapping for the day, it is important to note if the water level is higher or lower than usual. See *Prepare the Control Head for Mapping* for more information.

1. From the AutoChart Live Options menu, select Water Level Offset.
2. Tap the on/off button, or press the ENTER key, to turn it on.
3. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

If the water level is higher than normal, set a positive amount.

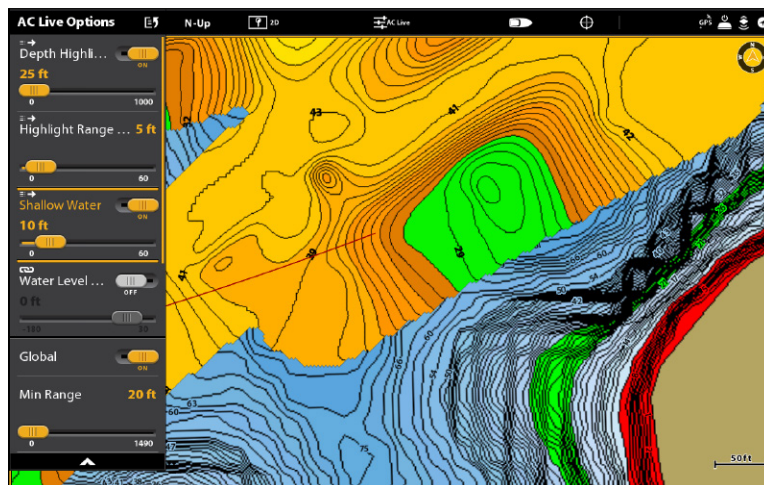
If the water level is lower than normal, set a negative amount.

If the water level has not changed [normal], turn off Water Level Offset.

Add Humminbird Chart Settings

If Humminbird is set as the map source, you can add Depth Colors, Shallow Water, etc. to your AutoChart LIVE map. See *Customize the Chart View: Adjust the Depth Range and Colors* for more information.

Adding Shallow Water Settings to the Map [Map Source: Humminbird]



Add Navionics Settings with Chart Options

If Navionics is set as the map source, you can display Contours and Shading on your AutoChart LIVE map. See *Customize the Chart View: Select Map Data* for more information.

CUSTOMIZE THE BOTTOM HARDNESS DISPLAY SETTINGS

The bottom layer is displayed on top of the AutoChart Live map and can be displayed as bottom hardness or vegetation. Bottom Hardness shows strong sonar returns resulting from compacted sediment, rocks, fallen trees, etc.

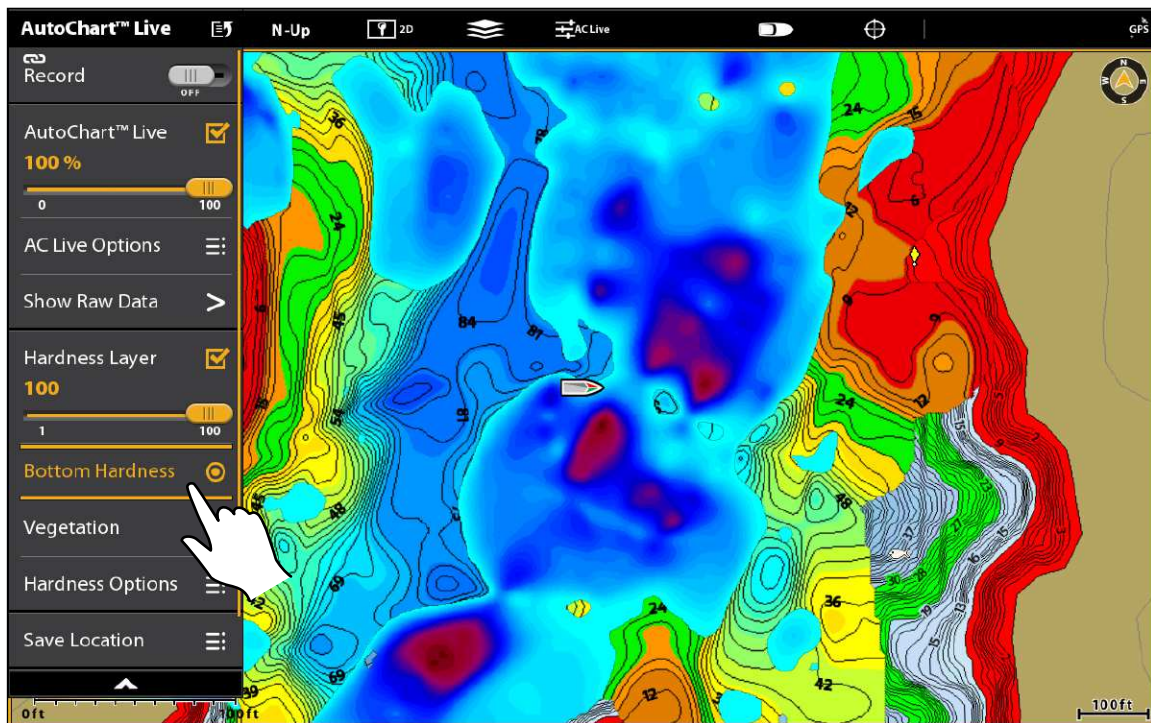
Show/Hide Bottom Hardness

The bottom layer is displayed on top of the AutoChart Live map, and you can adjust the transparency to see different layers on the view. Both bottom hardness and bottom vegetation cannot be displayed at the same time in Chart View.

Show Bottom Hardness

1. From the AutoChart Live menu, select Hardness Layer or Vegetation Layer. Tap, or press the ENTER key, to add a check mark to the box.
2. Select Bottom Hardness.
3. **Adjust the Transparency:** Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Displaying the Bottom Hardness Layer (Map Source: Humminbird)



Hide Bottom Hardness

1. From the AutoChart Live menu, select Hardness Layer. Tap, or press the ENTER key, to remove the check mark from the box.

Adjust the Gain Offset

Use Gain Offset to tune the bottom hardness display. For example, if you're fishing a lake where most of the lake has a hard bottom, reduce the gain so only the hardest bottom is displayed.

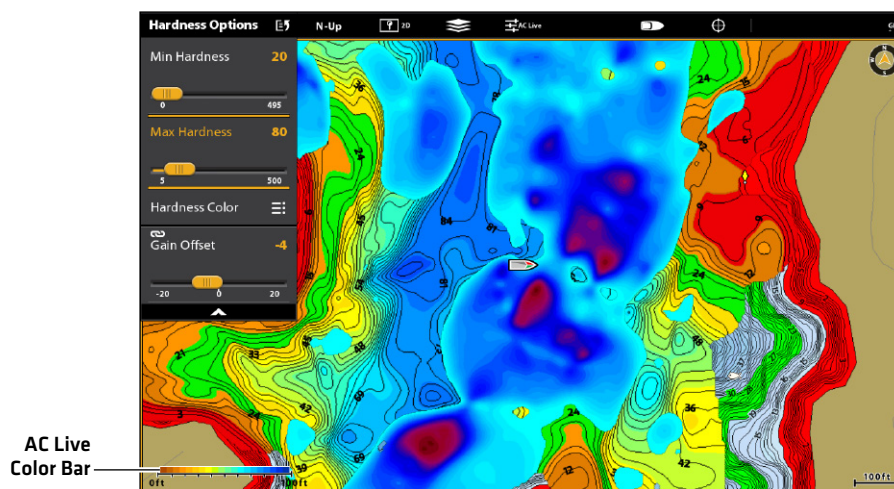
1. From the AutoChart Live menu, select Hardness Options.
2. Select Gain Offset.
3. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Adjust the Hardness Range

You can adjust the range of bottom hardness shown on the chart by changing the minimum range and maximum range on the display. The range you select affects how the bottom hardness colors are displayed. The range is displayed in the AC Live Color Bar with Bottom Hardness selected.

1. From the AutoChart Live menu, select Hardness Options.
2. Select Min Hardness. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.
3. Select Max Hardness. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Adjusting the Bottom Hardness Range (Map Source: Humminbird)



NOTE: Use the AC Live Color Bar icon see the selected palette and, from left to right, the AutoChart Live depth range [low to high], Bottom Hardness range [soft to hard], or Vegetation range [soft to hard].

Change the Bottom Hardness Colors

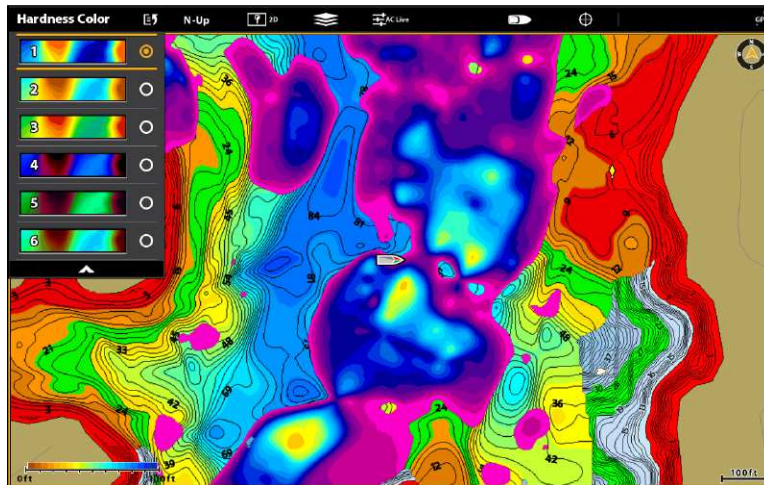
Use the following instructions to change the color palette used to display Bottom Hardness.

Change the Hardness Colors

The Hardness Color menu changes the colors used to display bottom hardness on the view. The color range is shown in the AC Live Color bar and is affected by the Min Hardness and Max Hardness settings. See **Adjust the Hardness Range** for more information.

1. From the AutoChart Live menu, select Hardness Options.
2. Select Hardness Color.
3. Select a palette.

**Changing the Bottom Hardness Colors
(Map Source: Humminbird)**



CUSTOMIZE THE VEGETATION DISPLAY SETTINGS

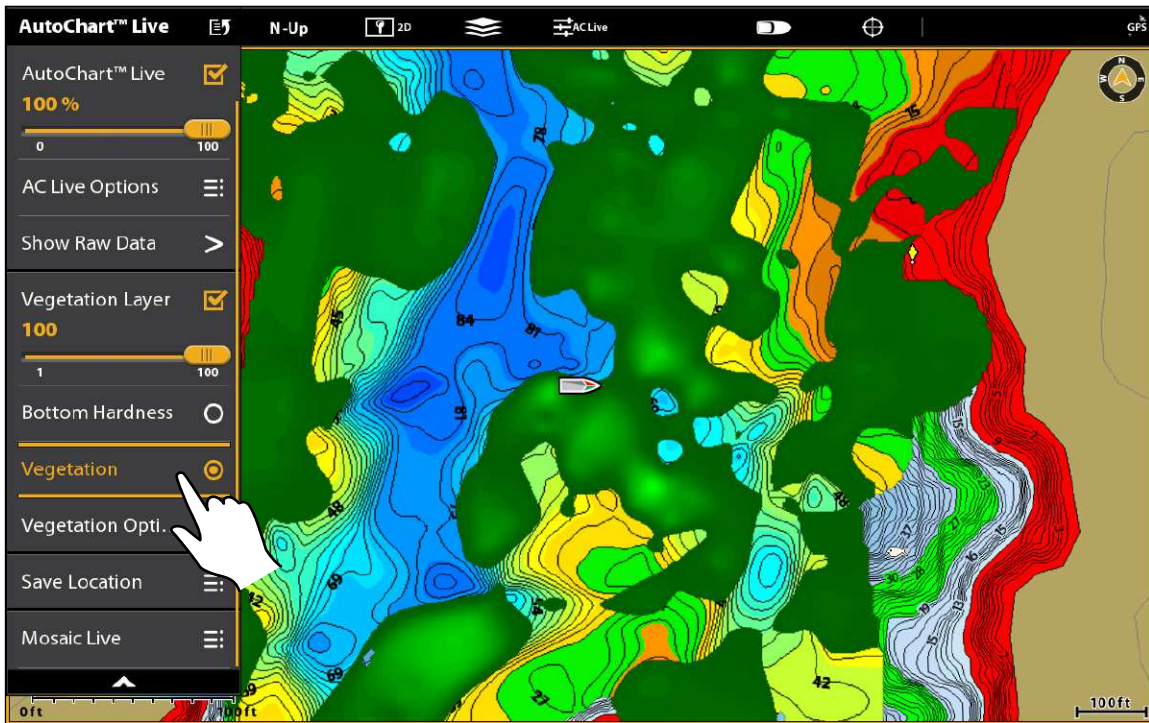
The Bottom Layer is displayed on top of the AutoChart Live map and can be displayed as bottom hardness or vegetation. Vegetation shows the sonar returns interpreted as vegetation on the Chart View. Both bottom hardness and bottom vegetation cannot be displayed at the same time in Chart View.

Show/Hide Vegetation

Show Vegetation

1. From the AutoChart Live menu, select Hardness Layer or Vegetation Layer. Tap, or press the ENTER key, to add a check mark to the box.
2. Select Vegetation.
3. **Adjust the Transparency:** Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Displaying the Vegetation Layer (Map Source: Humminbird)



Hide Vegetation

1. From the AutoChart Live menu, select Vegetation Layer. Tap, or press the ENTER key, to remove the check mark from the box.

Adjust the Gain Offset

Use Gain Offset to tune the vegetation display. Vegetation will vary with the lake, season, or environment you are fishing, and you should adjust the Gain Offset as needed.

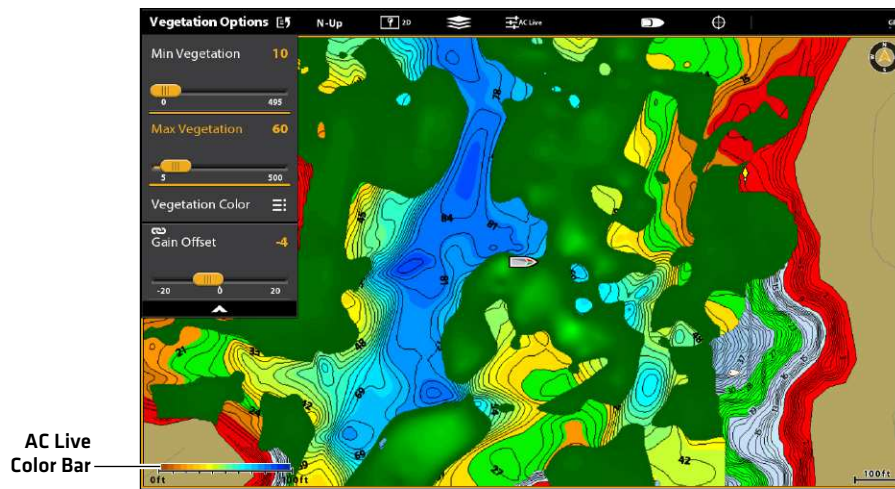
1. From the AutoChart Live menu, select Vegetation Options.
2. Select Gain Offset.
3. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Adjust the Vegetation Range

You can adjust the range of vegetation shown on the chart by changing the minimum range and maximum range on the display. The range you select affects how the vegetation colors are displayed.

1. From the AutoChart Live menu, select Vegetation Options.
2. Select Min Vegetation. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.
3. Select Max Vegetation. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Adjusting the Vegetation Hardness Range (Map Source: Humminbird)

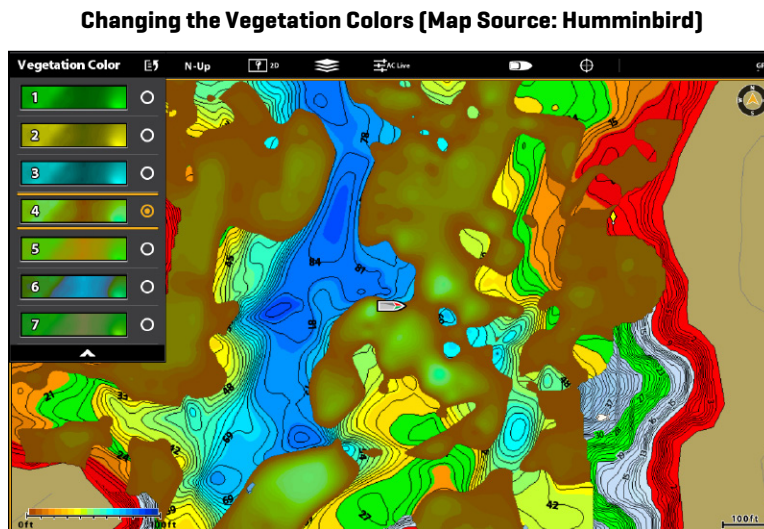



NOTE: Use the AC Live Color Bar icon see the selected palette and, from left to right, the AutoChart Live depth range [low to high], Bottom Hardness range [soft to hard], or Vegetation range [soft to hard].

Change the Vegetation Colors

The Vegetation Color menu changes the colors used to display vegetation on the view. The color range is shown in the AC Live Color bar and is affected by the Min Vegetation and Max Vegetation settings. See *Adjust the Vegetation Range* for more information.

1. From the AutoChart Live menu, select Vegetation Options.
2. Select Vegetation Color.
3. Select a palette.



 **NOTE:** Use the AC Live Color Bar icon see the selected palette and, from left to right, the AutoChart Live depth range [low to high], Bottom Hardness range [soft to hard], or Vegetation range [soft to hard].

MOSAIC LIVE OVERVIEW

The Mosaic Live feature allows you to display Side Imaging data on the Chart View. A Mosaic can be displayed as an overlay while it is being recorded, and you can display saved Mosaics on the Chart View. Mosaic can also be used with a 360 Imaging transducer [separate purchase required].

Required Equipment: A Side Imaging transducer or a 360 Imaging transducer, and an SD Card to save recordings.

Map Source: Humminbird CoastMaster, Humminbird LakeMaster or Navionics

AutoChart PC: To display Mosaic Live data in AutoChart PC, use Sonar Recording. See the **Sonar Recording** section of this manual and the AutoChart PC Installation and Operations Guide for details [separate purchase required].

Accessories: To purchase a 360 Imaging transducer, AutoChart PC, or other related equipment, visit our Web site at humminbird.com.

FOR BEST PERFORMANCE

Many of the features that are available on the Side Imaging View or 360 Imaging View are available when a Mosaic is displayed on the Chart View.

If you are using a Side Imaging transducer or 360 Imaging transducer to display Mosaic Live data, it is important to consider the following tips for best performance:

Side Imaging Transducer

- **Vessel Speed:** 2 to 6 mph
- Straight line navigation
- Minimum turning time and wave turbulence
- To understand how Side Imaging works, review the **Side Imaging Overview** section of this manual.

360 Imaging Transducer

- **Vessel Speed:** 0 to 7 mph. The transducer pod should NOT be in the water during high speed travel.
- Straight line navigation
- Minimum turning time and wave turbulence
- To understand how 360 Imaging works, review the manual that is included with the transducer.

When recording the Mosaic, you should have only one Side Imaging sonar source pinging on your boat. To select a Side Imaging sonar source or confirm pinging, see **Set up your Humminbird Network: Select Sonar Sources**.

OPEN THE MOSAIC LIVE MENU

1. Press the HOME key.
2. Select a Chart View.
3. Tap Chart in the status bar, or press the MENU key once.
4. Select AutoChart Live.
5. Select Mosaic Live.

Record and Save a Mosaic

When you record a Mosaic, the control head displays the data as an overlay on the Chart View. If you are planning to use AutoChart PC, start a sonar recording before you start recording your Mosaic [see **Sonar Recording**].

The Mosaic must be saved when you are finished recording or before you power off the control head, or the data will be lost. See the instructions below.

1. Open the Mosaic Live Menu.
2. Select Record. Tap the on/off button, or press the ENTER key, to turn it on.

Speed: See **For Best Performance** in this section.

Display the Mosaic: Select Mosaic. Tap the check box, or press the ENTER key, to add a check mark to it.

3. **Save:** Open the Mosaic Live Menu. Select Save Mosaic.
4. **Select the Save Location:** Select Save Location. Select the location where an unlocked SD card is installed [SD Card 1 or SD Card 2].
5. Press the EXIT key.
6. Select Save.



WARNING! A Mosaic must be saved when you are finished recording or before you power off the control head, or the data will be lost. Save the recording before you turn off the Record menu.

7. **Stop Recording:** Select Record. Tap the on/off button, or press the ENTER key, to turn it off.

Recording a Mosaic in the Chart View

The screenshot displays the Mosaic Live software interface. On the left, a settings panel includes a 'Record' toggle (ON), a 'Mosaic' checkmark, a 'Mosaic Live List' icon, a 'Save Mosaic' icon, 'Sensitivity' set to 10, 'Contrast' set to 10, and 'Contour Mode' set to OFF. The main chart area shows a bathymetric map with a yellow-green water column, a red 'Current Track' line, and a 'bottom return' line. A white double-headed arrow indicates the width of the water column. A 'Current Track' popup shows a distance of 58.9 ft. A scale bar for 50 ft and coordinates (N 39°M 392.9ft and N 34°14.937' W 83°54.785') are visible at the bottom.

Annotations on the left side of the image:

- turn on Record
- add a check mark to display the Mosaic on the Chart View

Annotations on the right side of the image:

- bottom return
- current track (red line)
- water column

CUSTOMIZE THE MOSAIC LIVE DISPLAY

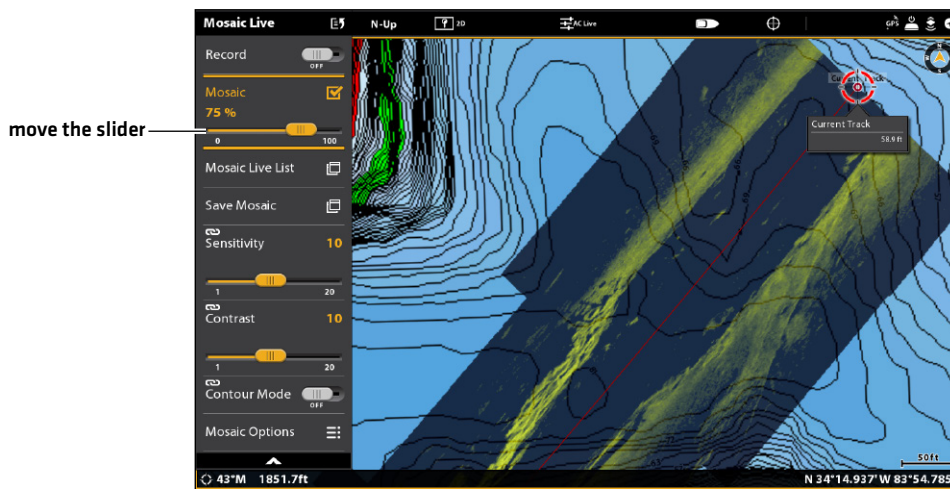
You can display or hide a Mosaic, and you can adjust the Mosaic Live display settings while it is being recorded or when it is loaded on the Chart View.

Display/Hide the Mosaic Live Overlay

Use the instructions in this section to display or hide the Mosaic overlay. You can also adjust the transparency.

1. From the Mosaic Live menu, select Mosaic.
2. **Display:** Tap the check box, or press the ENTER key, to add a check mark to it.
Hide: Tap the check box, or press the ENTER key, to remove the check mark.
3. **Adjust the Overlay Transparency:** Press and hold the slider, or press and hold the ENTER key.

Adjusting the Mosaic Overlay Transparency



Load a Saved Mosaic

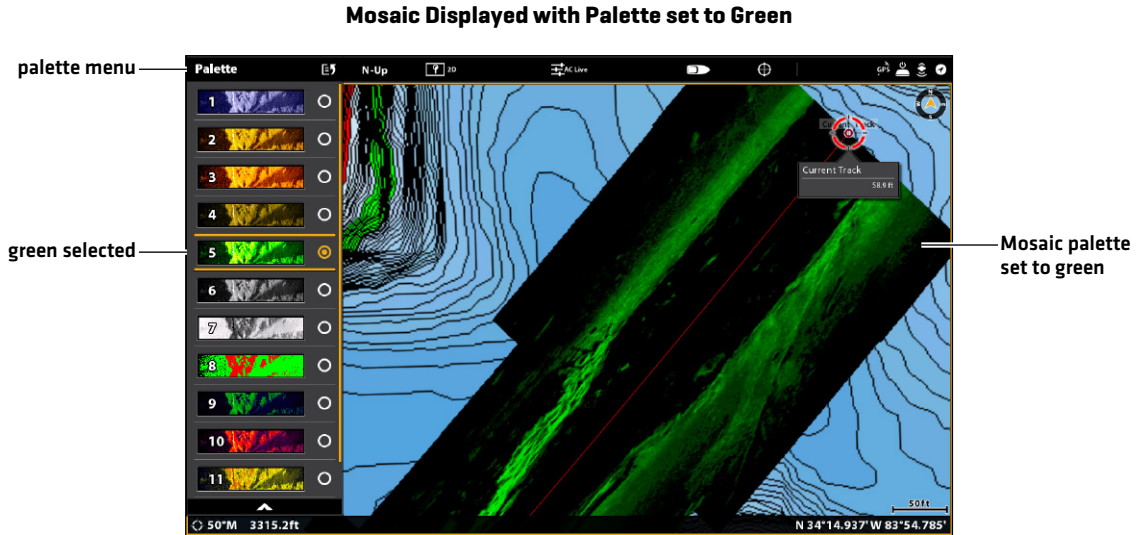
Use the instructions in this section to display a saved Mosaic. Mosaics can be displayed from a SD Card.

1. From the Mosaic Live menu, select Mosaic Live List.
2. Select the location where the SD card is installed [SD Card 1 or SD Card 2].
3. Select the Mosaic file.

Change the Palette

The Palette menu changes the colors used to display the Mosaic. The palette can be changed while a Mosaic is being recorded, or it can be applied to a saved Mosaic on the Chart View.

1. From the Mosaic Live menu, select Mosaic Options.
2. Select Palette.
3. Select a color palette.



Change the Drawing Mode

You can also change how the Mosaic is drawn on the Chart View while it is being recorded.

1. From the Mosaic Live menu, select Mosaic Options.
2. Select Drawing Mode.
3. Select one of the following options:

Overwrite	If the boat travels over the same area, the old data will be deleted, and the most recent data will be displayed.
Blend	If the boat travels over the same area, AutoChart LIVE will mix the old data and new data on the display.
Keep Maximum	If the boat travels over the same area, AutoChart LIVE will prioritize the strong returns over the weak returns on the display.
Keep Nearest	If the boat travels over the same area, AutoChart LIVE will display the data closest to the boat.

Turn on/off Gain Correct

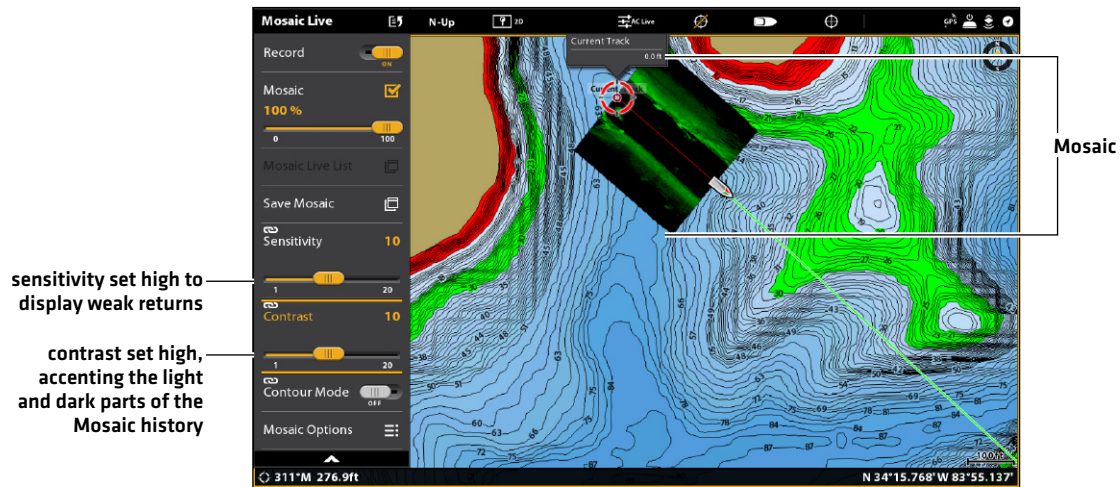
Turn on Gain Correct to automatically tune the transducer signal and filter any clutter that may show up in the Mosaic Live data.

1. From the Mosaic Live Menu, select Mosaic Options.
2. Select Gain Correct.
3. Tap the on/off button, or press the ENTER key, to turn it on or off.

Adjust the Sensitivity and Contrast

The sensitivity and contrast can be adjusted while the Mosaic is being recorded or it can be adjusted when a saved Mosaic is loaded onto the Chart View.

Adjusting the Sensitivity and Contrast



Adjust the Sensitivity and Contrast

1. From the Mosaic Live Menu, select Sensitivity or Contrast.
2. Press and hold the slider, or turn the Rotary dial, to adjust the setting.

Sensitivity	Sensitivity controls how much detail is shown on the display and will adjust the sensitivity of all sonar frequencies. Decrease the sensitivity to eliminate the clutter from the display that is sometimes present in murky or muddy water. When operating in very clear water or greater depths, increase the sensitivity to see weaker returns that may be of interest.
Contrast	Adjust the Contrast setting to accent the light and dark parts of the Mosaic data to provide greater definition.

Turn on/off Contour Mode

Contour Mode controls how the water column is displayed in the Mosaic. The location of a target in the Mosaic is influenced by the Contour Mode setting. For more information, see *Customize the Side Imaging View: Turn on/off Contour Mode*.

When Contour Mode turned off, the water column is displayed on the view. The location of a target on the display is based on the slant range to the target.

When Contour Mode is turned on, the bottom is graphed at a constant point on the display, regardless of changes in depth. The Side Imaging beams are divided by a vertical line. The water column is removed from the view, which allows the display to show targets at their linear horizontal distance. The location of a target may be easier to interpret when the water column is removed.

Turn on/off Contour Mode

1. From the Mosaic Live menu, select Contour Mode.
2. Tap the on/off button, or press the ENTER key, to turn it on/off.

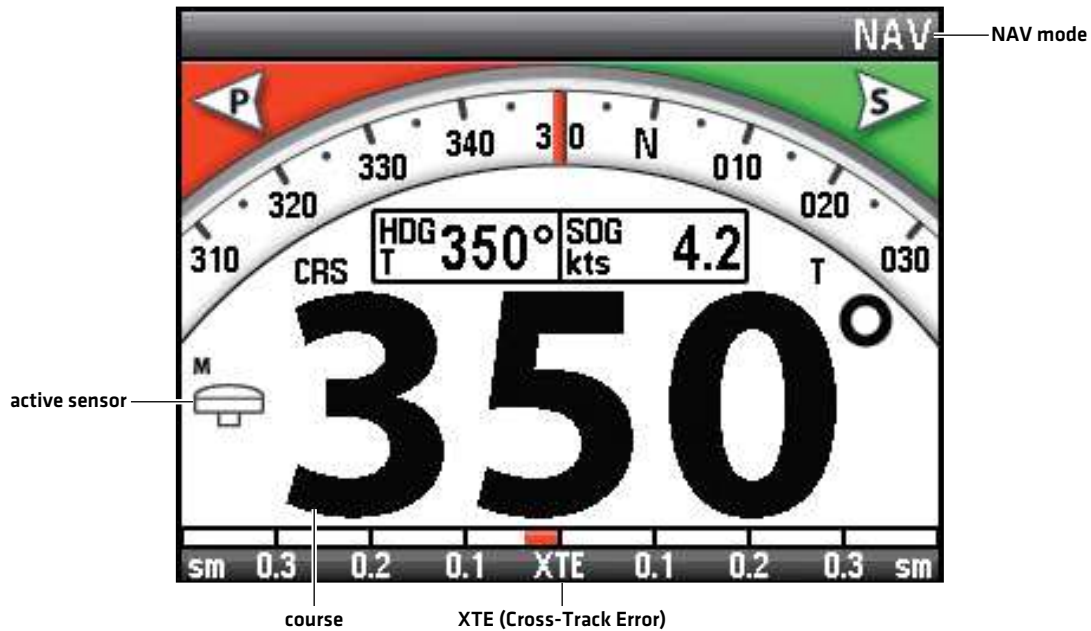
Off: The water column is displayed.

On: The water column is hidden.

AUTOPILOT OVERVIEW

The Humminbird autopilot [SC 110] connects to the control head network. The Humminbird autopilot system requires a separate purchase. For additional autopilot products and equipment, visit our Web site at humminbird.com.

SC 110 Humminbird Autopilot Nav Mode with Chartplotter Input



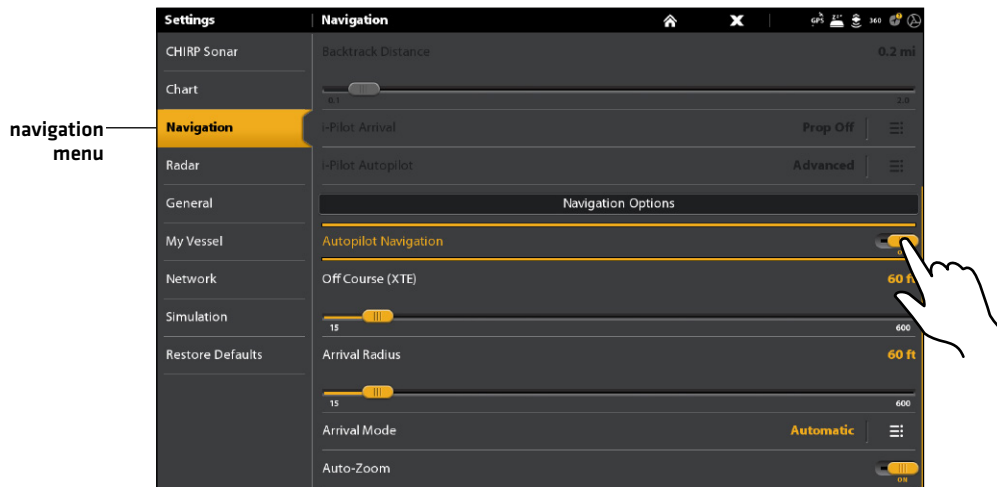
⚠ WARNING! It is the operator's responsibility to make prudent decisions regarding personal safety and the operation of the vessel. Do NOT leave the autopilot unattended while it is steering the vessel. Watch for obstacles and potential hazards at all times. Be prepared to respond to changing conditions and take manual control of the vessel as required.

⚠ WARNING! Do NOT use the autopilot where there may be shallow water, obstacles, or when manual navigation is required, especially in the following situations:

- while navigating or maneuvering in shallow waters or dangerous seabeds,
- while entering or exiting harbor, mooring, or setting sail,
- while traveling at high speed,
- in heavy traffic areas, near breakwaters, canals,
- or while encountering any potential obstacles.

Send Navigation Data to the Autopilot

When a route is started from the control head, it will communicate with the autopilot to tell it which way to turn to get on course. The Autopilot Navigation menu must be turned on to enable this feature on the control head.



Enable Autopilot Navigation

Use the following instructions to enable Autopilot on the control head.

1. See *Installation Information: Configure the Control Head, Set up Autopilot*. The Autopilot must be set up correctly with the control head when it is first installed.
2. Press the HOME key.
3. Select Settings > Navigation.
4. Select Autopilot Navigation.
5. Tap the on/off button, or press the ENTER key, to turn it on.

Disable Autopilot Navigation

Use the following instructions to disable autopilot navigation. When Autopilot is disabled, the control head will not send data to the autopilot.


1. Press the HOME key.
2. Select Settings > Navigation.
3. Select Autopilot Navigation.
4. Tap the on/off button, or press the ENTER key, to turn it off.

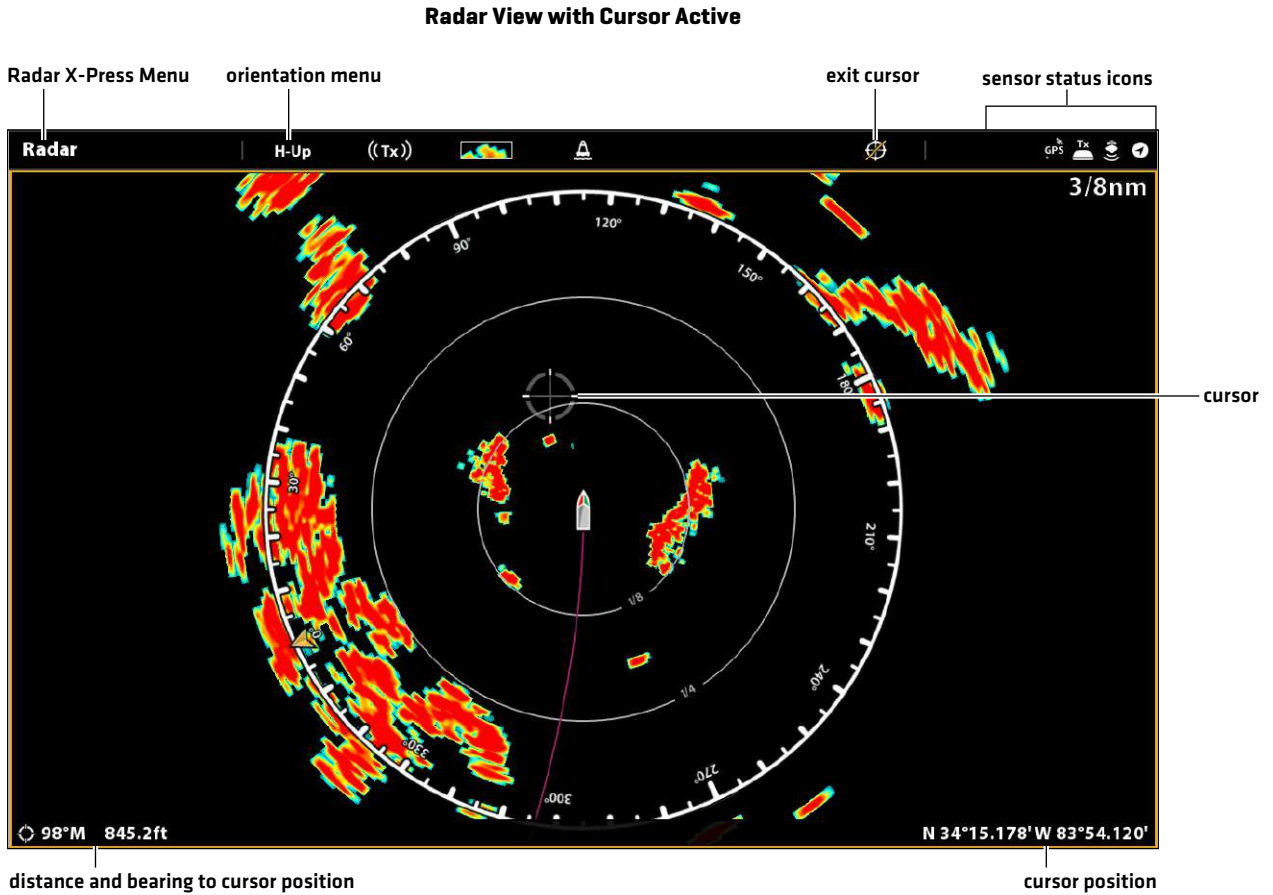
RADAR OVERVIEW

The radar scanner must be connected to the control head to enable radar features. Some of the features also require a compass/heading sensor.

Some of the instructions in the following sections vary depending on the connected radar model. Refer to the instructions for your radar model as follows:

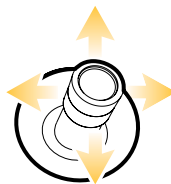
- Humminbird CHIRP Radar
- Humminbird Radar: RH 44, RH 45, AS 12RD2KW, and AS 21RD4KW

 **NOTE:** To configure the Humminbird radar after installation or equipment repair, see **Installation Information: Configure Humminbird Radar**. Humminbird CHIRP radar does not require configuration.



Tap to Activate the Cursor

OR



Move the Joystick to Activate the Cursor



Open the Cursor Menu

RADAR TRANSMISSION SETTINGS

The Radar Transmit menu can be accessed from the Power X-Press Menu, the Radar X-Press Menu, and the Radar tab in Settings.

Start/Stop Radar Transmission

Start Transmission: Humminbird CHIRP Radar

1. **Power On:** Turn on the radar power source [breaker or switch].
2. **Open the Power X-Press Menu:** Tap the top, right corner of the status bar.

OR

Press the POWER key.

3. Under Radar, select Standby.
4. **Start Transmission:** Repeat step 2. Under Radar, select Transmit.

Start Transmission: Humminbird Radar

1. **Power On:** Turn on the radar power source [breaker or switch].
2. Tap the top, right corner of the status bar.

OR

Press the POWER key.

3. Select Radar Transmit > On.

Stop Transmission

1. Tap the top, right corner of the status bar.

OR

Press the POWER key.

2. **Humminbird CHIRP Radar:** Under Radar, select Off.
Humminbird Radar: Select Radar Transmit > Off.
3. **Power Off:** Turn off the power source from the breaker or switch.

Starting Humminbird CHIRP Radar Transmission



Select the Radar Mode (Humminbird CHIRP Radar only)

For optimum radar operation, select the radar mode for your current environment and weather. See the instructions below.

1. With a Radar View displayed on the screen, tap Radar in the status bar, or press the MENU key.
2. Select Mode.
3. Select from the menus shown below.

Harbor	Use in harbors and most inland areas.
Coastal	Use near the shoreline.
Offshore	Use when navigating several miles away from the shoreline.
Weather	Use when tracking rain and/or cloud cover.



QUICK TIP! You can also select this menu on the status bar.

Set up Timed Transmission Settings

Set up Timed Transmission Settings: Humminbird CHIRP Radar

1. Press the HOME key.
2. Select Settings.
3. Select Radar.
4. Select Timed Transmit, and turn it on.
5. Select Transmit Cycles. Select the number of cycles that the radar will transmit during Timed Transmission mode.
6. Select the Back icon to return to the previous menu, or press the EXIT key.
7. Select Standby Time. Set the amount of time that the radar will pause between transmissions in Timed Transmission mode.

Set up Timed Transmission Settings: Humminbird Radar

1. Press the HOME key.
2. Select Settings.
3. Select Radar.
4. Select Timed Transmit, and turn it on.
5. Select Transmit Time. Set the the amount of time that the radar will transmit during Timed Transmission mode.
6. Select the Back icon to return to the previous menu, or press the EXIT key.
7. Select Standby Time. Set the amount of time that the radar will pause between transmissions in Timed Transmission mode.

ADJUST THE TRANSMISSION RANGE

The scanner transmission range can be adjusted from the X-Press Menu or by pressing the +/- ZOOM keys. The range setting affects all the Radar Views in the control head. The control head will default to the largest chosen area from all of the Radar Views.

Adjust the Range with the Keypad

1. **Keypad:** Press the [+] key or [-] key to increase or decrease the transmission range.

Adjust the Range with the Menu System

This menu is available in Custom Mode [see *The Menu System: Change the User Mode*].

1. With the Radar View displayed on-screen, tap Radar in the status bar, or press the MENU key once.
2. Select Transmit Range.
3. Select a range from the menu.

RADAR ALARMS

When an alarm is turned on, it will use the control head's default setting to provide an alert, and you can also adjust the settings used to trigger an alarm. If you will be tracking targets with MARPA or AIS, see **AIS and MARPA**.

Turn on Radar Alarms

1. Press the HOME key.
2. Select Alarms.
3. Select Alarms > Targets.
4. Under Radar, select an alarm. Tap the on/off button, or press the ENTER key, to turn it on.

Dangerous Target	Turn on Dangerous Target to receive an alert if a MARPA target tracked as dangerous is detected in the radar transmission range. See AIS and MARPA for more information.
Lost Target	Turn on Lost Target to receive an alert if a tracked MARPA target has changed to lost in the radar transmission range. A target may be lost if its signal has not been received in the last 30 seconds. See AIS and MARPA for more information.
Guard Zone [Sector]	Turn on Guard Zone [Sector] to receive an alert when a radar return or MARPA target enters the guard zone sector. See Set the Guard Zone for details.
Guard Zone [Circle]	Turn on Guard Zone [Circle] to receive an alert when a radar return or MARPA target enters the guard zone circle. See Set the Guard Zone for details.

To adjust the Transmission range, see **Adjust the Transmission Range**.

To set the Guard Zone, see **Set the Guard Zone**.



NOTE: You can also turn on AIS alarms from this menu. See **AIS and MARPA** for more information.

Set the Guard Zone

If you turned on the Guard Zone alarms in the Alarms tool, use this section to display the Guard Zone and adjust the settings that will trigger the alarm. The settings in this section are optional. You can turn on the Guard Zone alarms and receive alerts using the control head default settings. **This menu is available in Custom Mode** [see *The Menu System: Change the User Mode*].

1. Press the HOME key.
2. Open a Radar View.
3. Start Radar Transmission.
4. Tap Radar in the status bar, or press the MENU key once.
5. Select Guard Zone.
6. Turn on Circle or Sector. [Tap the on/off button, or press the ENTER key, to turn it on.]
7. Select Adjust Circle or Adjust Sector.

Circle [radius]: Use the Joystick to adjust the radius. Press the ENTER key to set the guard zone. A preview of the guard zone will be highlighted between the dotted lines.

Sector [angular]: Use the Joystick to move the cursor to a position on the Radar View. Press the ENTER key to select the first corner of the guard zone. Repeat to select the second corner of the guard zone. A preview of the guard zone will be highlighted between the dotted lines.

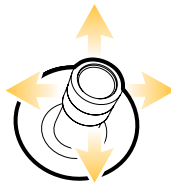
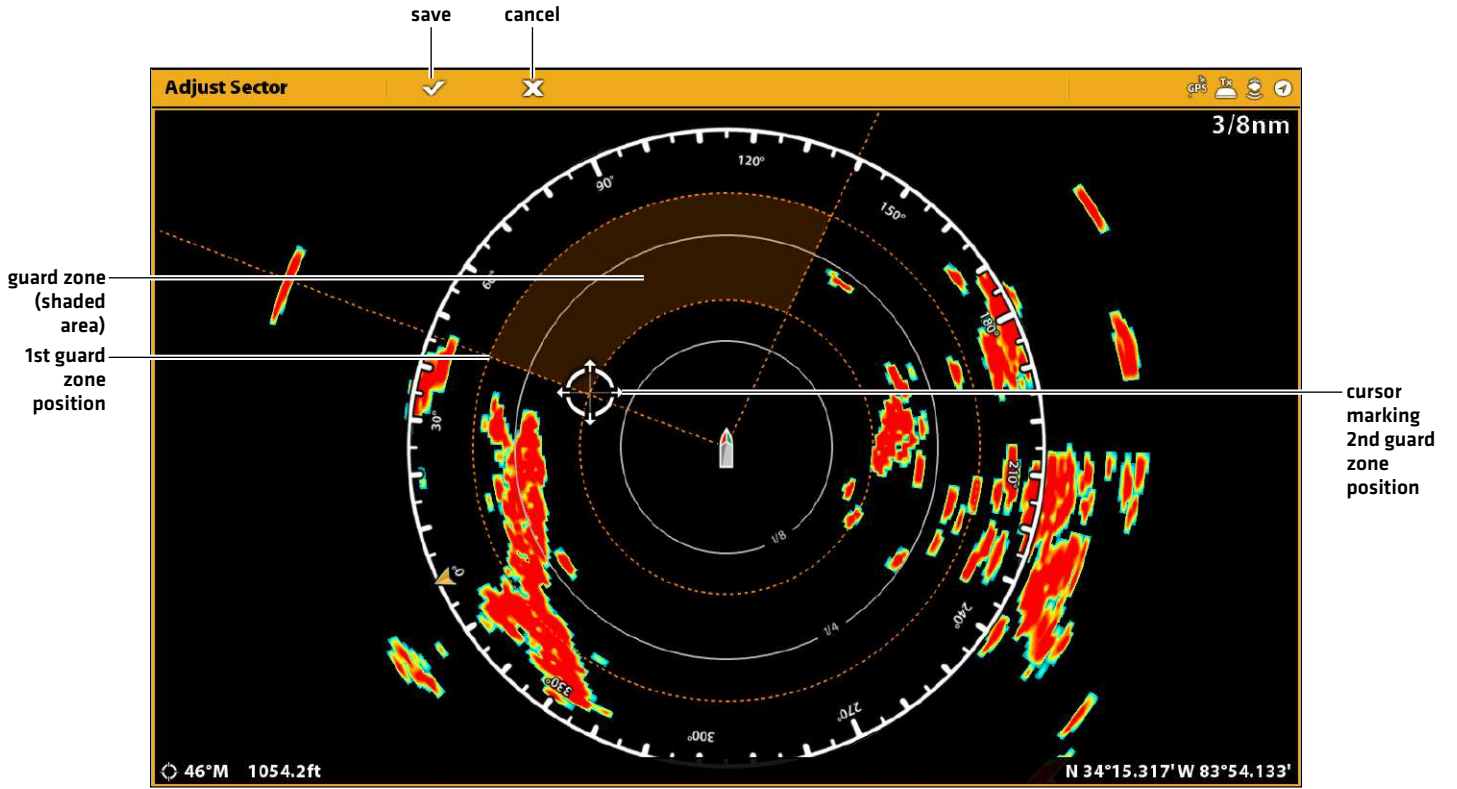
8. Select Alarm Sensitivity to adjust the sensitivity to targets in the guard zone. Press and hold the slider, or turn the Rotary dial, to adjust the range, where 1 = low sensitivity and 100 = high sensitivity.

Turn off the Guard Zone

1. Press the HOME key.
2. Open a Radar View.
3. Tap Radar in the status bar, or press the MENU key once.
4. Select Guard Zone.
5. Select Circle, and turn it off.

Select Sector, and turn it off.

Setting the Guard Zone Sector (Keypad)



Select a Position



Confirm

CUSTOMIZE THE RADAR VIEW

The settings in this section are optional. You can use the default settings for the Radar View, or you can customize it with your preferences. See **Views** for more information.

OPEN THE RADAR PREFERENCES MENU

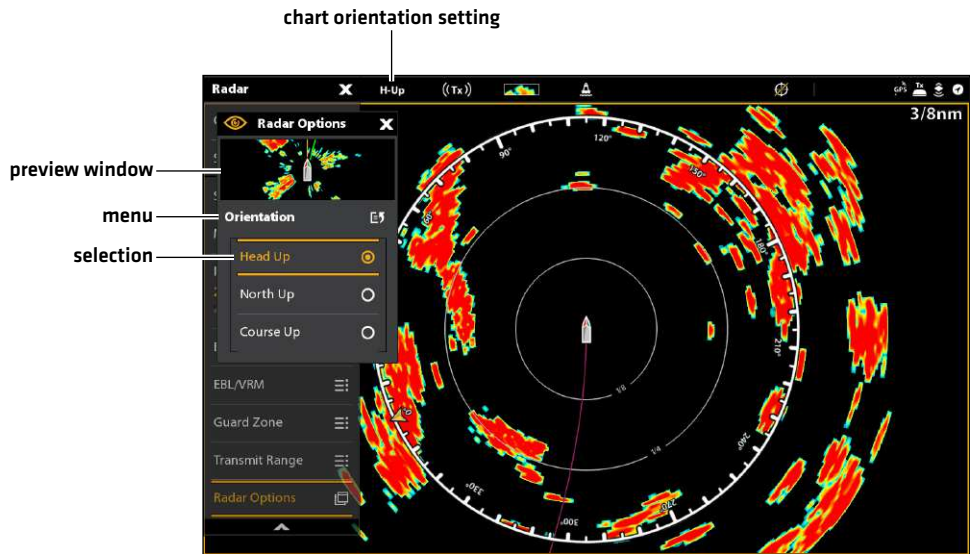
The Preferences menu allows you to set the Radar View orientation, vessel offset, and display colors. For more information about view preferences, see **Views**.

1. With a Radar View displayed on-screen, tap Radar in the status bar, or press the MENU key once.
2. Select Radar Options.
3. Select Preferences.

Set the Chart Orientation

Use the Preferences menu to change the chart orientation. You can also select the orientation menu on the status bar.

1. From the Preferences menu, select Orientation.
2. Select an orientation to apply to the chart.



Head Up	The vessel's current heading points up, and the chart rotates around the vessel icon so that it always points up on the view. The heading is provided by the connected compass/heading sensor. If a compass is not connected, the heading will be calculated using the GPS receiver's COG [Course Over Ground].
North Up [compass required]	True north is shown at the top of the display and the vessel rotates on the screen to point towards the current heading.
Course Up	During navigation, the projected course is shown at the top of the view. Objects ahead of the vessel are drawn above the vessel. When the vessel is not navigating, the course-up reference is provided by a one-time COG [Course Over Ground] calculation.

Change Radar Display Colors

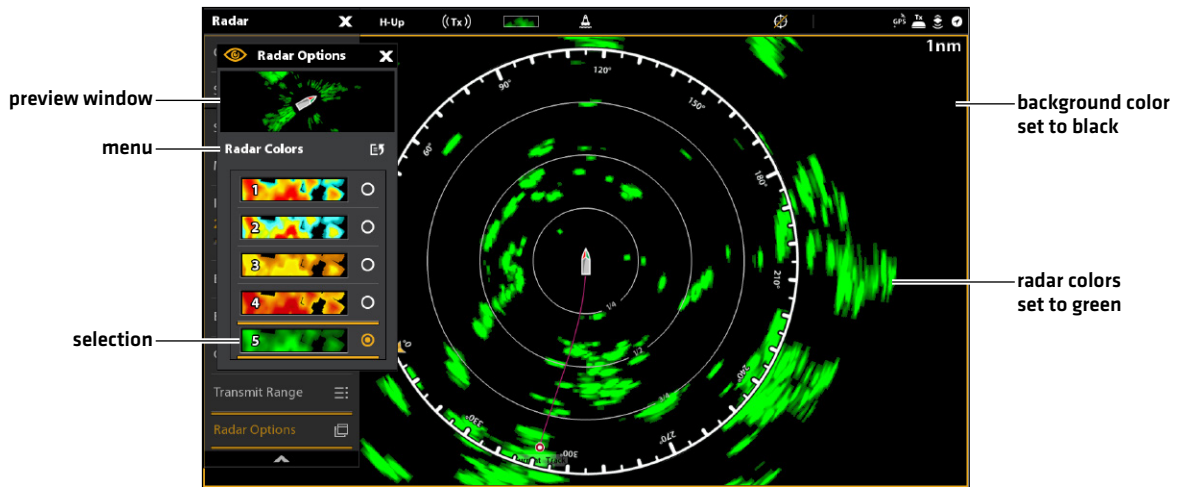
The Radar Colors menu changes the palette used to display radar returns. The Background Colors menu changes the color of the background on Radar Views.

1. From the Preferences menu, select Radar Colors or Background Colors.
2. Select a color palette or background color.



NOTE: The available options may vary depending on your radar model.

Radar View with a Customized Palette



Radar Colors: The palettes in this menu are listed weakest return to strongest return, as follows:

Red	dark green [weak], light green [medium], orange [strong], red [strongest]
Yellow	dark green[weak], green [medium], yellow [strong]
Green	dark green [weak], green [medium], light green [strong]
Magenta	red [weak], crimson [medium], magenta [strong], pink [strongest]

CHANGE THE RADAR VIEW DATA OVERLAYS

Use the Overlays menu to display or hide information on the view. In a Radar View, you can display or hide range rings, range symbols, the compass ring, north indicator, and EBL/VRM readout box. You can also display or hide vessel data, AIS and MARPA targets, navigation data, and the data overlay. The available menu options are determined by the equipment connected to the control head network. Also, see **Views** for more information about Overlays.

1. With a Radar View displayed on-screen, tap Radar in the status bar, or press the MENU key once.
2. Select Radar Options.
3. Select Overlays.
4. Tap the menu or use the Joystick to select an item and add a check mark. [check mark = visible, blank = hidden].

Display Range Rings

1. From the Overlays menu, select Range Rings.
2. Tap the menu, or press the ENTER key, to add a check mark to the box.

Display Vessel Icons

The Vessel Overlay allows you to display the vessel icon with other visual information such as the heading line, COG [Course over Ground], Rate of Turn, and Drift Limit.

1. From the Overlays menu, select Vessel.
2. Select Show. Tap the on/off button, or press the ENTER key, to turn it on.
3. Tap the menu name, or press the ENTER key, to add a check mark to the box.

Display AIS and MARPA Targets

The Targets Overlay displays or hides AIS targets, MARPA targets, and the Safe Zone. An AIS must be connected to enable AIS targets on the view. See **AIS and MARPA** for more information.

1. From the Overlays menu, select Targets.
2. Select Show. Tap the on/off button, or press the ENTER key, to turn it on.
3. Select MARPA and/or AIS, and add a check mark to each box.
4. To display the Safe Ring, tap the menu name, or press the ENTER key, to add a check mark to the box.

Display Navigation Data

Use the Nav Data Overlay to display waypoints, routes, and tracks on the Radar View. See **Introduction to Navigation** for more information.

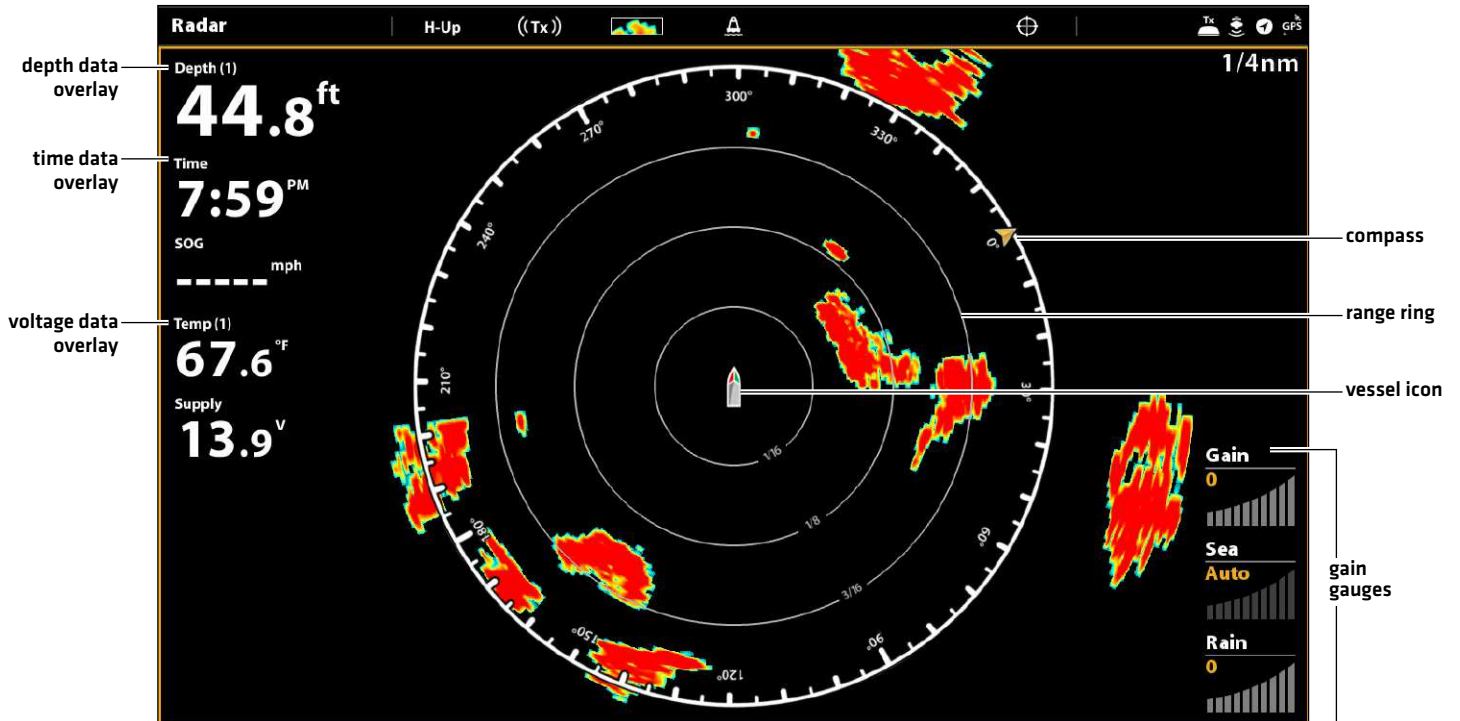
1. From the Overlays menu, select Nav Data.
2. Select Show. Tap the on/off button, or press the ENTER key, to turn it on.
3. Tap the navigation data types, or press the ENTER key, to add a check mark to the box.

Display Digital Readouts as an Overlay

Digital readout data can be displayed as an overlay, and it can be displayed in the data bar. For more information about data overlays, see [Views](#).

1. From the View Options menu, select Data Overlays.
2. Tap the on/off button, or press the ENTER key, to turn it on.
3. Tap the menu name, or use the Joystick, to select an item.

Radar View with Overlays Displayed



ADJUST RADAR SIGNAL SETTINGS

Use the settings in this section to filter the returns on the display or increase the amount of returns on the display.

Adjust the Gain Setting

Use the Gain setting to adjust the sensitivity of the radar. Increase the gain to see more targets on the view, and decrease the gain to reduce the clutter caused by rain or snow.

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

OR

Press the MENU key.

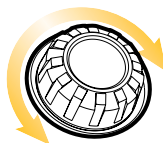
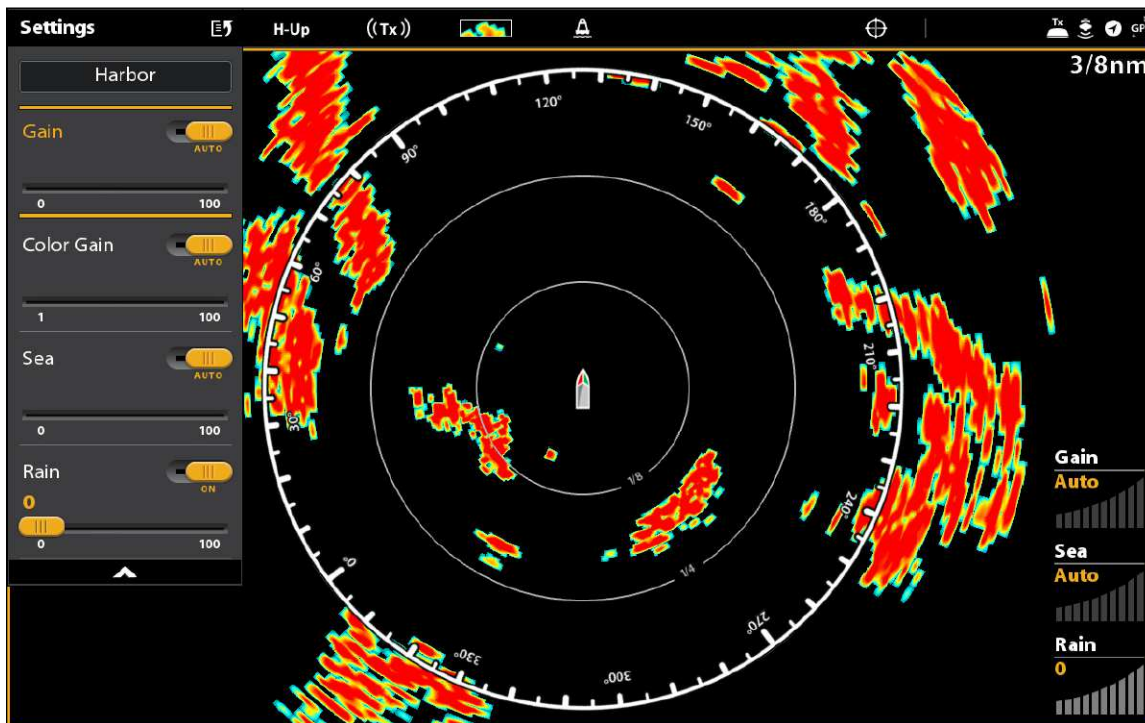
2. Select Settings.
3. Select Gain.
4. Tap the Auto/M button to select Auto or Manual, or press the ENTER key.

Manual: If you select Manual, press and hold the slider, or press and hold the ENTER key, to adjust the setting.



QUICK TIP! You can also change this setting by turning the Rotary dial. See the illustration below.

Changing the Gain Setting Using the Rotary Dial



Select a Setting

Adjust the Color Gain Setting (Humminbird CHIRP Radar only)

Use Color Gain to adjust the contrast of the radar returns on the display.

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

OR

Press the MENU key.

2. Select Settings.
3. Select Color Gain.
4. Tap the Auto/M button to select Auto or Manual, or press the ENTER key.

Manual: If you select Manual, press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Adjust the Sea Clutter Setting

Use the Sea Clutter setting to reduce the clutter that may appear on the view during rough sea conditions.

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

OR

Press the MENU key.

2. Select Settings.
3. Select Sea.
4. Tap the Auto/M button to select Auto or Manual, or press the ENTER key.

Manual: If you select Manual, press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Adjust Rain Clutter Settings

Use the Rain Clutter setting to reduce the clutter on the view caused by rain or snow.

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

OR

Press the MENU key.

2. Select Settings.
3. Select Rain.
4. Tap the on/off button to select On, or press the ENTER key. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Adjust Interference Rejection

Use the Interference Rejection setting to reduce the noise or interference from other transmitting radars in the area.

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

OR

Press the MENU key.

2. Select Interference Rejection.
3. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

EBL/VRM

Use EBL [Electronic Bearing Range] and VRM [Variable Range Ring] to measure the distance and bearing between any two targets on the Radar View.

The EBL and VRM can be set as a pair, and you can set two pairs. The marker is tied to the center of the vessel. As the vessel's position and heading move, the EBL/VRM also moves.

This menu is available in Custom Mode [see *The Menu System: Change the User Mode*].

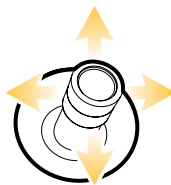
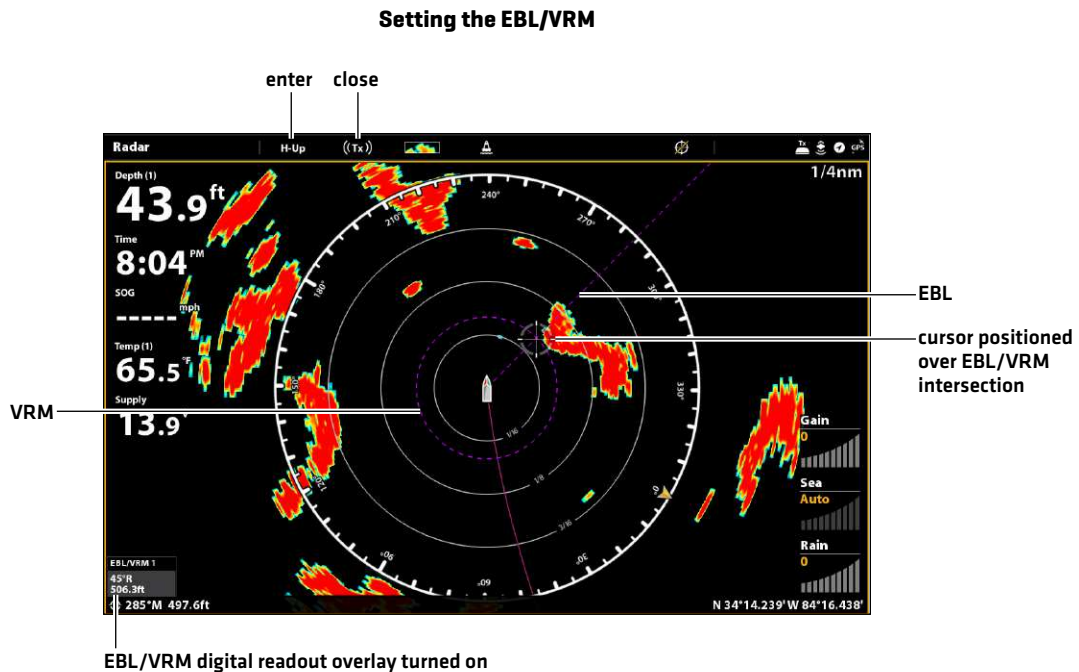
Create an EBL/VRM

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

OR

Press the MENU key.

2. Select EBL/VRM.
3. Select EBL/VRM, and turn it on.
4. Select Adjust.
5. Use the Joystick to move the cursor until it is positioned over the chosen EBL/VRM intersection.
6. Press the ENTER key.



Select a Position



Enter

Edit an EBL/VRM

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

OR

Press the MENU key.

2. Select EBL/VRM.
3. Under EBL/VRM, select Adjust.
4. Use the Joystick to move the cursor until it is positioned over the chosen EBL/VRM intersection.
5. Press the ENTER key.

Turn off an EBL/VRM

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

OR

Press the MENU key.

2. Select EBL/VRM.
3. Select EBL/VRM, and turn it off.

NAVIGATION IN RADAR VIEW

You can mark waypoints and start navigation from the Radar View. See *Introduction to Navigation* for more features and information.



NOTE: To display navigation data on the Radar View, see *Change the Radar View Data Overlays: Display Navigation Data*.

Mark a Waypoint

There are a variety of ways to mark a waypoint in the Radar View. The basic instructions are shown here. See *Introduction to Navigation* for more features and information.

Mark a Waypoint at the Vessel Position

Touch Screen

1. Tap Radar in the status bar.
2. Select Mark.
3. Select Waypoint.

Keypad

1. Press the MARK key twice.

Mark a Waypoint at the Cursor Position

Touch Screen

1. Press and hold a position on the Radar View.
2. Select Waypoint.

Keypad

1. Use the Joystick to move the cursor to a position on the chart.
2. Press the MARK key twice.

Start Navigation

There are a variety of ways to start navigation in the Radar View. The basic instructions are shown here. See *Introduction to Navigation* for more features and information.

Start Quick Route Navigation

Touch Screen

1. Tap Radar in the status bar.
2. Select Go To.
3. Select Quick Route.
4. Tap the chart in the positions where you want to mark a route point.

Undo Last Route Point: Tap the Back icon.

Cancel Route Creation: Tap the X icon.

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

Keypad

1. Press the GO TO key.
2. Select Quick Route.
3. Use the Joystick to move the cursor to a position or waypoint. Press the Joystick to mark the first route point.
4. Repeat Step 3 to connect more than one route point.

Undo Last Route Point: Press the EXIT key once.

Cancel Route Creation: Press and hold the EXIT key.

5. To start navigation, press the ENTER key.

AIS AND MARPA

AIS and MARPA allow the control head to display targets on the Chart and Radar Views. While AIS and MARPA share many of the same menus and functions, some of the requirements and operations are different for each feature.

AIS: Targets within the AIS VHF transmission range are displayed on Chart and Radar Views. An AIS and a compass/heading sensor must be connected to the control head to enable this feature. The control head can track up to 100 targets at the same time. If more than 100 targets are reported by the AIS equipment, the first 100 targets closest to your vessel will be shown. See **AIS Overview** for more information.

MARPA: Targets are displayed and tracked on the Radar View. A Radar scanner and compass/heading sensor must be attached to the control head to enable MARPA, and the control head can track up to 20 targets at the same time. See **MARPA Targets** for more information.

AIS AND MARPA ALARMS

When an alarm is turned on, an alert will sound or display on the control head to indicate the threshold has been exceeded. The alarm will use the control head's default setting to provide the alert, and you can also adjust the alarm settings used to trigger an alarm. The alarms for AIS and MARPA are also affected by the Guard Zone. To set the Guard Zone, see **Radar Alarms**.

Turn on AIS Alarms

1. Press the HOME key.
2. Select Alarms.
3. Select Alarms > Targets.
4. Under AIS, select an alarm and turn it on. [Tap the on/off button, or press the ENTER key, to turn it on.]

Dangerous Target	Turn on Dangerous Target to receive an alert if a dangerous target is detected within the AIS transmission range.
Lost Target	Turn on Lost Target to receive an alert if a target has changed to lost within the AIS transmission range. A target may be lost if its signal has not been received in the last 8 minutes.
Guard Zone [Sector]	Turn on Guard Zone [Sector] to receive an alert when a target enters the guard zone sector. See Radar Alarms to set the Guard Zone.
Guard Zone [Circle]	Turn on Guard Zone [Circle] to receive an alert when a target enters the guard zone circle. See Radar Alarms to set the Guard Zone.

Turn on MARPA Alarms

For a MARPA target to be detected, the radar must be transmitting and a return must be identified as a target. The settings in this section are shared with Radar.

1. Press the HOME key.
2. Select Alarms.
3. Select Alarms > Targets.
4. Under Radar, select an alarm and turn it on. [Tap the on/off button, or press the ENTER key, to turn it on.]

Dangerous Target	Turn on Dangerous Target to receive an alert if a MARPA target tracked as dangerous is detected in the radar transmission range.
Lost Target	Turn on Lost Target to receive an alert if a tracked MARPA target has changed to lost in the radar transmission range. A target may be lost if its signal has not been received in the last 30 seconds.
Guard Zone [Sector]	Turn on Guard Zone [Sector] to receive an alert when a radar return or MARPA target enters the guard zone sector. See Radar Alarms to set the Guard Zone.
Guard Zone [Circle]	Turn on Guard Zone [Circle] to receive an alert when a radar return or MARPA target enters the guard zone circle. See Radar Alarms to set the Guard Zone.

Set the Safe Zone

Use the Safe Zone to set how close targets may approach your vessel. If a target crosses into the Safe Zone, its status will change to Dangerous. You can set the size of the safe zone around the vessel in nautical miles or time. To display the Safe Zone on the Radar View or Chart View, see **Display the Safe Zone**.

1. Press the HOME key.
2. Select the Targets tool.
3. Select Settings > Safe Zone [Range] or Safe Zone [Time].

Safe Zone [Range]: Select the closest point of approach by another vessel [based on CPA [Closest Point of Approach] and TCPA [Time to Closest Point of Approach]]. The amount is estimated in nautical miles, and the value determines the safe zone radius.

Safe Zone [Time]: Select the closest point of approach, measured in time.

AIS AND MARPA DISPLAY SETTINGS

Display AIS and MARPA Targets

Use the following instructions to display AIS or MARPA Targets on the Chart View or Radar View.



NOTE: If Automatic AIS Tracking is turned on, but you do not see AIS targets on the chart and Radar Views, use these instructions to make sure targets are set to display in the Overlays menu.

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

OR

Press the MENU key once.

2. Select Radar Options or Chart Options.
3. Select Overlays.
4. Select Targets.
5. Select Show, and turn it on.
6. Select MARPA and/or AIS, and add a check mark to each box.

Display the Safe Ring

The Safe Ring is displayed on the Radar View or Chart View to indicate the safe zone range. The range is highlighted in red. To change the range of the safe zone, see *AIS and MARPA Alarms: Set the Safe Zone*.

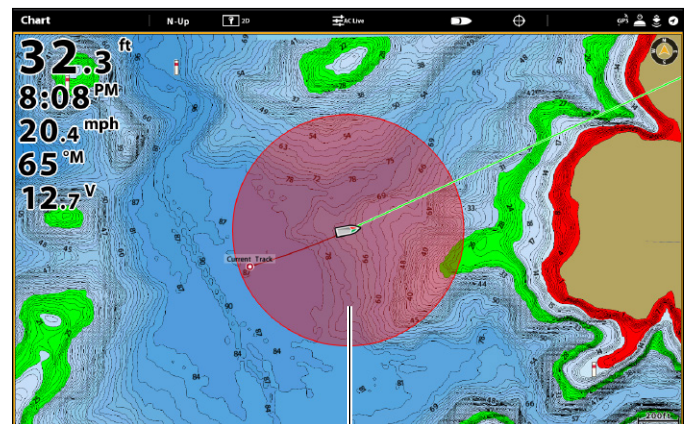
1. With a Radar View or Chart View displayed on-screen, tap Radar or Chart in the status bar.

OR

Press the MENU key once.

2. Select Radar Options or Chart Options.
3. Select Overlays.
4. Select Targets.
5. Select Show, and turn it on.
6. Select Safe Ring and tap it, or press the ENTER key, to add a check mark to the box.

Chart View with the Safe Ring Displayed



safe zone

Set Target Display Settings

In both AIS and MARPA, when a target is identified, it is displayed on the screen with an icon that indicates the target's safety status. You can set defaults for how the targets will display on the screen.


1. Press the HOME key.
2. Select the Targets tool.
3. Select Settings > Target Settings.

COG Vector	The COG Vector displays a line extending from the target that indicates the last known ship speed. If you turn on Auto Show, the line is displayed when you select the target with the cursor [see Track AIS Targets].
Sleeping Target [Speed]	Use this menu to set the speed a target must reach for it to be identified as a sleeping target.
Rate of Turn	Use this menu to set the turning threshold for the rate of turn icon to be displayed. If the threshold is met, the target's turn icon (port or starboard) will be displayed.
Clear Lost Target [Time]	Use this menu to set the amount of time a target will remain on the view after it is identified as a lost target.

AIS OVERVIEW

When an AIS is connected to the control head network, targets within the AIS VHF transmission range are displayed on the Chart and Radar Views. An AIS and compass/heading sensor are required to enable this feature.

The AIS tracks up to 100 targets at once. The AIS also exchanges information with the targets, including vessel identification, position, course, and speed. When a target exits the AIS transmission range, the information will be cleared automatically.

 **NOTE:** In some cases, vessel data may not be available. The information received from other vessels is determined by the vessel class [Class A = required, Class B = optional], their AIS equipment, and the information the captains choose to transmit.

AIS Broadcast Settings

Your AIS also broadcasts data to vessels within the transmission range. To view your call sign, class, type, position, heading, MMSI [Maritime Mobile Service Identity], and more, open the My AIS Info dialog box.

Open the My AIS Info Dialog Box

1. Press the HOME key.
2. Select Settings.
3. Select My Vessel.
4. Select My AIS Info.



silent mode can be turned on from this dialog box

Turn on/off Silent Mode

If Silent Mode is turned on, your vessel's AIS information will not be broadcast to other vessels. In this case, your AIS is only receiving data from other vessels in the area.

If Silent Mode is turned off, your vessel's AIS information is broadcasted to other vessels, so the AIS is receiving and transmitting.

Silent mode can be turned on or off from the My AIS Info dialog box, or you can use the following instructions.

1. Press the HOME key.
2. Select the Targets tool.
3. Select Settings > Silent Mode. [Default = Off]

 **NOTE:** Silent Mode might not be supported by your AIS equipment. See your AIS installation manual for more information.

AIS Filter Settings

You can also control how many AIS targets are shown on the view by adjusting the filter settings.

Turn on/off Range Filter

If Range Filter is turned on, targets are displayed from your vessel to the distance you set. Targets outside of the range will not be displayed.

If Range Filter is turned off, targets will be displayed within the full range of the AIS equipment's transmission capabilities.

1. Press the HOME key.
2. Select the Targets tool.
3. Select Settings > Range Filter. Tap the on/off button, or press the ENTER key, to turn it on/off.
4. Press and hold the slider, or press and hold the ENTER key, to adjust the setting.

Turn on/off Class B Filter

If Class B Filter is turned on, Class B targets will not be shown. If Class B filter is turned off, all available AIS targets will be shown.

1. Press the HOME key.
2. Select the Targets tool.
3. Select Settings > Class B Filter. Tap the on/off button, or press the ENTER key, to turn it on/off.

AIS Targets

Each target is represented by an icon that indicates the vessel type. The color of the target icon is determined by the AIS Target Type shown on the AIS List. The target type shows its status with the following shapes and additional color details.



For example, the **Cargo Target** appearance will change depending on its status, and whether it is moving or anchored, as shown in the following table:

Underway Icon	Anchor Icon	Status	Description
		Dangerous	The target is active and detected as dangerous based on the CPA [Closest Point of Approach] and TCPA [Time to Closest Point of Approach]. The target is outlined in red.
		Uncertain	The target is active, but the calculated CPA [Closest Point of Approach] and TCPA [Time to Closest Point of Approach] have not been received in the last 4 minutes. The target is outlined in white.
		Sleeping	The target is active or inactive, and it is moving slower than the sleeping target threshold. To set the threshold see <i>AIS and MARPA: Set Target Display Settings</i> .
		Inactive	The target is identified and moving, but it is not being tracked by the AIS.
		Active	The target is identified, tracked, moving, and sending data to the AIS.
		Lost	The target is not available for tracking. A target may be lost if its signal has not been received in the last 8 minutes. The target will be grayed out and displayed with its last available position on the view. To adjust the lost threshold, see <i>AIS and MARPA: Set Target Display Settings</i> .



NOTE: See *Open the AIS Target List* for more information about the AIS List and the AIS Target Key.

Track AIS Targets

You can turn on tracking for all targets. You can also select individual targets and turn tracking on or off.

Turn on/off Automatic AIS Tracking

When Automatic AIS Tracking is turned on, all AIS targets are tracked within the equipment's capabilities.

When Automatic AIS tracking is turned off, all AIS targets are not tracked, but you can still track targets individually [see **Track a Selected Target**].

1. From the Home screen, select the Targets tool.
2. Select Settings > Automatic AIS Tracking. Tap the on/off button, or press the ENTER key.

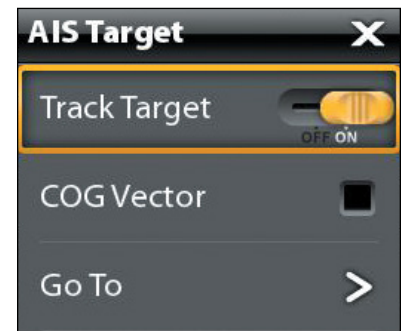


NOTE: If Automatic AIS Tracking is turned on, but you do not see AIS targets on the Chart and Radar Views, make sure targets are set to display in the Overlays menu. See **Display AIS and MARPA Targets**.

Track a Selected Target

If Automatic AIS Tracking is turned off, you can select a target and track it individually. If Automatic AIS Tracking is turned on, Track Target [for individual target tracking] is not available in the menu system. See **Turn on/off Automatic AIS Tracking** for more information.

1. From the Home screen, select the Targets tool.
2. Under Lists, select AIS.
3. Press and hold a target, or use the Joystick to select it.
4. Select Track Target. Tap the on/off button, or press the ENTER key, to turn it on.



Cancel Tracking for a Selected Target

1. From the Home screen, select the Targets tool.
2. Under Lists, select AIS.
3. Press and hold a target, or use the Joystick to select it.
4. Select Track Target, and turn it off.

Change all Targets to Inactive (X-Press Menu)

Use the instructions in this section to cancel tracking from the X-Press Menu. This menu is available if Automatic AIS Tracking is turned off but individual targets are being tracked [see **Track a Selected Target**].

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

OR

Press the ENTER key.

2. Select AIS: All Inactive.

Change all Targets to Inactive (Targets Tool)

Use the instructions in this section to cancel tracking from the Targets tool. This menu is available if Automatic AIS Tracking is turned off but individual targets are being tracked [see **Track a Selected Target**].

1. Press the HOME key.
2. Select the Targets tool.
3. Select Cancel All AIS Targets.

Start Navigation to a Selected Target

Start navigation to a selected target using the following instructions. See *Introduction to Navigation* for more features and information.

Start Navigation to a Selected Target

Touch Screen

1. With a Chart View or Radar View displayed on-screen, tap a target to select it.
2. Tap Radar or Chart in the status bar, and select Go To.
3. Select Go To Cursor.

Keypad

1. With a Chart View or Radar View displayed on-screen, use the Joystick to move the cursor to a target.
2. Press the GO TO key.
3. Select Go To Cursor.



NOTE: You can also start navigation from the AIS List in the Targets tool. Select a target and press the MENU key, or press and hold the target name. Select Go To.

Open the AIS Target List

The AIS List is based on the last available transmission calculation and includes the targets' name, MMSI (Maritime Mobile Service Identity, Distance, Bearing, SOG, and Class. The AIS List can be opened in the Targets tool, or it can be opened in the Chart and Radar Views.

Open the AIS List from the Targets Tool

1. Press the HOME key.
2. Select the Targets tool.
3. Under Lists, select AIS.

Open the AIS List from a View

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

OR

Press the ENTER key.

2. Select AIS List.

AIS Target Data Received

The screenshot displays the AIS List interface. At the top, a header bar shows 'Chart', 'N-Up', '2D', 'AC Live', and various system icons. Below this is a menu with 'AIS In' and 'AIS List' (selected). The main area shows a table of AIS targets with columns: Name, MMSI, Distance, Brg, SOG, Status, and Class. A target is selected, and its details are shown in a summary view below the table. The summary view includes Vessel, Position, Heading, Destination, Call sign, Length, ETA, IMO, CPA, Beam, Time, COG, TCPC, Draught, and Date. At the bottom, there is an 'AIS Target Key' section with icons for vessel types (Unknown, Tug/Pilot, Yachts, Tankers, Passenger, Fishing, Cargo, High-Speed) and status (Underway, Dangerous, Uncertain, Sleeping, Inactive, Active, Lost). A scale bar at the bottom right indicates 1.0 mi.

Name	MMSI	Distance	Brg	SOG	Status	Class
	265547250	0.0 ft	0°M	83.1 mph	Lost	A
	664444000	0.0 ft	0°M	41.9 mph	Lost	A
ARCO AVON	603916439	0.0 ft	0°M	90.7 mph	Lost	A
M/Y "VAMOOSÉ"	538070490	0.0 ft	0°M	0.0 mph	Lost	A
MAKING MEMORIES	367116160	0.0 ft	0°M	19.2 mph	Lost	B
REEF CHIEF	310525000	0.0 ft	0°M	117.7 mph	Lost	A
STEPHEN DANN	369560000	0.0 ft	0°M	102.7 mph	Lost	A
TUCHKOV BRIDGE	636011644	0.0 ft	0°M	49.2 mph	Lost	A

selected target summary

Vessel: Search and rescue	Position: N 25°35.833'	Heading: 41°	Destination: MIAMI
Call sign:	W 80°15.500'	Length: 0.0 ft	ETA:
IMO: N/A	CPA: 0.0 ft	Beam: 0.0 ft	Time: 2:50:02 PM
COG: 0°	TCPC: ----	Draught: 0.0 ft	Date: 12/19/2012

selected target summary

AIS Target Key

Type	Status
Unknown	Dangerous
Tug/Pilot	Uncertain
Yachts	Sleeping
Tankers	Inactive
Passenger	Active
Fishing	Lost
Cargo	
High-Speed	

Sort the AIS List

1. Press the EXIT key to select the sort bar. Tap a column name, or move the Joystick and press it on a column name. The first tap/Joystick press will sort the column low to high or A to Z. The second tap/Joystick press will sort it high to low or Z to A.

Display the AIS Data for a Selected Target (Targets Tool)

1. From the Home screen, select the Targets tool.
2. Under Lists, select AIS.
3. Tap a target or use the Joystick to select it. Review the summary information in the dialog box [see the illustration *AIS Target Data Received*].

Display the AIS Data for a Selected Target (Chart View or Radar View)

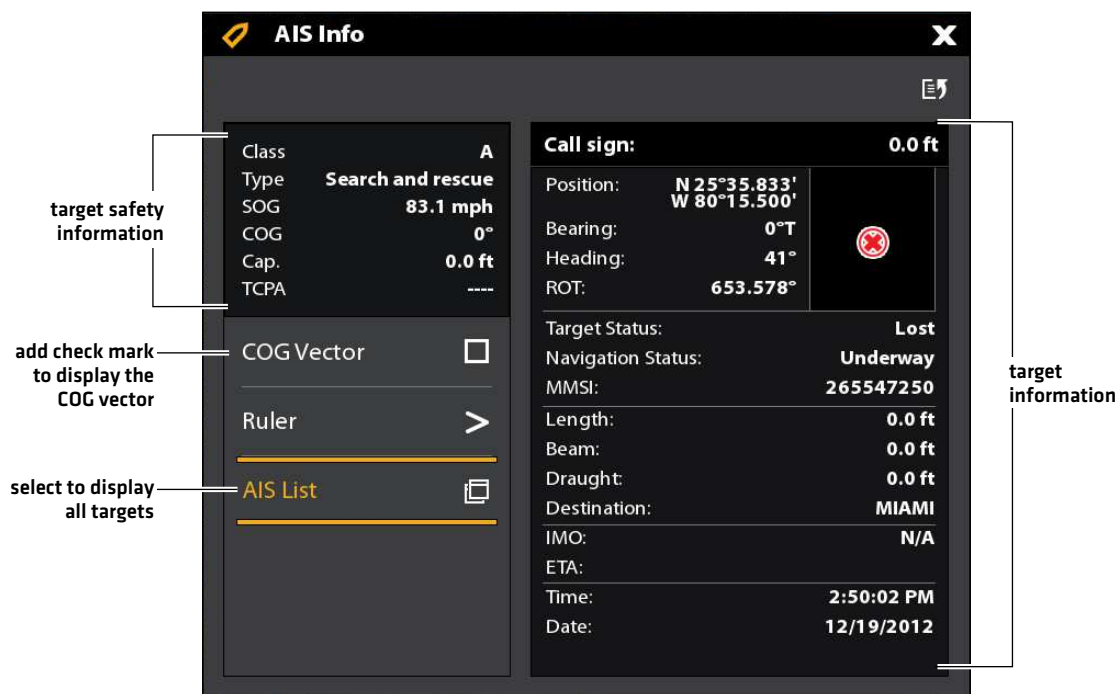
1. With a Chart View or Radar View displayed on-screen, tap a target to select it. Tap the target name.

OR

Use the Joystick to move the cursor to a target. Press the ENTER key.

2. The dialog box will display the target class, type, SOG [Speed over Ground], COG [Course over Ground], CPA [Closest Point of Approach], and TCPA [Time to Closest Point of Approach].

To see all information for the selected target, select Full Info.



Display the COG Vector for a Selected Target





The COG Vector displays a line extending from the target that indicates the last known ship speed. COG indicates Course over Ground.

1. Select a target from the Targets tool, Radar View, or Chart View.
2. Tap the target name, or press the ENTER key.
3. Select COG Vector.
4. Tap the check box, or press the Joystick, to add a check mark to COG Vector.

MARPA TARGETS

Use MARPA to track targets on the Radar View. A compass/heading sensor must be attached to the control head network to enable MARPA, and the radar must be transmitting [see **Radar Overview**]. If an AIS is connected, then AIS targets will also be displayed on the Radar View. See **AIS and MARPA** for more information.

The control head tracks up to 20 targets at one time. Each target is assigned a number [1 to 20] and an icon to represent its safety status. The possible target status is as follows:

Icon	Status	Description
	Acquiring	The control head is processing the target data. The target has been identified but not yet tracked.
	Dangerous	The target is being tracked and has entered the Safe Zone or the Guard Zone.
	Lost	The target is not available for tracking. A target may be lost if it has not been scanned in the last 30 seconds. The target will be displayed with its last available position on the view.
	Safe	The target is being tracked and has not crossed the Safe Zone or Guard Zone.

Turn on MARPA Tracking

The radar must be transmitting so you can track targets. MARPA targets can be tracked in the Radar View or Chart View.



NOTE: The Radar Transmission Range also influences the number of acquired targets. If the Transmission Range is set too low, you may lose some target information. See **Radar Overview** for more information.

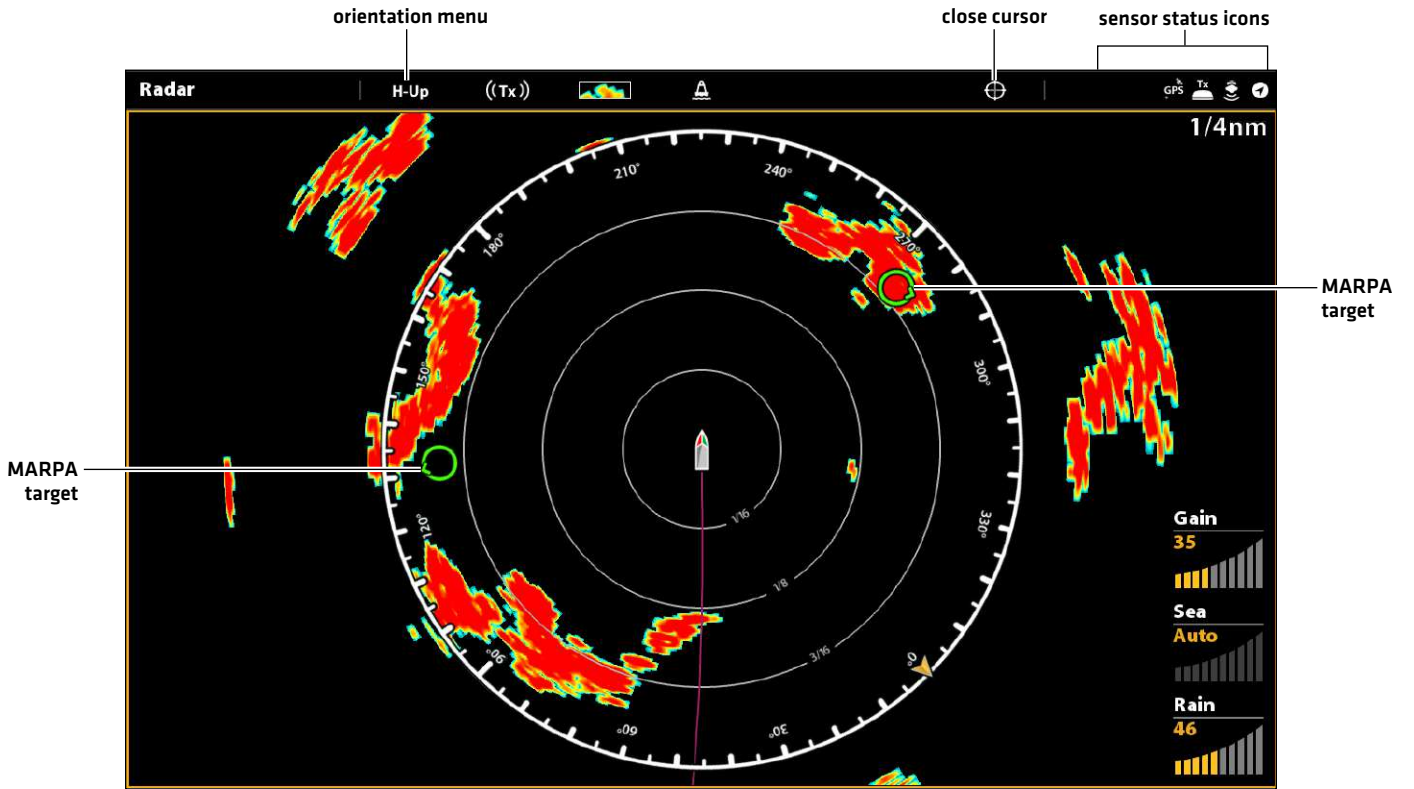
Track a Target

1. Press and hold a radar return. Select Track MARPA to acquire the target.

OR

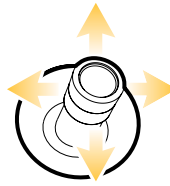
Use the Joystick to move the cursor to a radar return. Press the Joystick to acquire the target.

Radar View with MARPA Targets Displayed

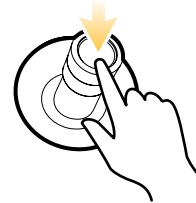


Press and Hold
a Radar Return

OR



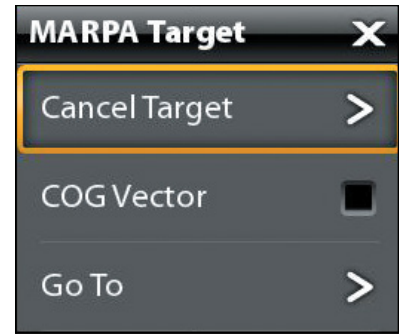
Move the Cursor to
a Radar Return



Press the Joystick
to Acquire Target

Cancel Tracking for a Selected Target

1. Select a target from the Radar View, Chart View, or Targets tool.
2. Tap the target name, or press the ENTER key.
3. Select Cancel Target.



Cancel Tracking for all Targets (X-Press Menu)

Use the instructions in this section to cancel tracking from the X-Press Menu.

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

OR

Press the ENTER key.

2. Select MARPA: All Inactive.

Cancel Tracking for all Targets (Targets Tool)

Use the instructions in this section to cancel tracking from the Targets tool.

1. Press the HOME key.
2. Select the Targets tool.
3. Select Cancel All MARPA Targets.

Start Navigation to a Selected Target

Start navigation to a selected target using the following instructions. See *Introduction to Navigation* for more features and information.

Start Navigation to a Selected Target

Touch Screen

1. With a Chart View or Radar View displayed on-screen, tap a target to select it.
2. Tap Radar or Chart in the status bar, and select Go To.
3. Select Go To Cursor.

Keypad

1. With a Chart View or Radar View displayed on-screen, use the Joystick to move the cursor to a target.
2. Press the GO TO key.
3. Select Go To Cursor.



NOTE: You can also start navigation from the MARPA List in the Targets tool. Select a target and press the MENU key, or press and hold the target name. Select Go To.

Open the MARPA Target List

Open the MARPA List from the Targets Tool

1. Press the HOME key.
2. Select the Targets tool.
3. Under Lists, select MARPA.

Open the MARPA List from a View

1. With a Chart View or Radar View displayed on-screen, tap Chart or Radar in the status bar. Select Info.
OR
Press the ENTER key.
2. Select MARPA List.

MARPA Targets Data Received

The screenshot displays the MARPA List interface. At the top, it says "MARPA List" and "Total Tracked 2". Below this is a table with the following columns: ID, Distance, CPA, TCPA, Brg, COG, SOG, and Status. The first target (ID 1) is highlighted with a red circle and labeled "selected target". The second target (ID 2) is labeled "target list". To the right of the table, there are labels "sort list by columns" and "target list". At the bottom, there is a "MARPA Target Key" with four icons: Acquiring (yellow), Dangerous (red), Lost (grey), and Safe (green). On the right side of the screen, there are radar settings: Gain 35, Sea Auto, and Rain 46. The background shows a radar display with a scale of 1/4nm.

ID	Distance	CPA	TCPA	Brg	COG	SOG	Status
1	412.6 ft	145.9 ft	5 min	51°T	314.9°	0.4 mph	Dangerous
2	441.8 ft	441.8 ft	---	257°T	180°	0.0 mph	Lost

Sort the MARPA List

1. Press the EXIT key to select the sort bar. Tap a column name, or move the Joystick and press it on a column name. The first tap/Joystick press will sort the column low to high or A to Z. The second tap/Joystick press will sort it high to low or Z to A.

Display the MARPA Data for a Selected Target

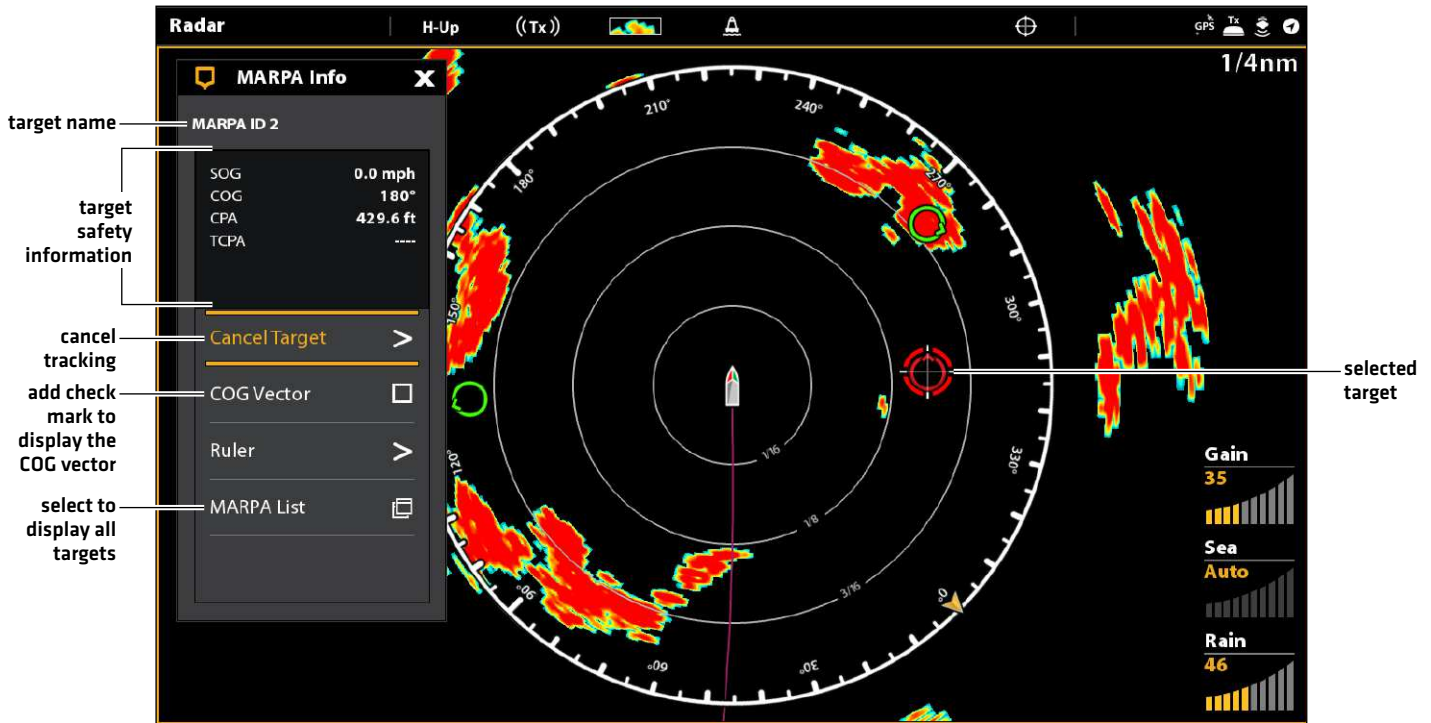
1. With a Chart View or Radar View displayed on-screen, tap the target. Tap the target name.

OR

Use the Joystick to select a target. Press the ENTER key.

2. The dialog box will display the ID, SOG [Speed over Ground], COG [Course over Ground], CPA [Closest Point of Approach], and TCPA [Time to Closest Point of Approach].

Displaying MARPA Data for the Selected Target



Display the COG Vector for a Selected Target

The COG Vector displays a line extending from the target that indicates the Course over Ground.

1. Select a target from the Radar View, Chart View, or Targets tool.
2. Tap the target name, or press the ENTER key.
3. Select COG Vector.
4. Tap the check box, or use the Joystick, to add a check mark to COG Vector.

SONAR OVERVIEW

A functioning transducer must be attached to the control head or selected as the transducer source on the Ethernet network to enable sonar functions. To purchase transducers and black box sonar equipment, visit our Web site at humminbird.com.

The APEX and SOLIX control heads support the following sonar:

- **MEGA Imaging+ with Dual Spectrum CHIRP Sonar**
- **MEGA Imaging with Dual Spectrum CHIRP Sonar**
- **Dual Spectrum CHIRP Sonar (2D)**
- **Digital CHIRP Sonar:** Side Imaging CHIRP and Down Imaging CHIRP allow you to use multiple frequency ranges, either individually or blended together.
- **Analog Sonar:** Traditional 2D, DualBeam PLUS, Side Imaging, and Down Imaging use single frequency ranges. To use single frequency sonar, turn CHIRP off. See *Installation Information: Set up or Change Transducer Settings*.



NOTE: Depth capability is affected by such factors as boat speed, wave action, bottom hardness, water conditions, and transducer installation. See the **Specifications** section for details.

MEGA Imaging+

MEGA Side Imaging+ and MEGA Down Imaging+ sonar provides three high frequency options, and includes [2D] Dual Spectrum CHIRP sonar.

MEGA Imaging+ transducers

MEGA SI+

XM 14 HW MSI T
 XTM 14 HW MSI T
 XPTH 14 HW MSI T
 M 14 HW MDI T
 XTM 14 HW MDI T
 SSTH 14 HW MSI T

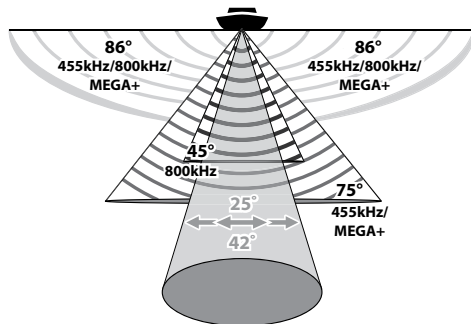
MEGA DI+

XM 14 HW MDI T
 XTM 14 HW MDI T

MEGA SI+

MSI+ sonar uses two very precise sonar beams that are aimed at right angles to the path of the boat. The side beam coverage is very thin from front to back, yet very wide from top to bottom. The beams provide thin slices of the bottom for high resolution imaging. The beams can be operated at one of three display frequencies: MEGA+, 800 kHz, or 455 kHz.

MSI+ sonar also provides MEGA Down Imaging+ and [2D] Dual Spectrum CHIRP sonar.



MEGA SI+ Cone Angles

MEGA+

Select MEGA for the highest resolution, sharpness, and range (up to 500 ft side to side).

800 kHz

Select 800 kHz as an alternative frequency with sharp returns (up to 250 ft side to side).

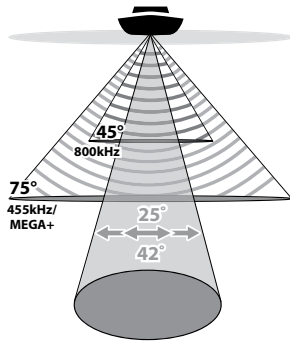
455 kHz

Select 455 kHz for deep water and overall coverage (up to 800 ft side to side).

MEGA DI+

MDI+ sonar beams point down and scan the water with razor-thin, high definition beams that are wide side to side, but very thin from front to back. The beams can be operated at one of three display frequencies: MEGA+, 800 kHz, or 455 kHz.

MDI+ also includes [2D] Dual Spectrum CHIRP sonar.



MEGA DI+ Cone Angles

MEGA+

Select MEGA for the highest resolution, sharpness, and depth (up to 250 ft).

800 kHz

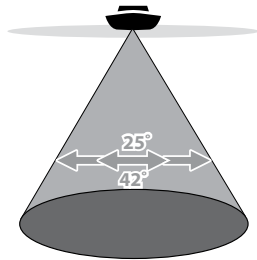
Select 800 kHz as an alternative frequency with sharp returns (up to 125 ft).

455 kHz

Select 455 kHz for deep water and overall coverage (up to 400 ft).

(2D) Dual Spectrum CHIRP

Dual Spectrum CHIRP sonar provides conical coverage directly below the boat. The beam can be adjusted to show the full, narrow, or wide frequency range. The sonar returns are displayed on the Sonar [2D] Views.



Dual Spectrum Cone Angles

Full

Select Full Beam (default) to use the complete frequency range.

Narrow

Select Narrow Beam for increased bottom detail and better target separation.

Wide

Select Wide Beam to maximize coverage and show big, clearly defined fish arches.

MEGA Imaging

MEGA Side Imaging and MEGA Down Imaging transducers provide high frequency options, and includes either [2D] Dual Spectrum CHIRP sonar or [2D] DualBeam PLUS sonar [see each table below for respective transducer models].

MEGA Down Imaging Transducers with (2D) Dual Spectrum CHIRP

XM 14 20 MDI T
XTM 14 20 MDI T

MEGA Imaging Transducers with (2D) DualBeam PLUS

MEGA SI

XM 14 20 MSI T
XPTH 14 74 MSI T
XTM 14 20 MSI T

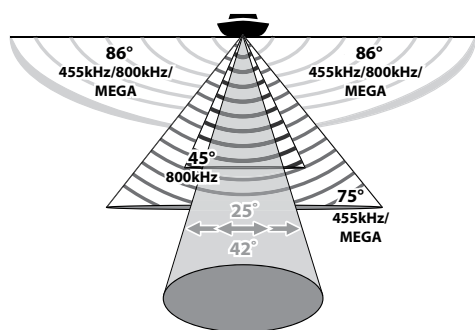
MEGA DI

XM 14 MDI T
XTM 14 20 MDI T

MEGA SI

MSI sonar uses two very precise sonar beams that are aimed at right angles to the path of the boat. The side beam coverage is very thin from front to back, yet very wide from top to bottom. The beams provide thin slices of the bottom for high resolution imaging. The beams can be operated at one of three display frequencies: MEGA, 800 kHz, or 455 kHz.

MSI sonar also provides MEGA Down Imaging and (2D) DualBeam PLUS sonar.



MEGA SI Cone Angles

MEGA

Select MEGA for the highest resolution, sharpness, and range (up to 250 ft side to side).

800 kHz

Select 800 kHz as an alternative frequency with sharp returns (up to 250 ft side to side).

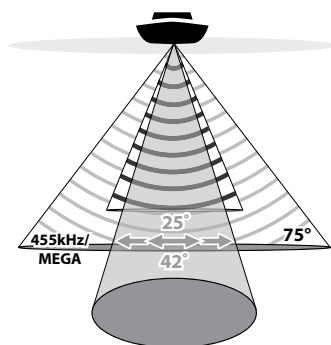
455 kHz

Select 455 kHz for deep water and overall coverage (up to 800 ft side to side).

MEGA DI

MDI sonar beams point down and scan the water with razor-thin, high definition beams that are wide side to side, but very thin from front to back. The beams can be operated at MEGA, 800 kHz, or 455 kHz.

MDI sonar also provides (2D) Dual Spectrum CHIRP sonar.



MEGA DI Cone Angles

MEGA

Select MEGA for the highest resolution, sharpness, and depth (up to 125 ft).

*For MEGA SI models, the depth is up to 75 ft.

800 kHz

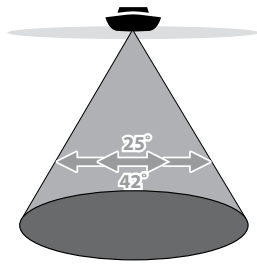
Select 800 kHz as an alternative frequency with sharp returns (up to 125 ft).

455 kHz

Select 455 kHz for deep water and overall coverage (up to 350 ft).

(2D) Dual Spectrum CHIRP

Dual Spectrum CHIRP sonar provides conical coverage directly below the boat. The beam can be adjusted to show the full, narrow, or wide frequency range. The sonar returns are displayed on the Sonar [2D] Views.



Dual Spectrum Cone Angles

Full	Select Full Beam [default] to use the complete frequency range.
Narrow	Select Narrow Beam for increased bottom detail and better target separation.
Wide	Select Wide Beam to maximize coverage and show big, clearly defined fish arches.

Dual Spectrum CHIRP

Transducers with HW Dual Spectrum CHIRP

Transducers with HW Dual Spectrum CHIRP			
MEGA SI+ XM 14 HW MSI T XTM 14 HW MSI T XPTH 14 HW MSI T XPTH 14 HW T XP 14 HW XP 14 HW T XTM 14 HW T	MEGA DI XM 14 20 MDI T XTM 14 20 MDI T	MEGA SI+ XM 14 HW MSI T XTM 14 HW MSI T XPTH 14 HW MSI T	(2D) Dual Spectrum CHIRP XNT 14 HW T

Traditional (2D) 83/200 kHz Sonar

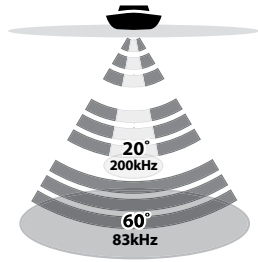
DualBeam PLUS sonar provides conical coverage directly below the boat. DualBeam PLUS sonar returns are displayed in Sonar [2D] Views. The beams can be blended together, viewed separately, or compared side-to-side.

83/200 kHz Transducers

83/200 kHz Transducers	
2D Sonar XNT 14 20 T XP 14 20 T XP 14 20 XTM 14 20 T XPTH 14 20 T	DI and SI XM 14 20 HDSI T XTM 14 20 HDSI T XPTH 14 20 HDSI T

DualBeam PLUS Sonar

DualBeam PLUS sonar provides conical coverage directly below the boat. The beam can be adjusted to show the medium, high, or medium-high frequency range. DualBeam PLUS sonar returns are displayed on the Sonar [2D] Views.



DualBeam Cone Angles

**Medium
[83 kHz]
Frequency**

Select Medium Frequency for deep water (more than 800 feet). Medium Frequency can be used for deep returns at high speed. If Medium Frequency is selected, the high frequency beam pings in the background but is not displayed.

**High
[200 kHz]
Frequency**

Select High Frequency for more detail at shallower depths (less than 800 feet). If High Frequency is selected, the medium frequency beam is not available.

**Medium/
High
[83/200 kHz]
Frequency**

Select Medium/High Frequency to ensure both beams ping continuously, so the sonar history is not interrupted if the Sonar View is closed.

The returns from both beams are blended by starting with the wide beam return, dimming it, and then overlaying it with the narrow beam return. The narrow beam sonar returns will stand out from the wide beam sonar returns.

Digital 50/200 kHz CHIRP Sonar

50/200 kHz Transducers

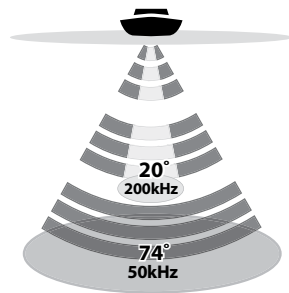
2D Models

XNT 14 74 T
74 HDSI T
XPTH 14 74 HDSI T

DI and SI Models

XM 14 74 MSI T
XPTH 14 74 MSI T
XT 14

2D Display



50/200 kHz Cone Angle

**50 kHz
[Low]**

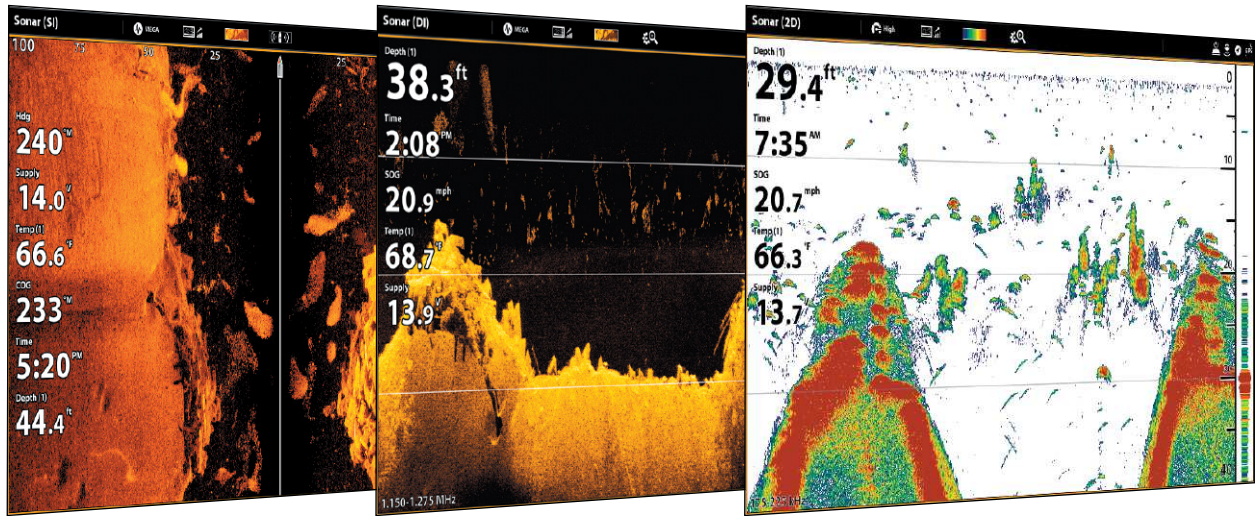
Select 50 kHz for deep water (more than 1500 feet). 50 kHz can be used for deep returns at high speed. If 50 kHz is selected, the 200 kHz beam pings in the background but is not displayed.

**200 kHz
[High]**

Select 200 kHz for faster pinging and shallower water (less than 800 feet).

SONAR SETUP

The available sonar views and menus on the control head are determined by the connected transducer and the selected transducer source. The selected transducer must be pinging to enable the views.



When you connect a transducer to a black box sonar or to the APEX or SOLIX control head, the transducer will be detected in the network automatically. The best sonar source will be chosen and start pinging automatically.

To manually select a sonar source, see *Installation Information: Set up your Humminbird Network*.

Transducer Settings: To review transducer settings, including sonar frequencies, depth offset, and maximum depth, see *Installation Information: Set up or Change Transducer Settings*. Also, visit our Web site at humminbird.com to download the Transducer Setup Guide and review troubleshooting options.

Sonar Settings: You can also change the water type, adjust the noise filter, and select transducer beams. The main sonar settings are displayed in the Sonar tab in the Settings tool [Home > Settings > Sonar]. If an accessory transducer is added to the configuration [such as a 360 Imaging transducer or an Airmar CHIRP transducer], the related menu options will be added to the menu system. See *Installation Information: Set up or Change Transducer Settings*.



NOTE: Visit our Web site at humminbird.com for the latest compatible transducers and accessories for your control head.

SONAR ALARMS

Before you start navigating and fishing with your control head, set up sonar alarms. A functioning transducer must be attached to the control head or selected as the transducer source on the network to enable all sonar functions.

Turn on Sonar Alarms

1. Press the HOME key.
2. Select Alarms.
3. Select Alarms > Sonar.
4. Select an alarm and turn it on. Tap the on/off button, or press the ENTER key, to turn it on.
5. Press and hold the slider, or press and hold the ENTER key, to adjust the range setting.

Fish [Shallow]	Turn on Fish [Shallow] to receive an alarm if fish are detected in shallow water. You can also adjust the shallow water range with the slider.
Fish [Deep]	Turn on Fish [Deep] to receive an alarm if fish are detected in deep water. You can also adjust the deep water range with the slider.
Shallow Water	If the bottom depth is less than the amount you set, the control head will provide an alarm.
Deep Water	If the bottom depth is more than the amount you set, the control head will provide an alarm.

2D SONAR OVERVIEW

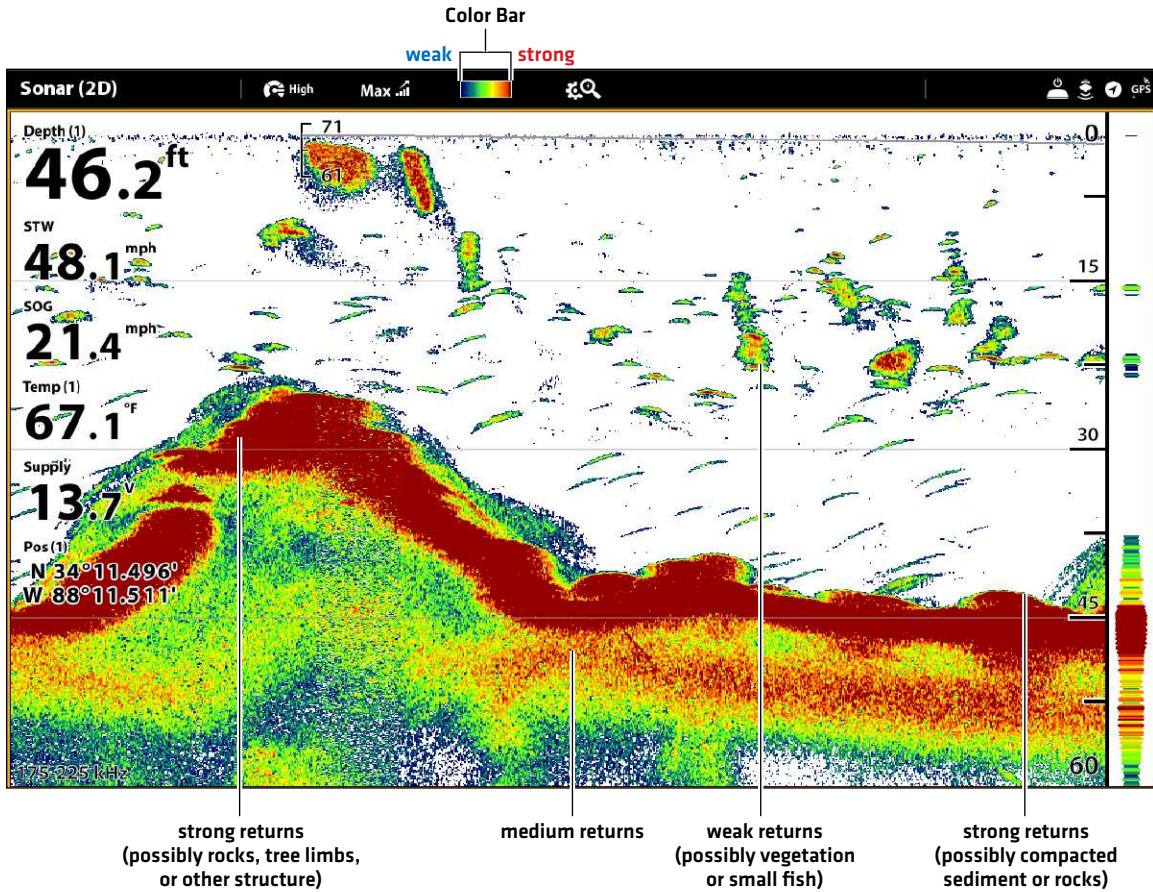
As the boat moves, the unit charts the changes in depth on the display to create a profile of the bottom contour. The 2D Sonar View displays the sonar return intensity with different colors.

Strong returns often result from rocky or hard bottoms [compacted sediment, rocks, fallen trees], while weaker returns often result from soft bottoms [sand, mud], vegetation, and small fish.

The colors used to represent high, medium, to low intensity returns are determined by the palette you choose in the Preferences menu [see *Open the 2D Sonar Preferences Menu: Change the Palette and Background*].

The control head displays the return intensity based on the Palette and Bottom View menu settings. You can display the RTS Window [Real Time Sonar], turn on/off fish symbols [Fish ID+], change the SwitchFire mode, adjust sensitivity, and more.

2D Sonar View: Original Palette

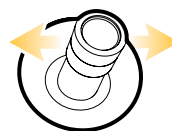


Sonar History – Historical returns scroll left across the view.



Drag to see History

OR



Move to see History