

**LOWRANCE®**

# Hook<sup>2</sup> Series

## Operator manual

5 HDI, 5 TS, 7X GPST, 7 HDI, 7 TS, 9 TS, 9 HDI,  
and 12 TS

ENGLISH





# Preface

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## Compliance statements

This equipment complies with:

- CE under 2014/53/EU Directive
- The requirements of level 2 devices of the Radio communications (Electromagnetic Compatibility) standard 2008

The relevant Declaration of Conformity is available in the product's section at the following website: [www.lowrance.com](http://www.lowrance.com).

## Warranty

This product's warranty is supplied as a separate document.

## About this manual

This manual is a reference guide for operating the following Hook<sup>2</sup> models: 5 HDI, 5 TS, 7X GPS TS, 7 HDI, 7 TS, 9 TS, 9 HDI, and 12 TS. As a result, screenshots of menus and dialogs may not match the look of your unit.

These units are only capable of the sonar views and frequencies indicated in the specification included in the transducer's installation guide for the transducer provided with the unit. The model is provided on the front of the unit. The following is a list of models, the transducer which should be used and the sonar functionality available.

- HDI models: The SplitShot transducer should be used which provides traditional sonar and DownScan functionality.
- TS models: The TripleShot transducer should be used which provides traditional sonar, DownScan and Side/StructureScan functionality.

Transducers added via one of the optional transducer adapter cables will still only have the available views and frequencies that

the display is designed to work with. Airmar transducers are not supported via the adapter cable.

In the manual, important text that requires special attention from the reader is emphasized as follows:

→ **Note:** Used to draw the reader's attention to a comment or some important information.

⚠ **Warning:** Used when it is necessary to warn personnel that they should proceed carefully to prevent risk of injury and/or damage to equipment/personnel.

## Manual version

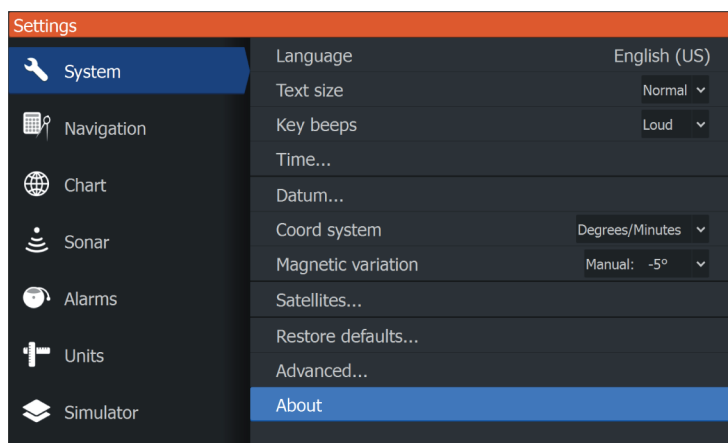
This manual is written for software version . The manual is continually updated to match new software releases. The latest available manual version can be downloaded from [www.lowrance.com](http://www.lowrance.com).

## The Software version

The software version currently on this unit can be found in the About dialog. The About dialog is available in the System Settings.

For more information, refer to *"About"* on page 75.

For upgrading your software, refer to *"Software upgrades"* on page 79.





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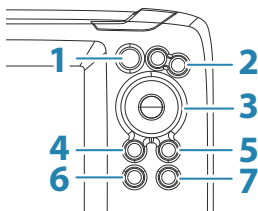
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# 1

## Introduction

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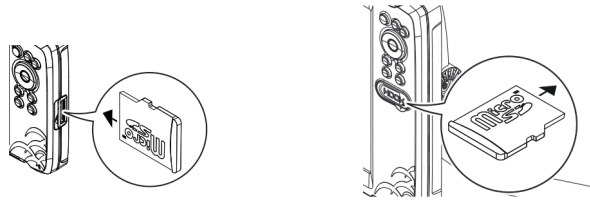
### Front controls



- 1 Pages** - Press to activate the Home page.
- 2 Zoom in/out** - Press to zoom the image.  
Press both keys simultaneously to create a MOB (Man Over Board) waypoint at the vessel's position.
- 3 Arrows** - On any full screen page: press to position the cursor on the image. Press to pan the image in any direction.  
On multiple panel pages: press to select a panel.  
In menus and dialogs: press to highlight an option.
- 4 Exit (X)** - On a maximized multiple panel page: press to return to the multiple panel page.  
In menus and dialogs: press to return to previous menu level and to exit a dialog.
- 5 Menu/Enter** - On any full screen page with no menu or dialog active: press to display the menu.  
On multiple panel pages: press to maximize the current selected panel.  
In menus and dialogs: press to confirm a selection.
- 6 Cursor/Waypoint** - Press to activate/deactivate the cursor.  
Press and hold to save a waypoint.
- 7 Power** - Press to display the System Controls dialog.  
Press and hold to power the unit on/off.

### Micro SD card

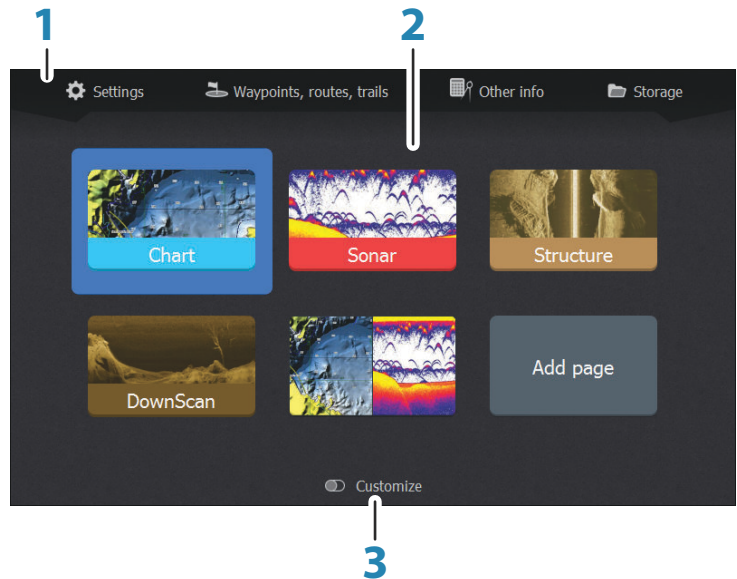
Depending on model the card reader is located either on the side or on the front.



## The Home page

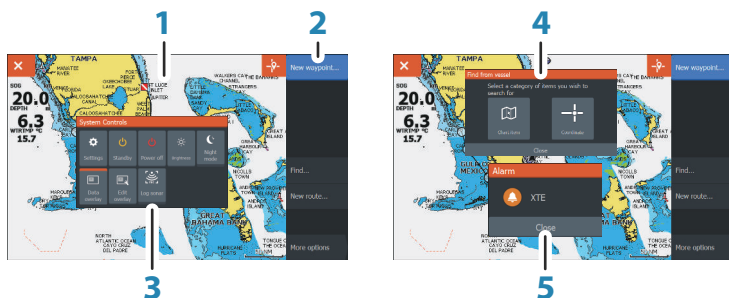
The Home page is accessed from any operation by a short press on the Pages key.

→ **Note:** Page icons on the Home page vary with model type.



- 1 **Tools panel** - Select a button to access dialogs used for carrying out a task, or for browsing stored information.
- 2 **Application page icons** - Select a button to display the application page.
- 3 **Customize** - Activate customize mode to delete or modify custom pages.

## Application pages



- 1 Application panel**
- 2 Menu** - Panel specific menu.
- 3 System Controls dialog** - Quick access to basic system settings.
- 4 Dialog** - Information to or input from the user.
- 5 Alarm message** - Displayed if dangerous situations or system faults occur.

Each application connected to the system is presented on panels. The application can be presented as a full page, or in combination with other panels in a multiple panel page. All application pages are accessed from the Home page.

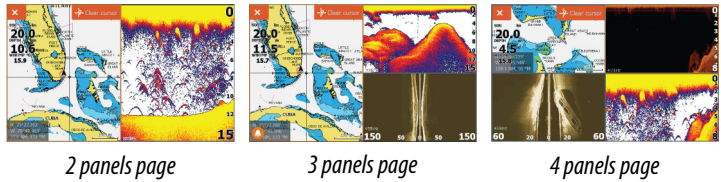
### Custom pages

The system is delivered with one preconfigured custom page, and you can create your own. All custom pages can be modified and deleted. To add a custom page, refer to *"Adding new custom pages"* on page 20.

To edit or delete a custom page, refer to *"Edit or delete custom pages"* on page 21.

### Multiple panel custom pages

You can have up to 4 panels on a custom page. Refer to *"Adding new custom pages"* on page 20.



Panel sizes in a multiple panel page can be adjusted from the System Controls dialog. Refer to *"Adjusting the split on multiple panel pages"* on page 21.

- With the cursor not active on any panel, switch active panel by using the Arrow keys. An active panel is indicated with an orange border.
- Maximize the active panel by pressing the Menu/Enter key. Press the Exit (X) key to go back to the multiple panel page.
- To display the panel menu, it must first be maximized. Once maximized, press the Menu/Enter key (again) to display the menu for the maximized pane. Press the Exit (X) key to close the menu, press the Exit (X) key again to go back to the multiple panel page.
- Activate the cursor on the active or maximized panel by pressing the Cursor/Waypoint key, then use the Arrow keys to position the cursor. Press the Cursor/Waypoint key again to remove the cursor.

# 2

## Basic operation

### System Controls dialog

The System Controls dialog provides quick access to basic system settings. You display the dialog by making a short press on the Power key.

The icons displayed on the dialog can vary. For example, the adjust splits option is only available if you are viewing a multiple panel page when you open the System Controls dialog.



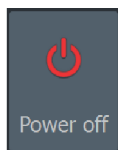
### Activating functions

Select the icon of the function you want to set or toggle on or off. For those functions that toggle on and off, an orange bar across the top of the icon indicates the function is activated, as shown in the Data overlay icon above.

### Turning the system on and off

You turn the system on and off by pressing and holding the Power key. You can also turn the unit off from the System Controls dialog.

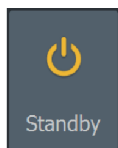
If the Power key is released before the shut-down is completed, the power off process is cancelled.



### Standby mode

In Standby mode, the Sonar and the backlight for screen and keys are turned off to save power. The system continues to run in the background.

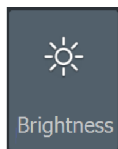
You select Standby mode from the System Controls dialog.



Switch from Standby mode to normal operation by a short press on the Power key.

## Display illumination

### Brightness



The display backlighting can be adjusted at any time from the System Controls dialog.

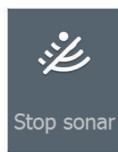
You can also cycle the preset backlight levels by short presses on the Power key.

### Night mode

The night mode option optimizes the color palette and backlight for low light conditions.

→ **Note:** Details on the panel may be less visible when the Night mode is selected.

## Stop sonar



Select the Stop sonar option in the System Controls dialog to stop all sonar from pinging. Use the stop sonar option anytime you want to disable all sonar but not power off the unit.

## Using menus and dialogs

### Menus

The menu is used to operate the system and to adjust settings.

Press the Menu/Enter key to display the page menu. Press the Menu/Enter key again to close the menu.

Use the Arrow keys to highlight a menu option, then press the Menu/Enter key to confirm the selection.

Scroll bars - activate the scroll bar in the menu and use the Arrow keys to adjust it. Press the Menu/Enter key to save your adjustment.

The status of the cursor (active vs. inactive) changes the menu options.

### Dialog boxes

Use the Arrow keys to highlight a dialog option, then press the Menu/Enter key to confirm the selection.

Numeric and alphanumeric keyboards are automatically displayed when required for entering user information in dialogs.

A dialog is closed by saving or cancelling the entry. A dialog can also be closed by pressing the Exit (X) key.

## Using the cursor on the panel

The cursor can be used to mark a position, and to select items.

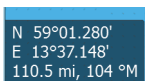
By default, the cursor is not shown on the panel.

Display the cursor by pressing the Cursor/Waypoint key and use the Arrow keys to move the cursor on the panel.

When the cursor is active on the chart page, the cursor position window is displayed. The bottom line of the window shows the distance and heading from the vessel to the cursor.

When the cursor is active on the sonar page, the window also shows the depth and temperature at the cursor.

To remove the cursor and cursor elements from the panel, press the Cursor/Waypoint key.



N 59°01.280'  
E 13°37.148'  
110.5 mi, 104 °M

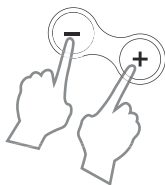
## Creating a Man Overboard waypoint

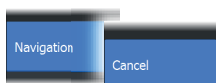
If an emergency situation should occur, you can save a Man Overboard (MOB) waypoint at the vessel's current position by pressing both the Zoom keys simultaneously.

When you activate the MOB function the following actions are automatically performed:

- A MOB waypoint is created at the vessel's position
- The display switches to a zoomed panel, centered on the vessel's position
- The cursor is positioned on the MOB waypoint, and navigation information to the MOB waypoint is shown in the cursor information window

Multiple MOB waypoints are saved by repeatedly pressing the zoom keys. The cursor information window continues to show navigation information to the initial MOB waypoint until the cursor is moved or removed from the panel.





## Cancel navigation to MOB

The system continues to display navigational information towards the MOB waypoint until you cancel the navigation from the menu.

## Display MOB waypoint information

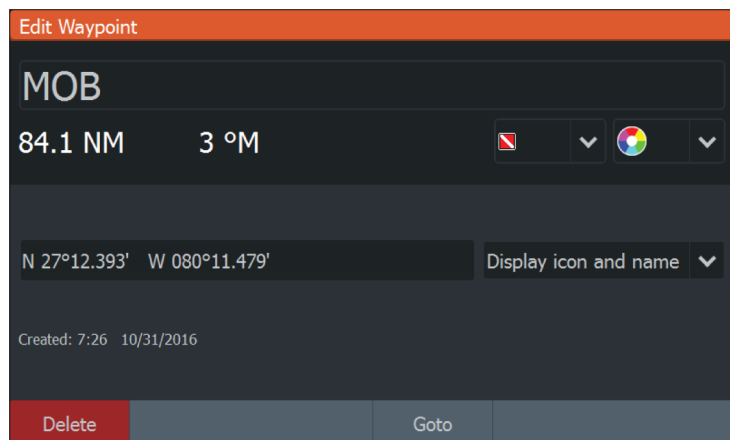
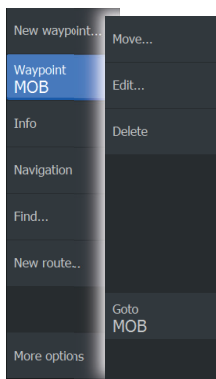
You can display MOB information by selecting the MOB waypoint so the MOB waypoint pop-up is displayed. Open the menu and select the Info option in the menu.

## The MOB waypoint menu option

When an MOB waypoint is activated, you can use the Waypoint MOB menu option to:

- **Move** it on the panel
- **Edit** its attributes
- **Delete** it
- **Goto** it

When you select the Edit menu option the Edit Waypoint dialog opens.



## Screen capture

Simultaneously press the Pages key and Power key to take a screen capture. Screen captures are saved to internal memory.

To view files, refer to *"Files"* on page 76.

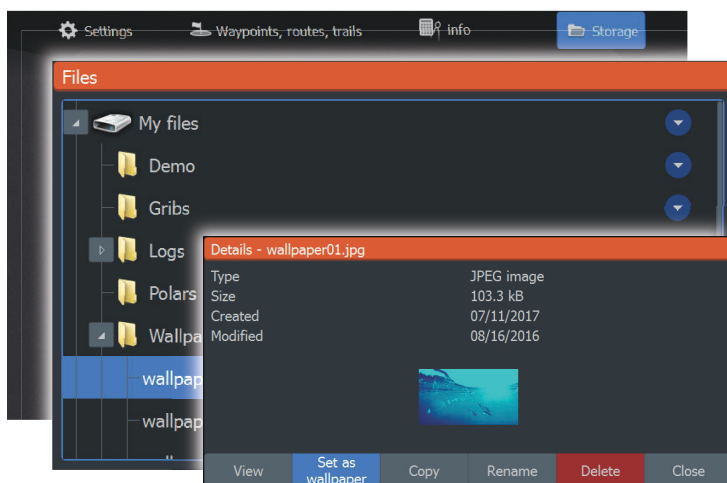
# 3

## Customizing your system

### Customizing the Home page wallpaper

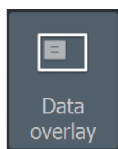
The Home page's wallpaper can be customized. You can select one of the pictures included with the system, or you can use your own picture in .jpg or .png format.

The images can be available on any location that can be seen in the files browser. When a picture is chosen as the wallpaper, it is automatically copied to the Wallpaper folder.



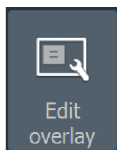
### Data overlay

You can have data information as overlay on a page.



#### Turning Data overlay on and off

You can turn overlay data on or off for any active page by selecting the Data overlay icon on the System Controls dialog. When Data overlay is on, an orange bar appears above the icon.



## Edit overlay data

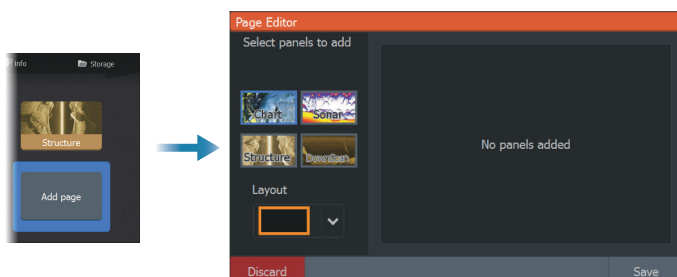
Use the Edit overlay option on the System Controls dialog to access edit menu options to:

- Add a new data overlay to the active panel.
- Delete a selected data overlay.
- Change a selected data overlay to display different data.
- Configure a selected data overlay appearance (digital or analog, size, etc.).
- Re-locate an item by selecting it and then the Move menu option. Use the Arrow keys to move selected item.

## Adding new custom pages

A maximum of 9 pages are allowed. You can have up to 4 panels on a custom page.

1. Select the add page icon on the Home page to open the page editor dialog



2. Use the Arrow keys to highlight a panel, then press the Menu/Enter key. The panel is added to the page.
3. (Optional) Repeat step 2 to add additional panels. A maximum of 4 panels are allowed.
  - To change the layout: use the Arrow keys to select the layout option. Use this option to specify how you want the panels displayed.
  - To remove a panel: use the Arrow keys to select the pane on the right side of the dialog and to highlight the delete (X) icon in the top right corner of the panel. Press the Menu/Enter key. The panel is removed from the pane on the right side of the dialog.
  - To move a panel: use the Arrow keys to select the pane on the right side of the dialog and to highlight the arrows icon in the

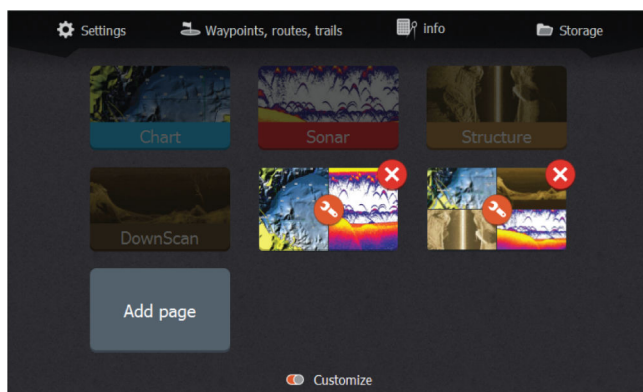
top left corner of the panel you want to move. Press the Menu/Enter key. A larger arrows icon is displayed. Use the Arrow keys to move the highlighted panel. Press the Menu/Enter key to save your adjustment.

**4.** Save the page layout.

The system displays the new custom page, and an icon for the new page is included on the Home page.

## Edit or delete custom pages

- 1.** On the Home page, use the Arrow keys to highlight the customize option and press the Enter/Menu key to turn ON the customize option.

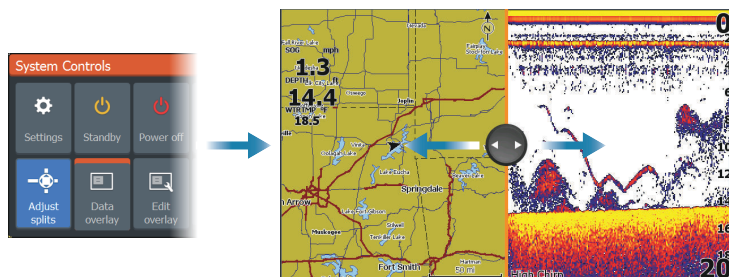


- 2.** Use the Arrow keys to:
- Select the X option on a custom page icon, and press the Menu/Enter key to remove the page
  - Select the tool option on a custom page icon, and press the Menu/Enter key to display the page editor dialog
- 3.** Change the layout, add, and remove panels using the custom page editor dialog. Refer to Step 3 in *"Adding new custom pages"* on page 20.
- 4.** Save or discard your changes to leave edit mode.

## Adjusting the split on multiple panel pages

- 1.** Open the multiple panel page
- 2.** Quick-press the Power key to open the System Controls dialog
- 3.** Select the adjust splits option. The cursor arrows icon appears on the multiple panel page.

4. Use the Arrow keys to move the split to the desired position
5. Press the Menu/Enter key to save the split adjustment.



# 4

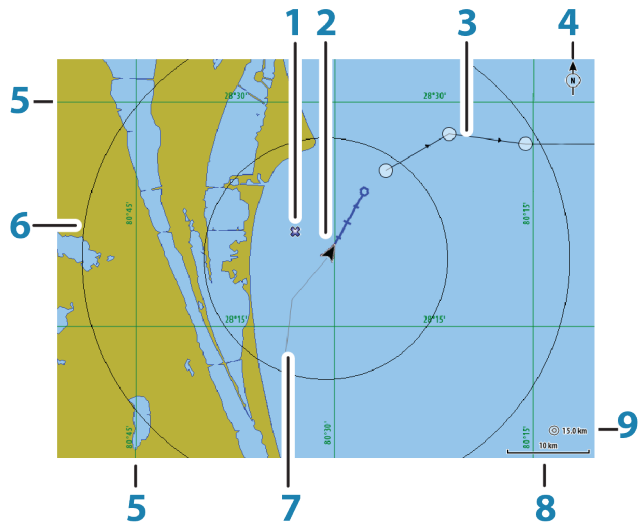
## Charts

→ **Note:** Charts are not available on 7x TS models. Instead the GPS function is available, refer to "*GPS plotter*" on page 34.

The chart function displays your vessel's position relative to land and other chart objects. On the chart panel you can plan and navigate routes, and place waypoints.

You can overlay a StructureScan image. Refer to "*StructureMap*" on page 68.

### The Chart panel



- 1 Waypoint\*
- 2 Vessel with extension line (extension line is optional)
- 3 Route\*
- 4 North indicator
- 5 Grid lines\*
- 6 Range rings\*
- 7 Trail\*

- 8 Chart range scale
- 9 Range rings interval (only displayed when Range rings are turned on)

\* Optional chart items. You turn the optional chart items on/off individually from the Chart settings dialog.

## Selecting chart type

You specify the chart type shown on the Chart panel by selecting one of the available chart types in the chart settings dialog. Refer to *"Chart settings"* on page 32.

## Vessel symbol

When the system has a valid GPS position lock, the vessel symbol indicates vessel position. If no GPS position is available, the vessel symbol includes a question mark.

## Chart scale

You zoom in and out on the chart by using the Zoom keys.

Chart range scale and range rings interval (when turned on) are shown in the lower right corner of the chart panel.



## Panning the chart

You can move the chart in any direction by using the Arrow keys to move the cursor to the edge of the chart panel in the desired direction.

To remove the cursor and cursor elements from the panel, press the Cursor/Waypoint key. This also centers the chart to the vessel position.

## Waypoints, Routes, and Trails

You can position and manage waypoints, routes and trails on the page. For more information, refer to *"Waypoints, Routes, and Trails"* on page 38.

## Navigating

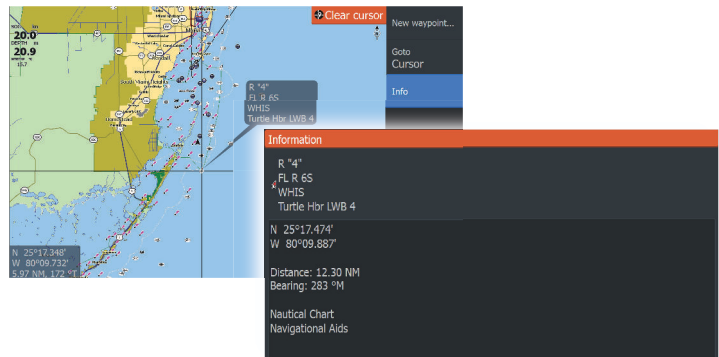
You can use the page for navigating to the cursor, to a waypoint, or navigate a route. Refer to *"Navigating"* on page 46.

## Displaying information about chart items

When you position the cursor over a chart item, waypoint, trail or a route, basic information for the selected item is displayed as a pop-up.

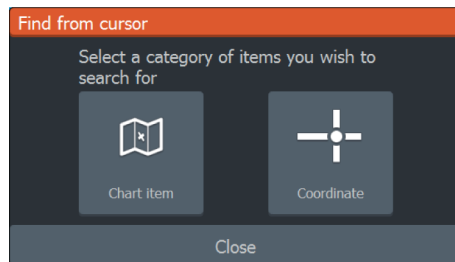
→ **Note:** Pop-up information has to be enabled in chart settings to see basic item information.

Select the info option in the menu to display a list of items near the cursor. Select an item in the list to display all available information for that item.



## Find objects on chart panels

Select the find menu option to search for chart items.



## Chart overlay

Structure (StructureMap) information can be displayed as overlay on your chart panel.

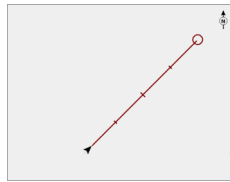
→ **Note:** Structure overlay (StructureMap) is only available on models that have TripleShot/SideScan capability.

When Structure overlay is selected, the chart menu expands to include basic menu functions for the overlay. Refer to "*StructureMap*" on page 68.

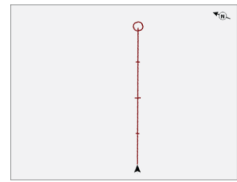
## Positioning the vessel on the chart panel

### Chart orientation

You can specify how the chart is rotated in the panel. The chart orientation symbol in the panel's upper right corner indicates the north direction.



*North up*



*Course up*

### **North up**

Displays the chart with north upward.

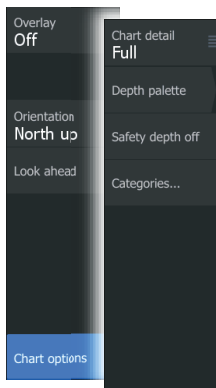
### **Course up**

The chart direction is depending on if navigating or not:

- when navigating: the desired course line is oriented up
- if not navigating: the direction the vessel is actually traveling (COG) is oriented up

### **Look ahead**

Moves the vessel icon on the panel to maximize your view ahead of the vessel.



## C-MAP specific chart options

Chart overlay, orientation, and look ahead options (previously described in this section) are common to both C-MAP and Navionics charts. The following describe C-MAP specific chart options.

### Chart detail

- **Full**  
All available information for the chart in use.
- **Medium**  
Minimum information sufficient for navigation.
- **Low**  
Basic level of information that cannot be removed, and includes information that is required in all geographic areas. It is not intended to be sufficient for safe navigation.

### Depth palette

Controls the Depth palette used on the map.

### Depth filter

Filters out depth values shallower than the selected depth filter limit.

### Safety depth

C-MAP charts use different shades of blue to distinguish between shallow (lighter shades) and deep (darker shades) water. After enabling Safety depth, specify the desired safety depth limit. The Safety depth sets the limit at which depths will be drawn without blue shading.

### Chart categories

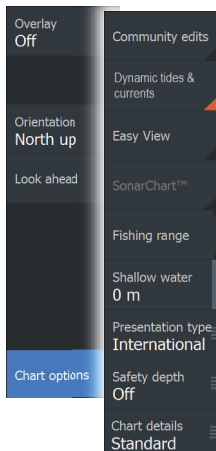
Several categories and sub-categories are included. You can turn on/off the categories individually depending on which information you want to see.

| Chart Categories       |   |
|------------------------|---|
| ▸ Lake Services        | ✓ |
| ▸ Nautical Chart       | ✓ |
| ▸ POI-Other            | ✓ |
| ▸ Political Boundaries | ✓ |
| ▸ Roads                | ✓ |
| ▸ Topo Boundaries      | ✓ |
| ▸ Water                | ✓ |
| ▸ Water Structure      | ✓ |

## Navionics charts

Some Navionics features require the most current data from Navionics. For those features, a message is displayed stating that the feature is unavailable if you do not have the appropriate Navionics charts or chart card inserted. For more information on what is required for these features, refer to [www.navionics.com](http://www.navionics.com).

You can also get a message if you try to use a restricted feature when the Navionics chart card is not activated. To activate the card, contact Navionics.



## Navionics specific chart options

Chart overlay, orientation, and look ahead options (previously described in this section) are common to both C-MAP and Navionics charts. The following describe Navionics specific chart options.

### **Community edits**

Toggles on the chart layer including Navionics edits. These are user information or edits uploaded to Navionics Community by users, and made available in Navionics charts.

For more information, refer to Navionics information included with your chart, or to Navionics website: [www.navionics.com](http://www.navionics.com).

### **SonarChart Live**

SonarChart Live is a real-time feature where the device creates an overlay of depth contours based on your own live sonar soundings.

In the Navionics chart menu, select **Overlay** and then **SonarChart Live** to display it as an overlay on the chart.

When you select SonarChart Live overlay the menu expands to display SonarChart Live Options. Use the options to set the transparency and minimum depth.

#### **Transparency**

The SonarChart Live overlay is drawn on top of other chart data. The chart data is completely covered at minimum transparency. Adjust the transparency to allow the chart details to be seen.

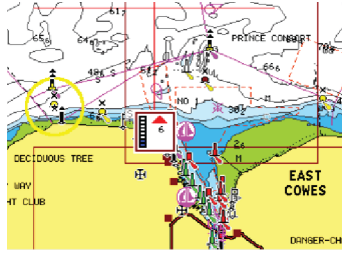
#### **Minimum depth**

Adjusts what SonarChart Live rendering treats as the safety depth. This affects the coloring of the SonarChart Live area. As the vessel approaches the safety depth, the SonarChart Live area will gradually change from a simple grey/white to red.

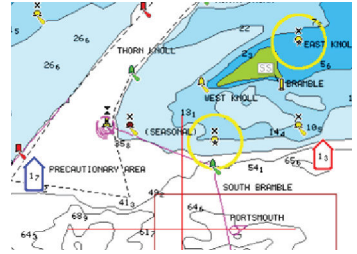
### **Navionics dynamic tide and current icons**

Shows tides and currents with a gauge and an arrow instead of the diamond icons used for static tides and current information.

The tide and current data available in Navionics charts are related to a specific date and time. The system animates the arrows and/or gauges to show the tides and currents evolution over time.



*Dynamic tide information*



*Dynamic current information*

The following icons and symbology are used:



### Current speed

The arrow length depends on the rate, and the symbol is rotated according to flow direction. Flow rate is shown inside the arrow symbol. The red symbol is used when current speed is increasing, and the blue symbol is used when current speed is decreasing.



### Tide height

The gauge has 8 labels and is set according to absolute max/min value of the evaluated day. The red arrow is used when tide is rising, and the blue arrow is used when tide is falling.

→ **Note:** All numeric values are shown in the relevant system units (unit of measurement) set by user.

### Easy View

Magnifying feature that increases the size of chart items and text.

→ **Note:** There is no indication on the chart showing that this feature is active.

### SonarChart

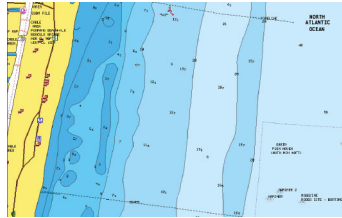
The system supports the Navionics SonarChart feature.

SonarChart displays a bathymetry map showing high resolution contour detail and standard navigational data. For more information, refer to [www.navionics.com](http://www.navionics.com).

### **Fishing range**

Select a range of depths between which Navionics fills with a different color.

This allows you to highlight a specific range of depths for fishing purposes. The range is only as accurate as the underlying chart data, meaning that if the chart only contains 5 meter intervals for contour lines, the shading is rounded to the nearest available contour line.



### Safety depth

The Navionics charts use different shades of blue to distinguish between shallow and deep water.

Safety depth, based on a selected limit, is drawn without blue shading.

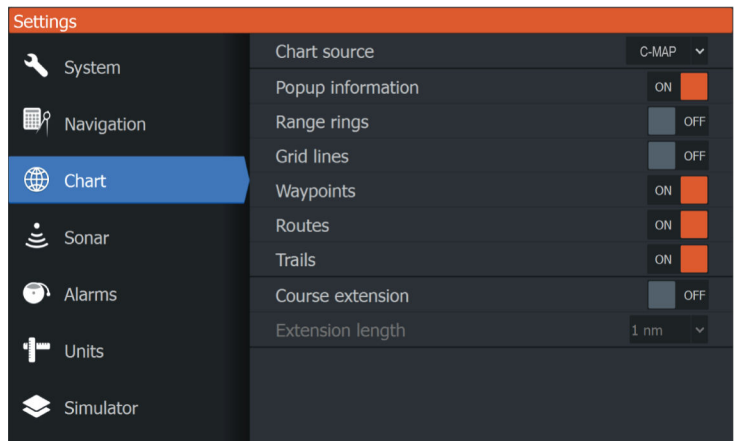
→ **Note:** The built in Navionics database features data down to 20 m, after which it is all white.

### Chart details

Provides you with different levels of geographical layer information.

## Chart settings

Select the settings option in the System Controls dialog to access the chart settings dialog.



### Chart source

Change chart source if a chart card is inserted.

### Pop-up information

Selects whether basic information for panel items is displayed when you select the item.

## **Range Rings**

The range rings can be used to present the distance from your vessel to other panel objects.

The range scale is set automatically by the system to suit the panel scale.

## **Grid lines**

Turns on/off viewing of longitude and latitude grid lines on the panel.

## **Waypoints, Routes, Trails**

Turns on/off displaying these items on panels.

## **Course extension line**

Turns on/off displaying the Course Over Ground (COG) extension line on the panel. The COG is based on information from the GPS.

## **Extension line length**

When the course extension option is turned on, specify the length of the line to be displayed.

## **SonarChart Live tide correction**

When selected, the tide correction feature uses information from nearby tide stations (if available) to adjust the depth values used by SonarChart Live as the sonar is recorded.

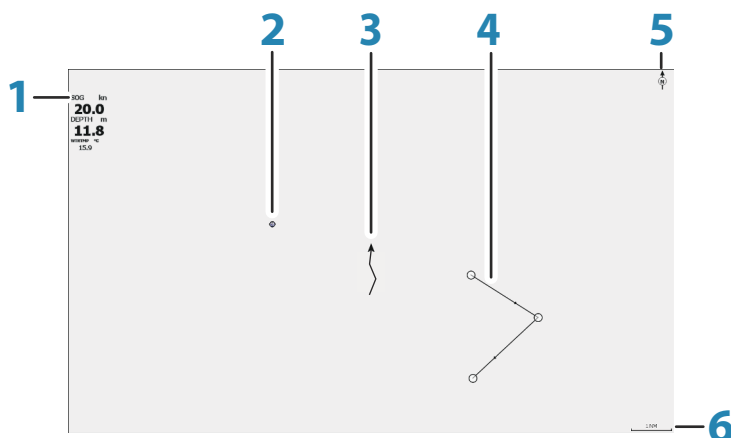
# 5

## GPS plotter

→ **Note:** The GPS plotter page is available on 7x TS models only.

The GPS plotter page displays your vessel's position. On the GPS plotter page you can plan and navigate routes, see your vessel's trail, and place waypoints.

### GPS plotter page



- 1 Data overlay (Can be edited, moved or removed. Refer to "Data overlay" on page 19).
- 2 Waypoint\*
- 3 Vessel with trail (displaying the trail is optional\*)
- 4 Route\*
- 5 North indicator
- 6 Range scale

\* Optional items. You turn the optional items on/off individually from the GPS settings dialog.

## Vessel symbol

When the system has a valid GPS position lock, the vessel symbol indicates vessel position. If no GPS position is available, the vessel symbol includes a question mark.

## GPS plotter page scale

You zoom in and out on the GPS plotter page by using the Zoom keys.

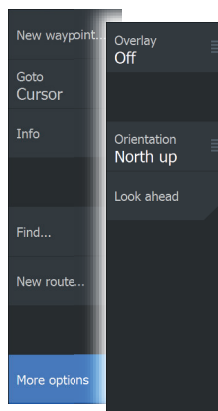
The GPS plotter page range scale and range rings interval (when turned on) are shown in the lower right corner of the page.

## Panning the GPS plotter image

You can move the image in any direction by using the Arrow keys to move the cursor to the edge of the panel in the desired direction.

To remove the cursor and cursor elements from the page, press the Cursor/Waypoint key. This also centers the image to the vessel position.

## GPS view options



### GPS overlay

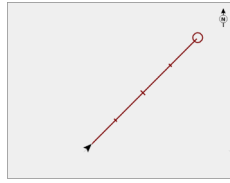
Structure (StructureMap) information can be displayed as overlay on your chart panel.

When Structure is selected, the GPS menu expands to include basic menu functions for Structure (StructureMap) overlay. For more information refer to "*StructureScan*" on page 59.

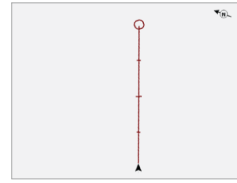
### Positioning the vessel on the page

#### **GPS image orientation**

You can specify how the GPS image is rotated in the panel. The orientation symbol in the panel's upper right corner indicates the north direction.



*North up*



*Course up*

### North up

Displays the GPS plotter image with north upward.

### Course up

The GPS plotter image direction is depending on if navigating or not:

- when navigating: the desired course is oriented up
- if not navigating: the direction the vessel is actually traveling (COG) is oriented up

### **Look ahead**

Moves the vessel icon on the panel to maximize your view ahead of the vessel.

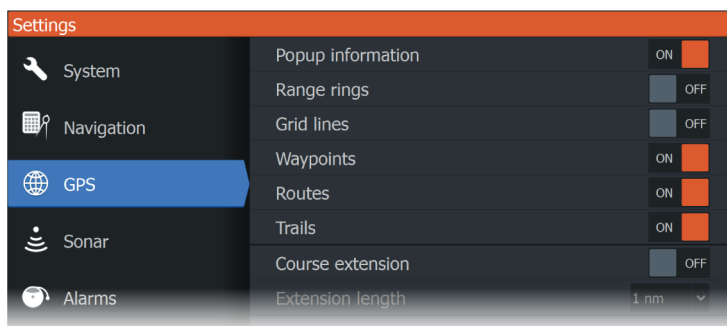
## Waypoints, Routes, and Trails

You can position and manage waypoints, routes and trails on the page. For more information, refer to *"Waypoints, Routes, and Trails"* on page 38.

## Navigating

You can use the page for navigating to the cursor, to a waypoint, or navigate a route. Refer to *"Navigating"* on page 46.

## GPS plotter settings



### Pop-up information

Selects whether basic information for panel items is displayed when you select the item.

### Range Rings

The range rings can be used to present the distance from your vessel to other panel objects.

The range scale is set automatically by the system to suit the panel scale.

### Grid lines

Turns on/off viewing of longitude and latitude grid lines on the panel.

### Waypoints, Routes, Trails

Turns on/off displaying these items on panels.

### Course extension line

Turns on/off displaying the Course Over Ground (COG) extension line on the panel. The COG is based on information from the GPS.

### Extension line length

When the course extension option is turned on, specify the length of the line to be displayed.

# 6

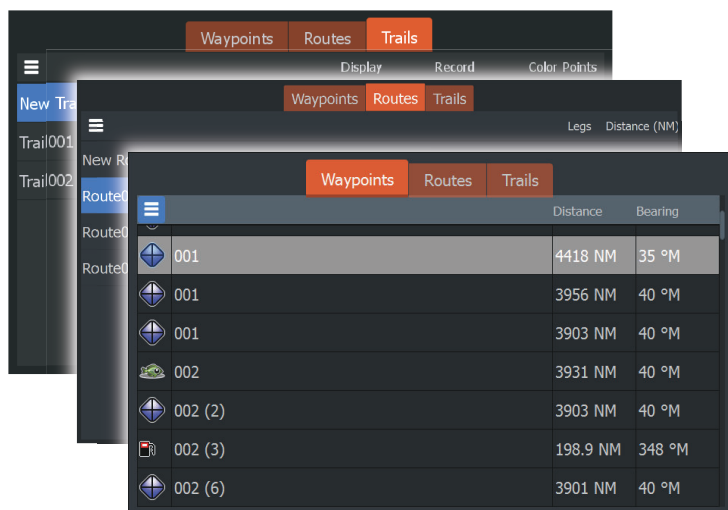
## Waypoints, Routes, and Trails

### Waypoints, Routes, and Trails dialogs

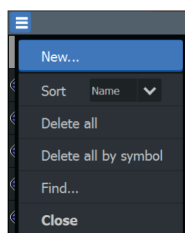
The Waypoints, Routes, and Trails dialogs give access to advanced edit functions and settings for these items.

The dialogs are accessed from the Tools panel on the Home page.

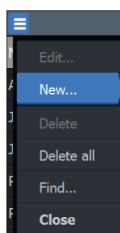
Waypoints, routes, trails



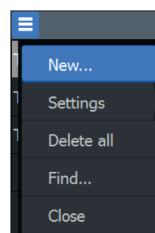
Select the menu icon on the dialog to access additional options.



Waypoint options



Routes options



Trails options

### Waypoints

A waypoint is a user generated mark positioned on the chart or GPS plotter panel. Each waypoint has an exact position with latitude and

longitude coordinates. A waypoint is used to mark a position you later may want to return to. Two or more waypoints can also be combined to create a route.



## Saving waypoints

Press and hold the Cursor/Waypoint key to save a new waypoint.

- With cursor inactive, the waypoint is placed at the vessel's position
- With cursor active, the waypoint is placed at the cursor position

## Moving a waypoint

1. Press the Cursor/Waypoint key.
2. Maneuver the cursor so it is over the waypoint
3. Activate the menu and select the waypoint in the menu. The menu expands to include the move option.
4. Select the move option in the menu
5. Use the Arrow keys to move the waypoint to the new position
6. Press the Menu/Enter key.

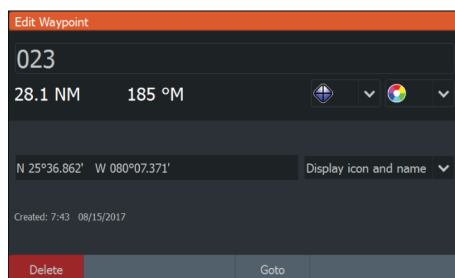
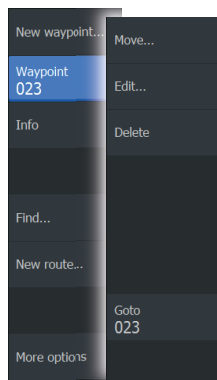
The waypoint is saved at the new position.

## Edit a waypoint

You can edit all information about a waypoint from the Edit Waypoint dialog.

The dialog is activated by positioning the cursor over the waypoint, selecting the waypoint in the menu, and then the Edit menu option.

The dialog can also be accessed by activating the Waypoints, Routes, Trails dialog on the tools panel on the Home page. Select the Waypoints tab and then the waypoint you want to edit.



## Delete a waypoint

You can delete a waypoint from the Edit Waypoint dialog or by selecting the Delete menu option when the waypoint is activated.

The Edit Waypoint dialog is activated by positioning the cursor over the waypoint, selecting the waypoint in the menu, and then the delete menu option.

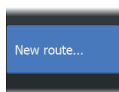
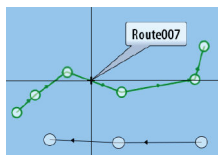
The Edit Waypoint dialog can also be accessed by activating the Waypoints, Routes, Trails dialog on the tools panel on the Home page. Select the Waypoints tab, the waypoint you want to delete and then the delete option.

You can delete MOB waypoints the same way.

## Routes

A route consists of a series of routepoints entered in the order that you want to navigate them.

When you select a route on the panel it turns green, and the route name is displayed.



### Creating a new route on the page

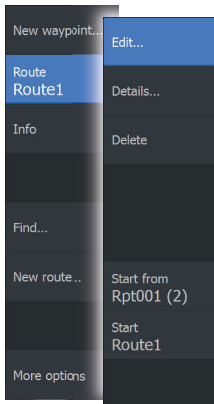
1. Select the new route option from the menu
2. Press the Cursor/Waypoint key to activate the cursor on the panel
3. Use the Arrow keys to position the cursor at the first routepoint on the panel
4. Press the Menu/Enter key to create the routepoint
5. Repeat steps 3 and 4 to continue positioning new routepoints on the panel until the route is completed
6. Press the Exit (X) key when completed and save the route.

### Edit a route from the panel

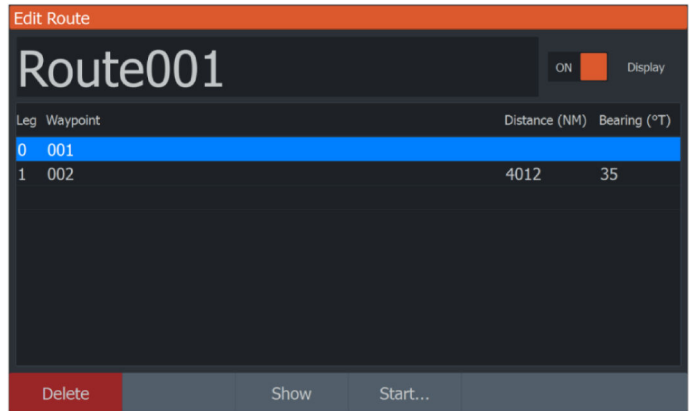
You can edit a route by placing the cursor over the route and then selecting the route in the menu. Select the edit option in the menu. This opens the Edit route dialog.

The dialog can also be accessed by activating the Waypoints, Routes, Trails dialog on the tools panel on the Home page. Select the Route tab and then the route you want to edit.

To edit the route from the panel:



1. Maneuver the cursor over the route in the panel. The route pop-up is displayed.
2. Press the Menu/Enter key and use the Arrow keys to select the route in the menu. The menu expands with additional options.
  - The edit option allows you to move and remove routepoints on the panel.
  - The details option opens the edit route dialog where you can set route options, rename and manage details.



3. Use the Arrow keys to select the option you want to use and press the Menu/Enter key.
4. Follow the prompts to make changes and save your changes.

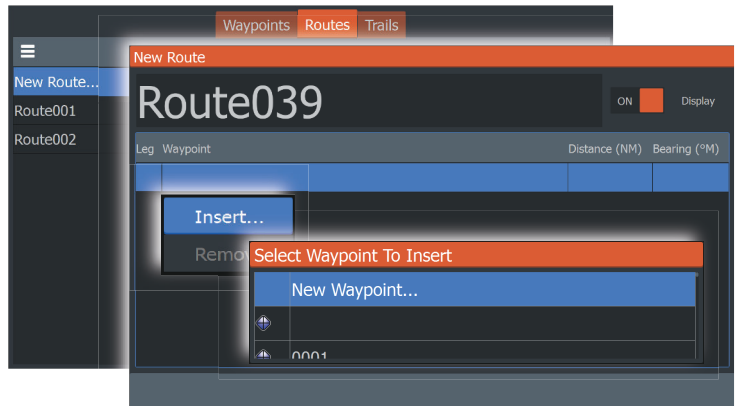
## Delete a route

You can delete a route by placing the cursor over the route and then selecting the route in the menu and then select the delete option in the expanded menu.

## Creating routes using existing waypoints

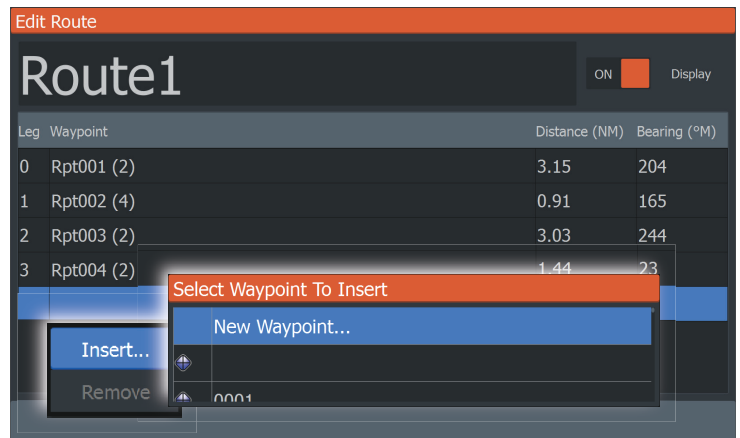
You can create a new route by combining existing waypoints from the New Routes dialog.

The dialog is activated by selecting the route tab in the dialog displayed when you select the Waypoint, Routes, and Trails tool on the Home page. Next, select the New route option.



You can also insert existing waypoints in an existing route from the Edit Routes dialog.

From the Edit Routes dialog, select the routepoint in the list where you want to insert the waypoint and press the Menu/Enter key.

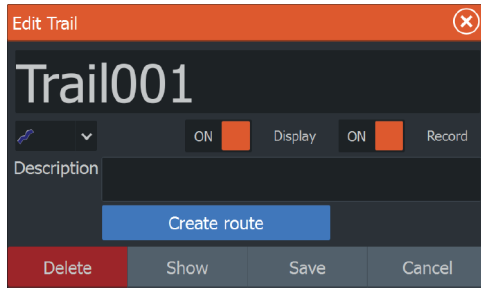


## Converting Trails to Routes

You can convert a trail to a route from the Edit Trail dialog.

The dialog is accessed by selecting the Trails tab in the dialog displayed when you select Waypoint, Tracks, Trails tool on the Home page and then selecting the trail you want to convert.

Select the create route option to convert the trail to a route.



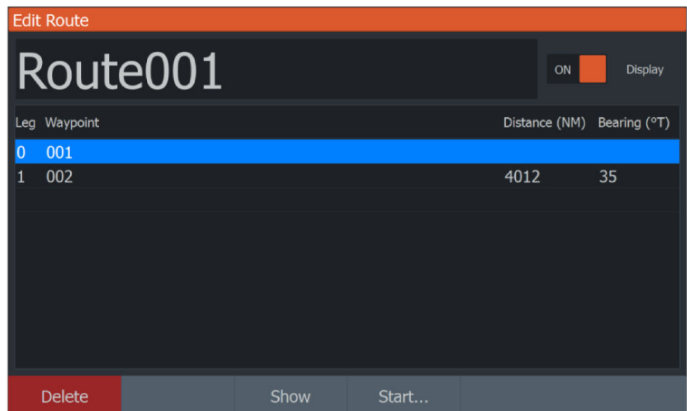
## The Edit Route dialog

You can add and remove routepoints, and change route properties using the Edit Route dialog.

This dialog is activated by placing the cursor over the route and selecting the route in the menu.

The dialog can also be accessed by selecting the route tab in the dialog displayed when you select the Waypoint, Routes, and Trails tool on the Home page.

Select the name field to change the name. Turn on Display to show the route on the panel.

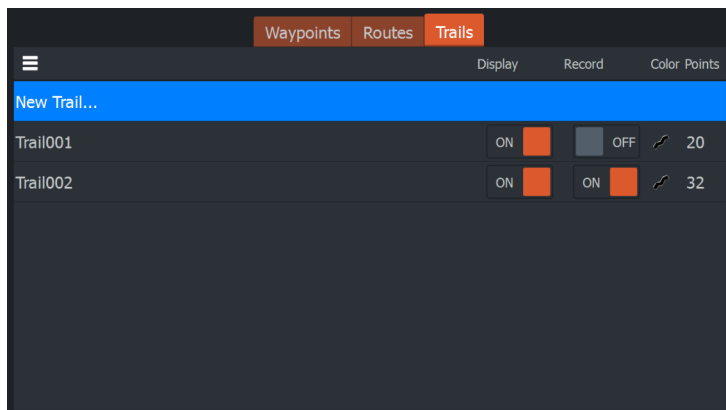


## Trails



Trails are a graphical presentation of the historical path of the vessel, allowing you to retrace where you have travelled.

Trails can be converted to routes from the Edit Trails dialog. Refer to *"Converting Trails to Routes"* on page 42.



From the factory, the system is set to automatically track and draw the vessel's movement on the panel. The system continues to record the trail until the length reaches the maximum points, and then automatically begins overwriting the oldest points.

The automatic tracking function can be turned off from the Edit Trails dialog.

## Creating new Trails

You can start a new trail from the Trails dialog, activated by using the Waypoints, Routes, Trails tool on the Home page and selecting the Trails tab.

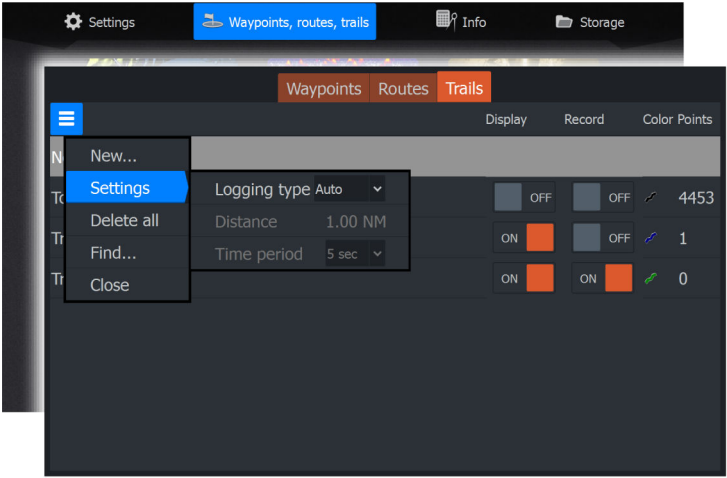
## Trails settings

Trails are made up of a series of points connected by line segments whose length depends on the frequency of the recording.

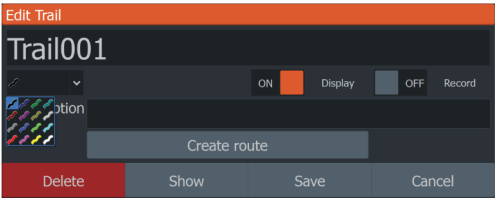
You can select to position trail points based on time settings, distance, or by letting the system position a trail point automatically when a course change is registered.

To specify how trail points are positioned on a trail, select the menu icon on the Trails dialog and then the Settings option.

→ **Note:** The Trails option must also be turned ON in the panel settings dialog to be visible.



You can color trails by selecting the trail in the Trails dialog and set the color in the Edit Trail dialog.



## Navigating

---

The navigation function included in the system allows you to navigate to the cursor position, to a waypoint, or along a predefined route.

For information about positioning waypoints and creating routes, refer to *"Waypoints, Routes, and Trails"* on page 38.

When you select to navigate to the cursor position, to a waypoint or a predefined route, the Navigation option appears in the menu. Select Navigate to access cancel, restart, and skip a routepoint options.

### Navigate to cursor position

You can start navigating to a cursor position on any chart/GPS plotter or sonar panel.

Position the cursor at the selected destination on the panel, and then select the Goto Cursor option in the menu.

→ **Note:** The Goto Cursor menu option is not available if you are already navigating.

### Navigate to a waypoint

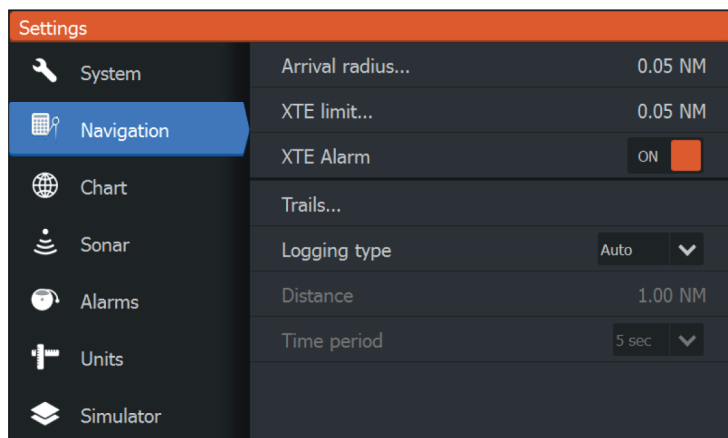
You can start navigating towards a waypoint on the panel. Position the cursor over the waypoint, select the waypoint in the menu and then the Goto waypoint option in the menu.

### Navigate a route

You can navigate a route on the image by positioning the cursor over the route, selecting the route in the menu and then the start route option in the menu.

When route navigation is started, select the Navigation menu option for canceling the navigation, skipping a waypoint, and restarting the route from current vessel position.

## Navigation settings



### Arrival radius

Sets an invisible circle around the destination waypoint.

The vessel is considered arrived at the waypoint when it is within this radius.

### XTE limit

This setting defines how far the vessel can deviate from the selected route, if the vessel goes beyond this limit, an alarm is activated.

### XTE alarm (Cross track error)

Turns on/off the XTE alarm.

### Trails

Opens the Trails dialog where trails settings can be adjusted and trails can be converted into routes for navigation. Refer to *"Trails"* on page 43.

### Logging type

You can select to record trail points based on time, distance, or by letting the unit position a point automatically when a course change is registered.

Specify one of the following logging types in the Navigating Settings dialog:

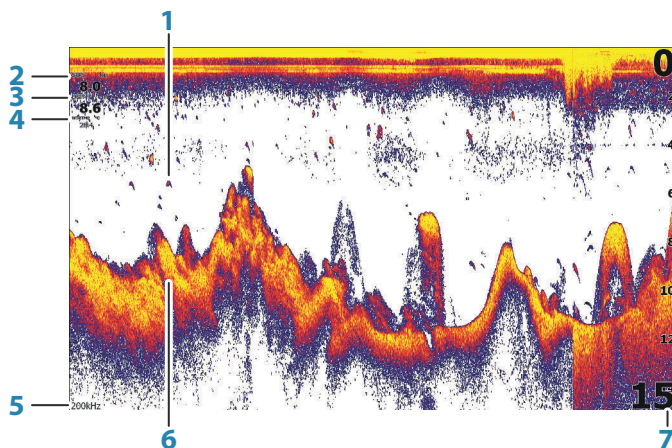
- **Auto** - the unit positions a point automatically when a course change is registered.
- **Distance** - select the Distance field and enter the distance you want to record.
- **Time** - select the Time field and enter the time you want to record.

# 8

## Sonar

The Sonar function provides a view of the water and bottom beneath your vessel, allowing you to detect fish and examine the structure of the bottom.

### The Sonar image



- 1 Fish arches
- 2 Speed over ground\*
- 3 Depth\*
- 4 Water Temperature\*
- 5 Frequency
- 6 Bottom
- 7 Range scale

\* Optional Sonar data overlay that you can modify. Refer to "Data overlay" on page 19.

## Zooming the image

You can zoom the image by using the Zoom keys.

The zoom level is shown on the bottom left side of the image.

When zooming with no active cursor, the sea floor is kept near the bottom of the screen. If the cursor is active, the unit zooms where the cursor is pointed.

You can also zoom the image as a split screen and display zoom bars. Refer to split screen *"Zoom"* on page 53.

## Viewing history

You can view sonar history by panning the image. To pan the image, position the cursor on the image. This stops automatic scrolling.

- Use the left Arrow key to move the cursor to left edge of the image. Continue pressing the left Arrow key so the image pans to the left and the historical image is viewed.
- Use the right Arrow key in the same manner to pan the image back to the right and display the most current image.
- To resume normal scrolling, press the Cursor/Waypoint key to remove the cursor from the image.

## Customize the image settings

By default the unit is set to Auto mode, and most settings are automated. It is recommended that only experienced sonar users use the customize settings to further customize the image.

Select Auto in the menu and change to custom or ice fishing mode to customize image settings.

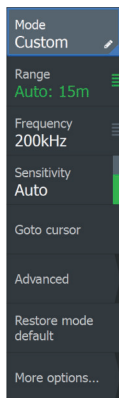
Use More options in the menu, to set access additional options for the image. Refer to *"More options"* on page 53.



## Custom and Ice Fishing mode options

Custom and Ice fishing modes allow access to controls for manually tuning the sonar.

→ **Note:** The options below are only visible in Custom or Ice Fishing modes.



## The range

The range setting determines the water depth that is visible on the screen.

## Frequency

The unit supports several transducer frequencies. Available frequencies depend on the transducer model that is connected.

## Sensitivity

Increasing Sensitivity shows more detail on the screen. Decreasing Sensitivity displays less. Too much detail clutters the screen. Conversely, desired echoes may not be displayed if Sensitivity is set too low.

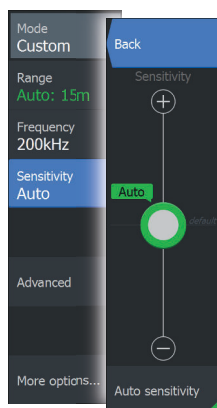
→ **Note:** Auto Sensitivity is the preferred mode for most conditions.

### Auto sensitivity

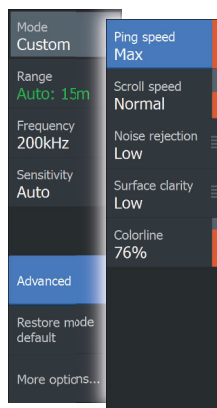
Auto sensitivity automatically adjusts the sonar return to the optimal levels. Auto sensitivity can be adjusted (+/-) to your preference while still maintaining the auto sensitivity functionality.

### Adjusting Sensitivity

1. Select the Auto sensitivity menu option to turn off the auto setting.
2. Use the Arrow keys to highlight the scroll bar menu option.
3. Press the Menu/Enter key to activate it.
4. Use the Arrow keys to adjust it.
5. Press the Menu/Enter key to confirm the setting.
6. Press the Exit (X) key to leave the menu.



## Advanced options



### ***Ping speed***

Ping speed controls the rate the transducer transmits the signal into the water. By default, the ping speed is set to max. It may be necessary to adjust the ping speed to limit interference or to adjust for specific fishing conditions.

### ***Scroll speed***

You can select the scrolling speed of the image on the screen. A high scroll speed updates the image fast, while a low scroll speed presents a longer history.

→ **Note:** In certain conditions it may be necessary to adjust the scroll speed to get a more useful image. Such as adjusting the image to a faster speed when vertically fishing without moving.

### ***Noise rejection***

Signal interference from bilge pumps, engine vibration and air bubbles can clutter the image.

The noise rejection option filters the signal interference and reduces the on-screen clutter.

### ***Surface clarity***

Wave action, boat wakes, and temperature inversion can cause onscreen clutter near the surface. The surface clarity option reduces surface clutter by decreasing the sensitivity of the receiver near the surface.

### ***Colorline***

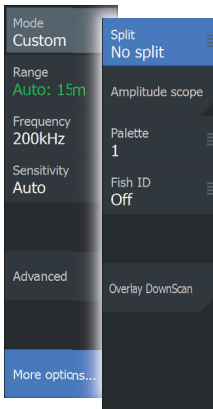
Allows the user to adjust the colors of the display to help differentiate softer targets from harder ones. Adjusting the Colorline can help separate fish and important structures on or near the bottom from the actual bottom.

Use the up and down Arrow keys to adjust the scroll bar.

### ***Restore mode default***

This menu option is available if you customize one or more settings. When selected all the customized settings are changed back to the default settings.

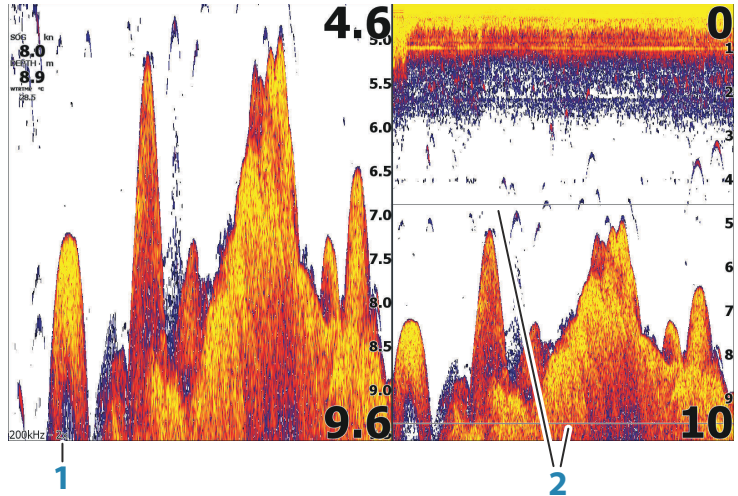
## More options



### Split screen options

Split screen options are available on the split screen sub-menu.

### Zoom



- 1 Zoom level
- 2 Zoom bars

The Zoom mode presents a magnified view of the sonar image on the left side of the panel. By default, the zoom level is set to 2x. You can zoom up to 8x, using the Zoom keys. The range zoom bars on the right side of the display shows the range that is magnified. If you increase the zooming factor the range is reduced. You see this as reduced distance between the zoom bars.

### Bottom lock

The bottom lock mode is useful when you want to view echoes close to the bottom. In this mode, the left side of the panel shows an image where the bottom is flattened. The range scale is changed to measure from the seabed (0) and upwards. The bottom and the zero line are always shown on the left image, independent of the

range scale. The scaling factor for the image on the left side of the panel is adjusted as described for the Zoom option.

### **Flasher**

The Flasher mode shows a flasher-style sonar view in the left panel and a normal sonar view in the right panel.

### **Amplitude scope**

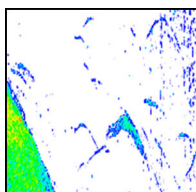
The Amplitude scope is a display of real-time echoes as they appear on the panel. The strength of the actual echo is indicated by both width and color intensity.

### **Palettes**

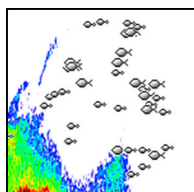
You can select between several display palettes optimized for a variety of fishing conditions.

### **Fish ID**

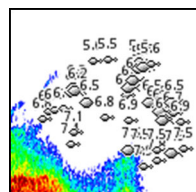
You can select how you want the echoes to appear on the screen. You can also select if you want to be notified by a beep when a fish ID appears on the panel.



*Traditional fish echoes*



*Fish symbols*



*Fish symbols and depth indication*

→ **Note:** Not all fish symbols are actual fish.

### **Fish ID beeps**

When selected the system beeps when a fish is identified.

### **Overlay downscan**

When a DownScan source is connected to your system, you can overlay DownScan images on the regular Sonar image.

When activated, the Sonar menu expands to include basic DownScan options.



## Start recording sonar log data

You can start recording sonar log data and save the file internally in the unit, or save it onto a card inserted into the unit's card reader.

The Log sonar dialog is activated from the System Controls, or from the Sonar Settings dialog.

A screenshot of the 'Log Sonar' dialog box. The dialog has a dark background with a light orange header bar containing the text 'Log Sonar'. Below the header, there are several rows of settings: 'Filename' with the value 'Sonar002', 'File format' with the value 'sl2 (Sonar & Structure)', 'Save to' with the value 'Internal', and 'Create StructureMap' with a checked checkbox. At the bottom, there is a 'Time remaining' field showing '12:11:08'. At the very bottom of the dialog are two buttons: 'Record' and 'Cancel'.

When the data is being recorded, there is a flashing red symbol in the top left corner and a message appears periodically at the bottom of the screen.

### Filename

Specify the name of the recording (log).

### File format

Select a file format from the drop-down, slg (Sonar only), xtf (Structure only\*), or sl2 (Sonar and Structure).

→ **Note:** XTF format is for use only with select 3rd party Sonar viewing tools.

### Save to

Select whether the recording is to be saved internally or to a memory card in the card reader.

### Create StructureMap

→ **Note:** This option is only available on models that have TripleShot/StructureScan capability.

If your model has TripleShot/StructureScan capability, you can convert the .sl2 logs to StructureMap format (.smf) when recording completes.

The log file can also be converted to StructureMap format from the Files option.

## Time remaining

Shows the remaining allocated space available for recordings.

## Stop recording sonar log data

Select Stop logging in the System Controls dialog and then Stop in the Logging Sonar dialog to stop the recording of all sonar log data.



| Logging Sonar  |               |
|----------------|---------------|
| Filename       | Sonar0001.sl2 |
| Time remaining | 12:11:14      |
| Time elapsed   | 0:00:05       |
| File size      | 397.9 kB      |
| Stop           | Close         |

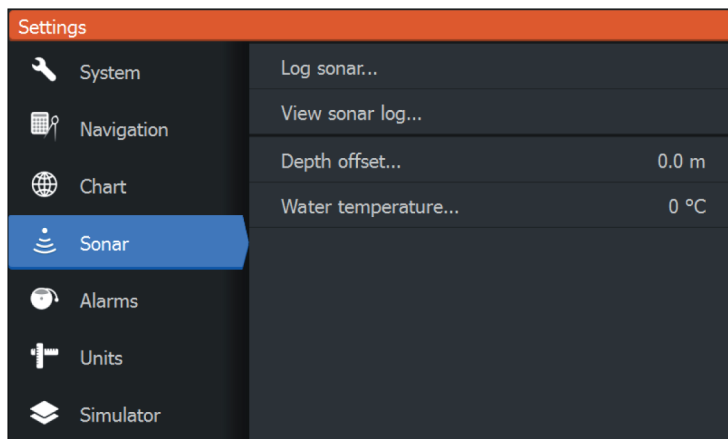
→ **Note:** If you have selected the Create StructureMap option in the record sonar dialog, the Convert structure log to map dialog is displayed when you select Stop in the Logging Sonar dialog. Select Convert to create a smf file in the Log folder. Refer to "Files" on page 76.

| Convert structure log to map |                              |
|------------------------------|------------------------------|
| Sonar log                    | Sonar0002.sl2                |
| Filename                     | Sonar0002                    |
| Save to                      | Internal ▾                   |
| High Resolution              | <input type="checkbox"/> OFF |
| Convert                      | Cancel                       |

## Viewing the recorded sounder data

Both internally and externally stored sounder records may be reviewed when the view sonar log option is selected in the Sonar settings dialog. Refer to "Sonar settings" on page 57.

## Sonar settings



### Log sonar

Select to start and stop recording of Sonar data. For more information, refer to *"Start recording sonar log data"* on page 55.

### View Sonar log

Used to view sonar recordings.

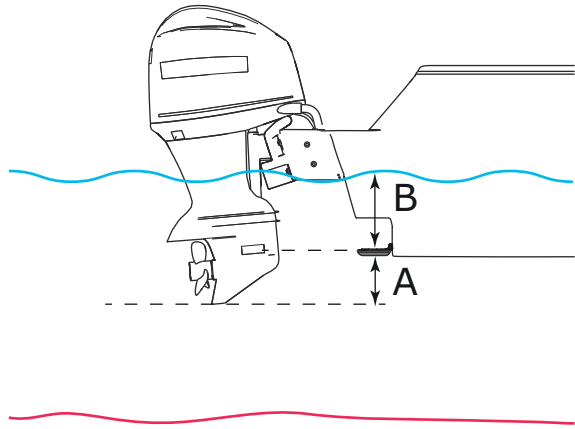
The log file is displayed as a paused image. You control the scrolling and display from the Control menu option. You can use the cursor on the replay image, and pan the image as on a normal sonar image.

You exit the view function by pressing the Exit (X) key.

### Depth offset

All transducers measure water depth from the transducer to the bottom. As a result, water depth readings do not account for the distance from the transducer to the lowest point of the boat (for example; bottom of the keel, rudder, or skeg) in the water or from the transducer to the water surface.

Before setting the offset, measure the distance from the transducer to the lowest point of the boat in the water or from the transducer to the water surface.



- A** Lowest point of vessel offset: Set the distance from the transducer to the lowest point of the boat in the water - this should be set as a negative value. For example, - 0.3 m (-1 ft).
- B** Depth below surface (waterline) offset: Set the distance from the transducer to the surface - this should be set as a positive value. For example, +0.5 m (+1.77 ft).

For depth below transducer, set the offset to 0.

### Water temperature calibration

Temperature calibration is used to adjust the water temperature value from the sonar transducer. It may be required to correct for localized influences to the measured temperature.

Calibration range: -9.9° - +9.9°. Default is 0°.

→ **Note:** Water temperature calibration only appears if the transducer is temperature capable.

# 9

## StructureScan

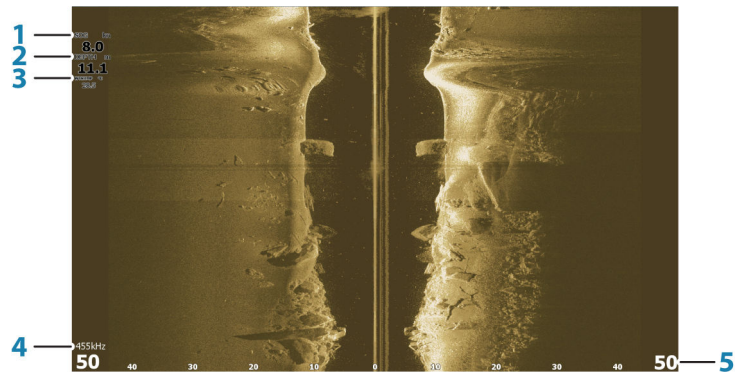
StructureScan uses high frequencies to provide a high resolution, picture-like image of the seabed.

You must have a TripleShot enabled unit to use StructureScan features.

### The StructureScan image

#### The view

The StructureScan image can be set up to show left side, right side, or both left and right side scanning.



- 1 Speed over ground
- 2 Depth
- 3 Temperature
- 4 Frequency
- 6 Range scale

### Zooming the StructureScan image

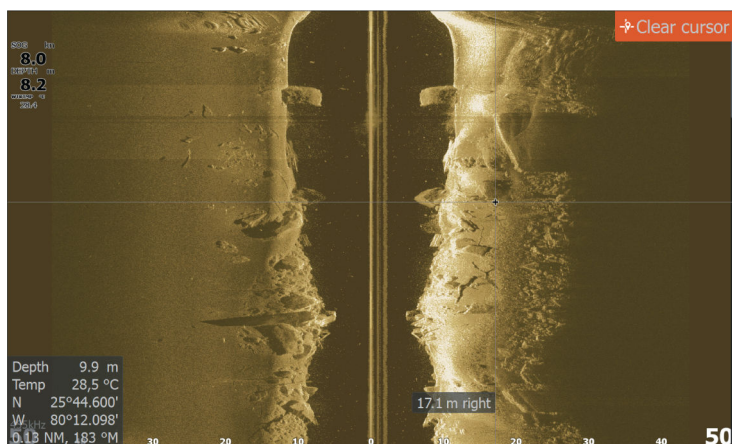
You can zoom a StructureScan image by using the Zoom keys. Zoom level is shown on the bottom left side of the panel.

## Using the cursor on the StructureScan panel

By default, the cursor is not shown on the StructureScan image. To position the cursor on the image, press the Cursor/Waypoint key. Use the Arrow keys to position the cursor.

When you position the cursor on a SideScan image, the screen pauses, and the cursor information window is activated. On a SideScan image, the left/right distance from the vessel to the cursor are shown at the cursor position.

To remove the cursor and the cursor elements from the panel, press the Cursor/Waypoint key.



## Viewing StructureScan history

You can view StructureScan history by panning the image. To pan the image, press the Cursor/Waypoint key to position the cursor on the image. This stops automatic scrolling.

- Use the down Arrow key to move the cursor to bottom edge of the image. Continue pressing the down Arrow key so the image pans down and the historical image is viewed.
- Use the up Arrow key in the same manner to pan the image back up and display the most current image.
- To resume normal scrolling, press the Cursor/Waypoint key to remove the cursor from the image.

## Recording StructureScan data

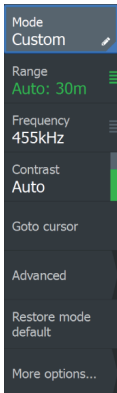
You can record StructureScan data and save the file internally in the unit, or onto a memory card as described in *"Start recording sonar data"* on page 55.

## Setting up the StructureScan image

By default the unit is set to Auto mode, and most settings are automated. It is recommended that only experienced sonar users use the customize settings to further customize the image. Select Auto in the menu and change to custom mode to customize image settings. Refer to *"Custom options"* on page 61

Additional options are available for the Auto and Custom modes. Refer to *"More options"* on page 63.

When the cursor is active, some options in the menu are replaced with cursor mode features. Press the Cursor/Waypoint key to remove the cursor from the image and cursor menu options.



### Custom options

#### Range

The range setting determines the water depth and SideScan range that is visible on the screen.

#### Auto range

When the range is set to Auto the system automatically sets the range depending on the water depth.

#### Preset range levels

You can select between several preset range levels.

#### Frequencies

Two frequencies are supported. 455 kHz provides ideal range and image quality in most situations, while 800 kHz is used to provide higher detail in shallow water.

#### Contrast

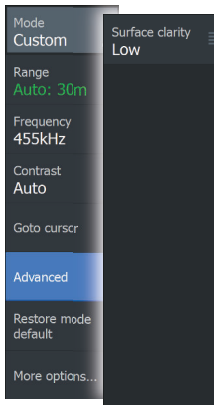
Determines the brightness ratio between light and dark areas of the screen.

→ **Note:** We recommend you use Auto contrast.

To adjust the contrast setting:

1. Select the contrast option in the menu
2. Select Auto contrast and press the Menu/Enter key to turn off auto-contrast
3. Use the Arrow keys to highlight the adjustment bar and press the Menu/Enter key to activate it
4. Use the Arrow keys to adjust the setting
5. Press the Menu/Enter key to save your settings

### ***Advanced StructureScan settings***



#### **Surface clarity**

Wave action, boat wakes and temperature inversions can cause on-screen clutter near the surface.

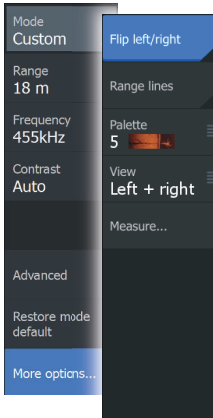
The surface clarity option reduces surface clutter by decreasing the sensitivity of the receiver near the surface.

→ **Note:** By default, surface clarity is set to Low, for optimal image return and clarity.

#### ***Restore mode default***

This menu option is available if you customize one or more settings. When selected all the customized settings are changed back to the default settings.

## More options



### ***Flipping the Structure image left/right***

If required, the left/right SideScanning images can be flipped to match the direction of the transducer installation.

### ***Range Lines***

Range lines can be added to the image to make it easier to estimate distance.

### ***Palettes***

You can select between several display palettes optimized for a variety of fishing conditions.

### ***View***

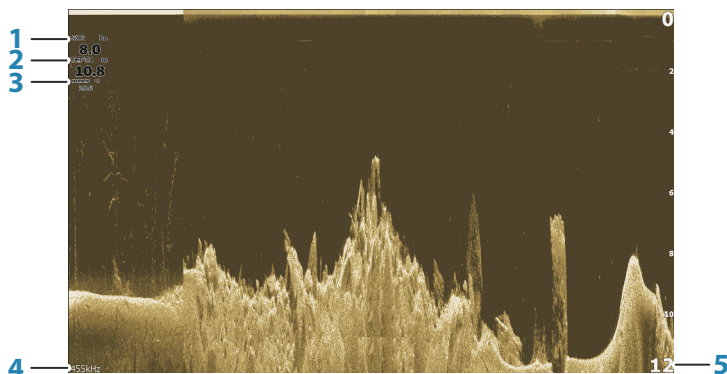
You can set up the StructureScan page as left only, right only, or left/right side scanning.

# 10

## DownScan

DownScan provides detailed images of structure and fish directly below your boat, down to 91 m (300 ft) at 455 kHz and 46 m (150 ft) at 800 kHz.

### The DownScan image



- 1 Speed over ground
- 2 Depth
- 3 Temperature
- 4 Frequency  
Depth
- 5 Range scale

### Zooming the DownScan image

You can zoom a DownScan image by using the Zoom keys.

### Using the cursor on the DownScan panel

By default, the cursor is not shown on the DownScan image. To position the cursor on the image, press the Cursor/Waypoint key.

Use the Arrow keys to position the cursor. When you position the cursor on a DownScan image, the screen pauses, and the cursor information window is activated. The distance from the vessel to the

cursor is shown in the bottom row of the cursor information window.

The cursor depth is shown to the left of the cursor position.

To remove the cursor and the cursor elements from the panel, press the Cursor/Waypoint key.

### **Goto cursor**

You can navigate to a selected position on the image by positioning the cursor on the panel, then using the Goto cursor option in the menu.

## **Viewing DownScan history**

You can view DownScan history by panning the image. To pan the image, press the Cursor/Waypoint key to position the cursor on the image. This stops automatic scrolling.

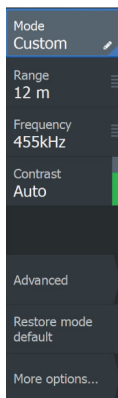
- Use the left Arrow key to move the cursor to left edge of the image. Continue pressing the left Arrow key so the image pans to the left and the historical image is viewed.
- Use the right Arrow key in the same manner to pan the image back to the right and display the most current image.
- To resume normal scrolling, press the Cursor/Waypoint key to remove the cursor from the image.

## **Customize the image settings**

By default the unit is set to Auto mode, and most settings are automated. It is recommended that only experienced sonar users use the customize settings to further customize the sonar image. Select Auto in the menu and change to custom mode to customize image settings.

Additional options are available for the Auto and Custom modes. Refer to "*More options*" on page 67.

When the cursor is active, some options in the menu are replaced with cursor mode features. Press the Cursor/Waypoint key to remove the cursor from the image and cursor menu options.



## Custom mode options

### **Range**

The range setting determines the water depth that is visible on the image.

### **Auto range**

By default, the range is set to Auto. With Auto, the system automatically displays the whole range from the water surface to the bottom.

### **Preset range levels**

Allows for the selection of a specific depth range that is not tied to the depth of the water.

### **Frequency**

DownScan can be used at 800 kHz or 455 kHz. 800 kHz provides the highest resolution with less range. 455 kHz has the best range, but with lower resolution.

### **Restore mode default**

This menu option is available if you customize one or more settings. When selected all the customized settings are changed back to the default settings.

### **Contrast**

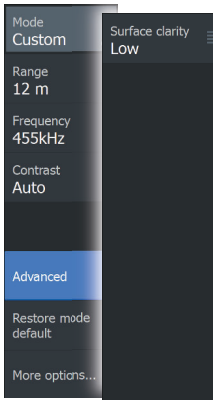
Determines the brightness ratio between light and dark areas of the screen.

→ **Note:** We recommend you use Auto contrast.

To adjust the contrast setting:

1. Select the contrast option in the menu
2. Select Auto contrast and press the Menu/Enter key to turn off auto-contrast
3. Use the Arrow keys to highlight the adjustment bar and press the Menu/Enter key to activate it
4. Use the Arrow keys to adjust the setting
5. Press the Menu/Enter key to save your settings

## Advanced options



### Surface clarity

Wave action, boat wakes and temperature inversions can cause on-screen clutter near the surface.

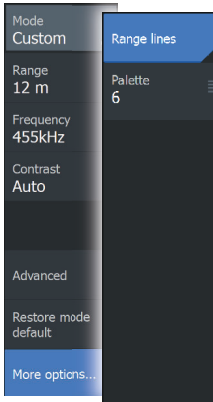
The surface clarity option reduces surface clutter by decreasing the sensitivity of the receiver near the surface.

→ **Note:** By default, surface clarity is set to Low, for optimal image return and clarity.

## More options

### Range Lines

Range lines can be added to the image to make it easier to estimate depth.



### Palettes

You can select between several display palettes optimized for a variety of fishing conditions.

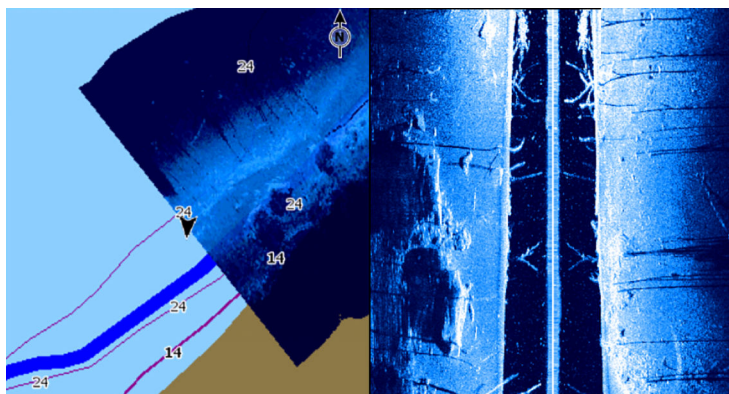
## StructureMap

→ **Note:** StructureScan overlay (StructureMap) is only available on models that have TripleShot transducers.

The StructureMap feature overlays SideScan images from a StructureScan source on the map. This makes it easier to visualize the underwater environment in relation to your position, and aids in interpreting SideScan images.

### The StructureMap image

The example below shows a chart panel with Structure overlay, combined with a traditional SideScan panel.



You move around in the chart as usual when you have a Structure overlay.

Use the Zoom keys to zoom the chart and the scanned image.

### Activating Structure overlay

1. Turn on Structure overlay from the chart menu
  - The chart menu is increased to show Structure options
  - Structure data starts to appear on the chart screen as soon as Structure overlay is enabled
2. Select Structure source
  - Live data is default

→ **Note:** Structure overlay can also be activated by selecting a saved StructureMap file in the files browser.

## StructureMap tips

- To get a picture of taller structures (a wreck, etc.) — do not drive over it, instead, steer the boat so the structure is on the left or right side of your vessel.
- Do not overlap history trails when conducting a side-by-side scan of an area.

## Recording StructureMap data

Use the log sonar option in the system controls dialog to record SideScan data and convert it to StructureMap data.

The recording can be started from the system controls dialog when the dialog is opened from the SideScan panel or the chart panel with Structure overlay enabled.

When SideScan data is being recorded, there is a flashing red symbol and a message appears periodically at the bottom of the screen.

→ **Note:** The message includes information about file size. Keep the size of your logs to 100MB or less to allow for faster file conversion.

The recording is stopped by selecting the stop logging function in the system controls dialog.

### Converting SideScan data to StructureMap format

A SideScan log file (.sl2) is converted to StructureMap format (.smf) after recording from the recording dialog, or from the files browser.

You can create standard or high resolution files. High resolution .smf files capture more detail, but take longer to convert and are larger than standard resolution files.

To save space it is recommended to remove the SideScan (.sl2) files after conversion.

## Using StructureMap with mapping cards

StructureMap allows you to maintain full chart capability and can be used with preloaded cartography as well as C-MAP, Navionics®, and other third-party charting cards compatible with the system.

When using StructureMap with mapping cards, copy the StructureMap (.smf) files to the unit's internal memory. We recommend keeping copies of StructureMap files on external mapping cards.

## Structure options

You adjust the StructureMap settings from the Structure options menu. The menu is available when Structure overlay is enabled. Not all options are available when saved StructureMap files are used as the source. Unavailable options are greyed.

### Transparency

Sets the opaqueness of the Structure overlay. With minimum transparency settings, the chart details are almost hidden by the StructureMap overlay.

### Palette

Selects Structure palette.

### Contrast

Determines the brightness ratio between light and dark areas of the screen.

### Water column

Shows/hides the water column in Live mode.

If turned OFF schools of bait fish might not be seen on the SideScan image.

If turned ON the accuracy of the SideScan image on the map might be affected by the water depth.

### Clear live history

Clears existing live history data from the screen and begins showing only the most current data.

# 12

## Alarms

### Alarm system

The system continuously checks for dangerous situations and system faults while the system is running. When an alarm situation occurs, an alarm message pops up on the screen.

If you have enabled the siren, the alarm message is followed by an audible alarm.

The alarm is recorded in the alarm listing so that you can see the details and take the appropriate corrective action.

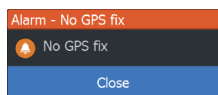
### Type of messages

The messages are classified according to how the reported situation affects your vessel. The following color codes are used:

| Color  | Importance    |
|--------|---------------|
| Red    | Critical      |
| Orange | Important     |
| Yellow | Standard      |
| Blue   | Warning       |
| Green  | Light warning |

### Alarm messages

An alarm message is displayed with the name of the alarm as the title, and with details for the alarm.



### Acknowledging a message

The following options are available in the alarm dialog for acknowledging a message:

- **Close**

Sets the alarm state to acknowledged, meaning that you are aware of the alarm condition. The siren / buzzer stops and the alarm dialog is removed.

However, the alarm remains active in the alarm listing until the reason for the alarm has been removed.

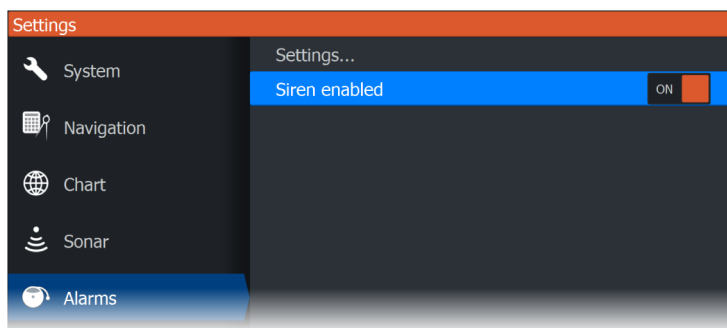
- **Disable**

Disables the current alarm setting. The alarm does not show again unless you turn it back on in the Alarms dialog.

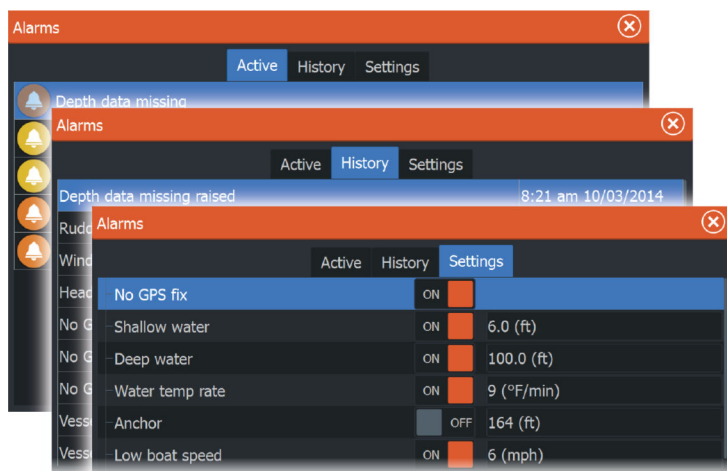
There is no time-out on the alarm message or siren. They remain until you acknowledge the alarm or until the reason for the alarm is removed.

## Alarms dialog

Enable the alarm siren from the Alarms dialog.



Select the settings option to open the Alarms Settings dialog. All alarms are setup in the Alarms Settings dialog.

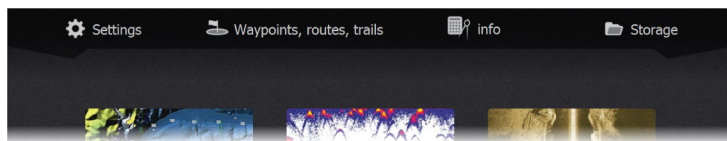


# 13

## Tools

By default, the Tools panel includes icons used for accessing options and tools that are not specific to any panel.

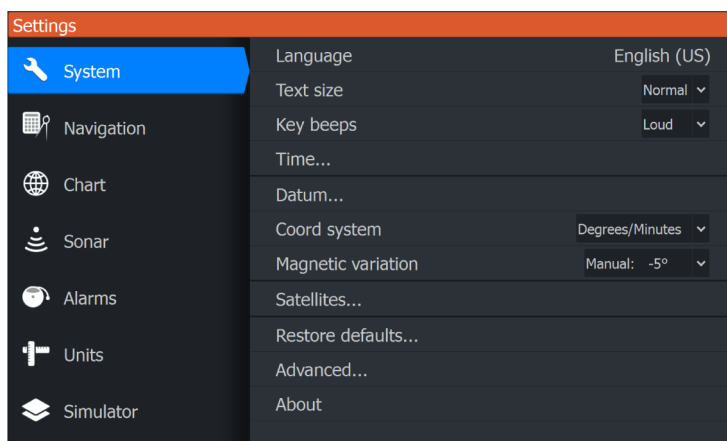
The Tools panel is located on the Home page.



## Settings

Provides access to application and system settings.

### System settings



The system settings provides access to the following:

### **Language**

Controls the language used on this unit for panels, menus, and dialogs. Changing the language causes the unit to restart.

### **Text size**

Used for setting the text size in menus and dialogs.

Default setting: Normal

### **Key beeps**

Controls the loudness of the beep sound when a key is pressed.

Default setting: Loud

### **Time**

Controls the local time zone offset, and the format of the time and date.

### **Datum**

→ **Note:** Charts are not available on 7x TS models.

Most paper charts are made in the WGS84 format, which also is used by the unit.

If your paper charts are in a different format, you can change the datum settings accordingly to match your paper charts.

### **Coordinate system**

Several coordinate systems can be used to control the format for latitude and longitude coordinates displayed on the panel.

### **Magnetic variation**

Magnetic variation is the difference between true bearings and magnetic bearings, caused by different locations of the Geographic and the Magnetic north poles. Any local anomalies such as iron deposits might also affect the magnetic bearings.

When set to Auto, the system automatically converts magnetic north to true north. Select manual mode if you need to enter your own local magnetic variation.

### **Satellites**

Status page for active satellites.

### **Restore defaults**

Allows you to select which settings are to be restored to their original factory settings.

**⚠ Warning:** If waypoints, routes, and trails are selected, they are permanently deleted.

## **Advanced**

Shows a panel with more advanced settings. Used for setting how your system displays various user interface information. In addition, controls which features are shown in the interface.

## **About**

Displays copyright information, software version, and technical information for this unit.

The Support option accesses the service assistant, refer to "*Service assistant*" on page 79.

## **Navigation**

Provides options and dialogs where you specify settings for your navigation, such as arrival radius, XTE limit, XTE Alarm, Trails, and Logging Type. Refer to "*Navigation settings*" on page 47.

## **Chart**

→ **Note:** Charts are not available on 7x TS models.

Provides options and dialogs where you specify settings for your charts. Settings and display options made in the Chart settings page are common for all chart panels. Refer to "*Chart settings*" on page 32.

## **Sonar**

Provides options and dialogs where you specify settings for your sonar. Refer to "*Sonar settings*" on page 57.

## **Alarms**

Provides the option to enable the siren. It also provides a dialog where you specify turning on alarms for items, and includes active alarm information and alarm history. Refer to "*Alarms dialog*" on page 72.

## **Units**

Provides setup of units of measure used on various data types.

## **Simulator**

Provides for manually controlling the simulator. For more information, refer to "*Simulator*" on page 83.

## Waypoints/routes/trails

List of waypoints, routes, and trails with details.

Select the waypoint, route, or trail you want to edit or delete.

## Info

Access to Sun/moon, Tides and Trip information.

### Sun, Moon

Displays sunrise, sunset, moonrise and moonset for a position based on entered date and the position's latitude/longitude.

### Tides

→ **Note:** Tides are not available on 7x TS models.

Displays tide information for the tide station nearest to your vessel.

Available tide stations can be selected from the Tide station field.

To change the date, use the Arrow keys to access the date field and press the Menu/Enter key to access the calendar function.

### Trip

Provides trip information. Use to reset trip information.

## Storage

Access to the file management system.

### Files

File management system, used to browse the contents of the unit's internal memory and inserted SD card.

### **Viewing files**

Select a file in the Files panel and then the view file option in the **Details** dialog.

### **Copying files to a card in the card reader**

You can copy screen captures and logs to a card in the card reader. You can also export System Settings, Waypoints, Routes, and Trails

to a card. Exporting files is covered in the section "*Maintenance*" on page 78.

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## Maintenance

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### Preventive maintenance

The unit does not contain any field serviceable components. Therefore, the operator is required to perform only a very limited amount of preventative maintenance.

It is recommended that you always fit the protective sun cover when the unit is not in use.

→ **Note:** The protective sun cover is an accessory (sold separately). Refer to the Installation guide provided with your unit.

### Cleaning the display unit

To clean the screen:

- A micro-fiber or a soft cotton cloth should be used to clean the screen. Use plenty of water to dissolve and take away salt remains. Crystallized salt, sand, dirt, etc. can scratch the protective coating if using a damp cloth. Use a light fresh water spray then wipe the unit dry with a micro-fiber or a soft cotton cloth. Do not apply pressure with the cloth.

To clean the housing:

- Use warm water with a dash of liquid dish soap or detergent.

Avoid using abrasive cleaning products or products containing solvents (acetone, mineral turpentine, etc.), acid, ammonia, or alcohol as they can damage the display and plastic housing.

Do not use a jet or high pressure wash. Do not run your unit through a car wash.

### Checking the connectors

The connectors should be checked by visual inspection only.

Push the connector plugs into the connector. If the connector plugs are equipped with a position key, ensure that it is in the correct position.

## Service assistant

The system has a built-in service assistant that creates a report of the unit which includes the software version, serial number, and information from the settings file to assist in technical support enquiries.

1. Insert an empty memory card in the unit.
2. Open the About page of the System settings dialog
3. Select Support and then Create report
4. Follow the instructions
5. Save the report to the memory card.

You can add screenshots and log files that will be attached to the report. There is a 20MB limit for the report attachments. If you call technical support first, you can enter an incident number to assist with tracking.

Email the report from the memory card to support using a smart device or PC connected to the internet.

## Software upgrades

The latest software is available for download from our website, [www.lowrance.com](http://www.lowrance.com)

Before initiating an update to the unit itself, be sure to back up any potentially valuable user data. Refer to *"Backing up your system data"* on page 80.

### Update software

- **Note:** Do not download software updates to mapping cards. Use a non-mapping memory card with sufficient storage for software updates, or saving reports or files to it.
- **Note:** Do not turn off the unit until the update is completed.
- 1. Download the software update from [www.lowrance.com](http://www.lowrance.com) to a memory card inserted in a smart device or PC connected to the internet.
- 2. Power off your unit and then insert the card containing the software updates in your unit.
- 3. Power on your unit. A progress bar appears showing the software is being updated. Let the update complete, do not

power off the unit. Do not remove the card until after the unit has restarted.

## Backing up your system data

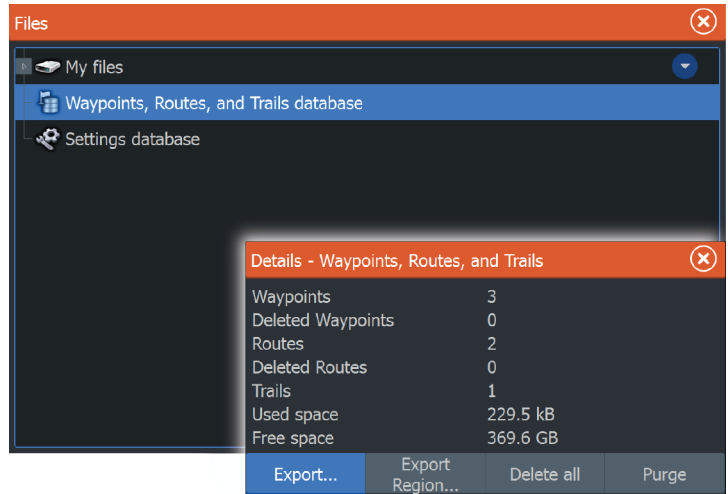
Waypoints, Routes, and Trails that you create are filed in your system. It is recommended to regularly copy these files and your system settings files as part of your back-up routine. The files can be copied to a card inserted in the card reader.

There are no export file format options for the system settings file. The following output formats are available for exporting Waypoints, Routes, and Trails files:

- **User Data File version 6**  
This is used to import and export waypoints, routes and colored Trails.
- **User Data File version 5**  
This is used to import and export waypoints and routes with a standardized universally unique identifier (UUID), which is very reliable and easy to use. The data includes such information as the time and date when a route was created.
- **User Data File version 4**  
This is best used when transferring data from one system to another, since it contains all the extra bits of information these systems store about items.
- **User Data file version 3 (w/depth)**  
Should be used when transferring user data from one system to a legacy product (Lowrance LMS, LCX)
- **User data file version 2 (no depth)**  
Can be used when transferring user data from one system to a legacy product (Lowrance LMS, LCX)
- **GPX (GPS Exchange, no depth)**  
This is the format most used on the web that shares among most GPS systems in the world. Use this format if you are taking data to a competitor's unit.

## Export all Waypoints, Routes and Trails

Use the export option if you want to backup all Waypoints, Routes, and Trails on your system.



## Export region

The export region option allows you to select the area from where you want to export data.

1. Select export region
2. Place the cursor over one of the boundary box corners and press the Menu/Entry key. to select it
3. Use the Arrow keys to move the selected boundary box corner to expand the box
4. Press the Menu/Entry key to place the corner
5. If needed, repeat steps 2-4 to the other boundary box corner
6. Press the Exit (X) key to indicate that the box covers the region you want to export. The Export Region dialog opens.
7. Select the export option
8. Select the appropriate file format
9. Select Export and follow the prompts for specifying the destination folder and a file name.

## Purging Waypoints, Routes and Trails

Deleted Waypoints, Routes and Trails are stored in the display unit's memory until the data is purged. If you have numerous deleted, unpurged Waypoints, purging may improve the performance of your system.

→ **Note:** When user data is deleted and/or purged from the memory, it cannot be recovered.

### **Importing backed up files**

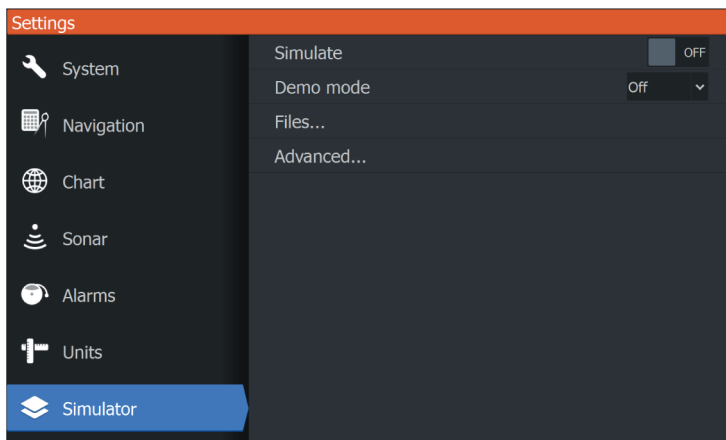
1. insert the memory card containing the backed up files in the unit's card reader.
2. Open the Files dialog from the tool panel and select the memory card.
3. Browse to the file you want to import and select it. This opens the details dialog.
4. Select the import option and follow the prompts.

A message advises when the import is completed.

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## Simulator

The simulation feature lets you see how the unit works in a stationary position and without being connected to other devices. You access the simulator from Settings tool.



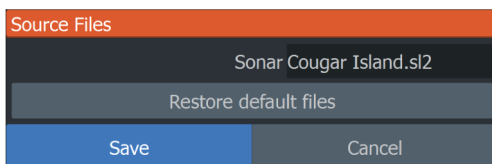
### Demo mode

In this mode the unit automatically runs through the main features of the product; it changes pages automatically, adjusts settings, opens menus, etc.

→ **Note:** Demo mode is designed for retail/showroom demonstrations.

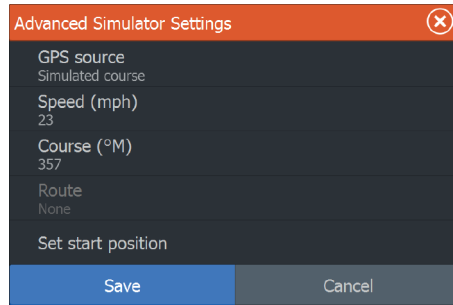
### Simulator source files

You can select which sonar data files are used by the simulator. A set of source files is included in your system, and you can import files by using a card inserted into the card reader. You can also use your own recorded sonar log data files in the simulator.



## Advanced simulator settings

The Advanced simulator settings allows for manually controlling the simulator.



### GPS source

Selects where the GPS data is generated from.

### Speed, Course and Route

Used for manually entering values when GPS source is set to Simulated course or Simulated route. Otherwise, GPS data including speed and course come from the selected source file.

### Set start position

Moves your vessel to the current cursor position.

→ **Note:** This option is only available when the GPS source is set to Simulated course.



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