

LOWRANCE®

ELITE Ti

Getting Started

ENGLISH



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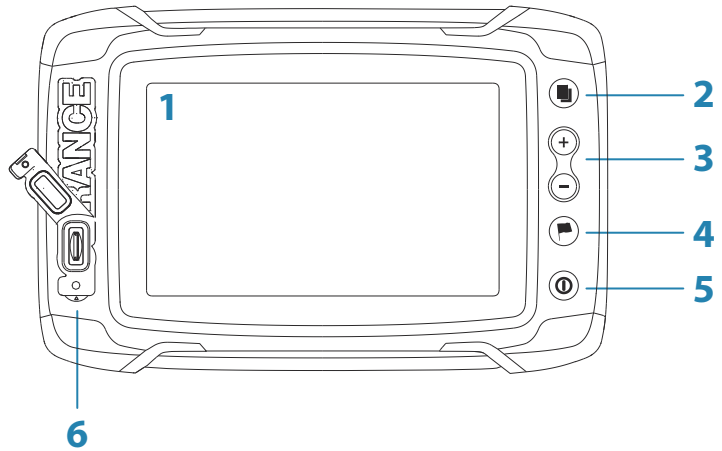
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1

Introduction

This manual provides an overview of the product and its features. For more detailed information about the features, functions and options, refer to the Operator manual. You can access the Operator manual from the Files option in the Tools panel, refer to "Files" on page 44.

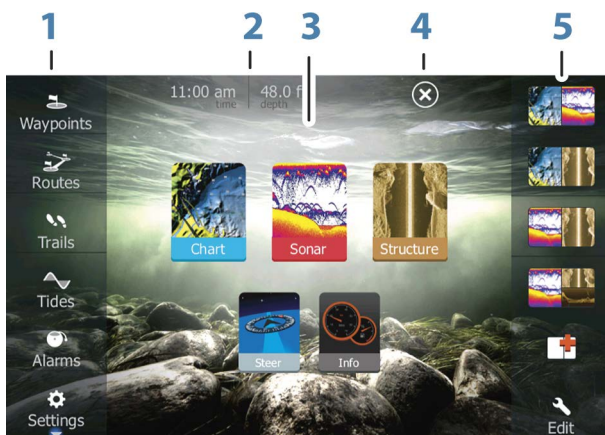
Front controls



- 1 Touch screen**
- 2 Pages**
- 3 Zoom out / Zoom in (combined press = MOB)**
- 4 New waypoint (long press = Find dialogue)**
- 5 Power button**
Press and hold to turn the unit ON/OFF.
Press once to display the System Controls dialog.
- 6 Card reader** (behind logo)

The Home page

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



1 Tools

Select a button to access dialogs used for carrying out a task, or for browsing stored information.

2 Local time and Water depth

3 Applications

Select a button to display the application as a full page panel.

Press and hold a button to display pre-configured split page options for the application.

4 Close button

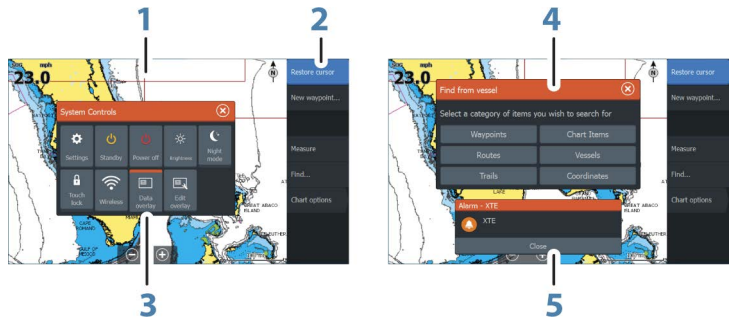
Select to exit the **Home** page and return to the previous active page.

5 Favorites

Select a button to display the panel combination.

Press and hold a favorite button to enter edit mode for the Favorites panel.

Application pages



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.

1 Application panel

2 Menu

Panel specific menu.

3 System Controls dialog

Quick access to basic system settings. Display the dialog by a short press on the **Power** key.

4 Dialog

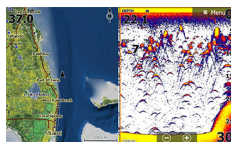
Information to or input from the user.

5 Alarm message

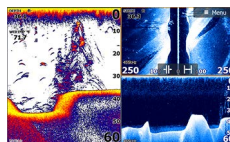
Displayed if dangerous situations or system faults occur.

Split pages

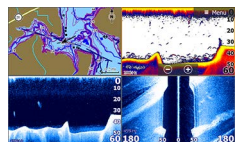
You can have up to 4 panels on each page.



2 panels page



3 panels page



4 panels page

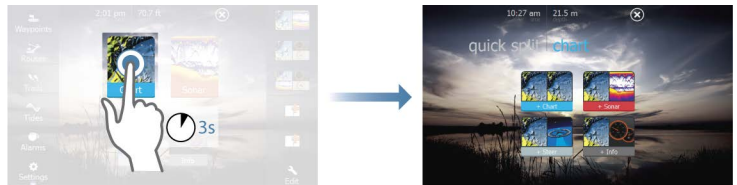
Panel sizes in a split page can be adjusted from the **System Controls** dialog.

Quick split pages

Each full screen application has several pre-configured **quick split** pages, featuring the selected application combined with each of the other panels.

→ **Note:** The number of quick split pages cannot be changed, and the pages cannot be customized or deleted.

Access a **quick split** page by pressing and holding the **application** button on the **Home** page.



Favorite pages

All preconfigured favorite pages can be modified and deleted, and you can create your own. You can have a total of 12 favorite pages.

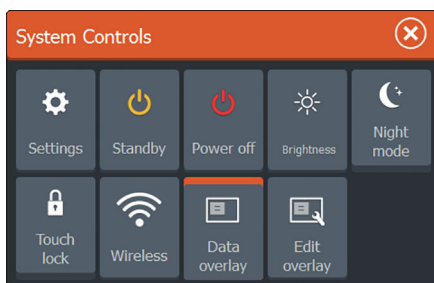
For more information, refer to *"Adding new favorite pages"* on page 11.

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.



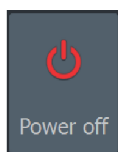
Activating functions

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.



Selecting pages and panels

Selecting a page

- Select a full page panel by selecting the relevant application button on the **Home** page
- Select a favorite page by selecting the relevant favorite button

- Select a predefined split panel by pressing and holding the relevant application icon

Select active panel

In a multiple panel page, only one panel can be active at a time. The active panel is outlined with a border.

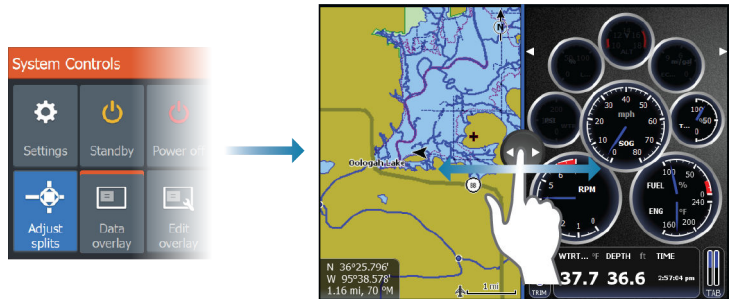
You can only access the page menu of an active panel.

You activate a panel by tapping it.

Adjusting panel size

You can change the panel size for an active split page. The panel size can be adjusted for both favorite pages and for predefined split pages.

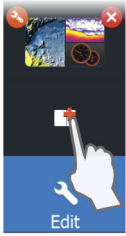
1. Activate the **System Controls** dialog
2. Select the adjust splits option in the dialog
3. Adjust the panel size by dragging the adjustment icon
4. Confirm your changes by tapping one of the panels or selecting the save option in the menu.



The changes are saved to the active favorite or split page.

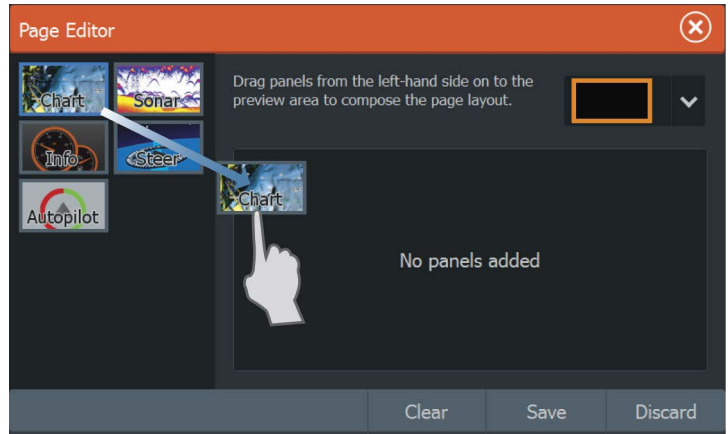
Adding new favorite pages

1. Select the **New** icon in the favorite panel on the **Home** page to open the page editor dialog

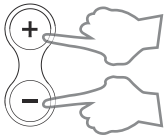


2. Drag and drop page icons to set up a new page
3. Change the panel arrangement (only possible for 2 or 3 panels), if required
4. Save the page layout.

The system displays the new favorite page, and the new page is included in the list of favorite pages on the **Home** page.



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 the **Zoom In (+)** and **Zoom out (-)** 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 chart panel, centered on the vessel's position
- the system displays navigation information back to the MOB waypoint

Multiple MOB waypoints are saved by repeatedly pressing the **MOB** buttons. The vessel continues to show navigation information to the initial MOB waypoint. Navigation to subsequent MOB waypoints needs to be done manually.

Delete a MOB waypoint

- 1.** Select the MOB waypoint to activate it
- 2.** Select the delete option in the dialog.

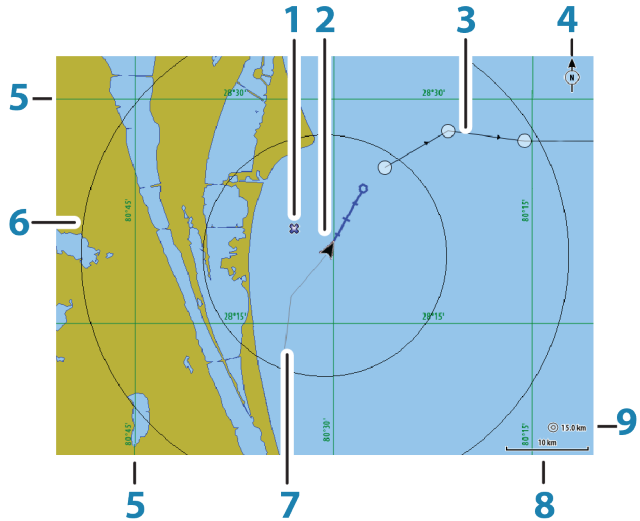
A MOB waypoint can also be deleted from the menu when it is activated.

3

Charts

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, place waypoints, and display AIS targets. You can also overlay a StructureScan image.

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)

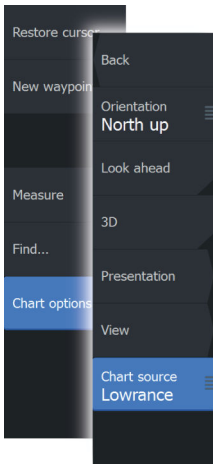
* Optional chart items. You turn the optional chart items on/off individually from the Chart settings dialog.

Chart types supported

Insight (Lowrance), Navionics, and C-MAP charts are supported. They each have common and specific chart options, view options, and chart settings. For more information about the different chart options and settings, refer to the unit's Operator manual.

Selecting chart type

You specify the chart type in the Chart panel by selecting one of the available chart types in the chart source menu option.



Panning the chart

You can move the chart in any direction by dragging your finger on the screen.

Select the **Clear cursor** menu option to remove the cursor and cursor window from the panel. This also centers the chart to the vessel position.

Using the cursor on the panel

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

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

Position the cursor by tapping the desired location on the screen.

When the cursor is active, the cursor position window is displayed.

To remove the cursor and cursor elements from the panel, select the **Clear cursor** option.

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

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.

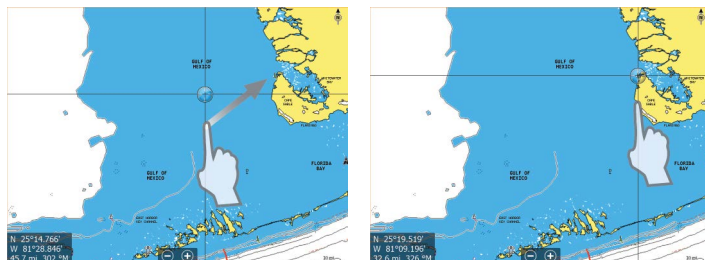
The Cursor assist function

The cursor assist function allows for fine tuning and precision placement of the cursor without covering details with your finger.

Press and hold your finger on the screen to switch the cursor symbol to a selection circle, appearing above your finger.

Without removing your finger from the screen, drag the selection circle over the desired item to display item information.

When you remove your finger from the screen the cursor reverts to normal cursor operation.



Measuring distance

The cursor can be used to measure the distance between your vessel and a selected position, or between 2 points on the chart panel.

1. Position the cursor on the point from where you want to measure the distance. Start the measure function from the menu
 - The measuring icons appear with a line drawn from the vessel center to the cursor position, and the distance is listed in the cursor information window.
2. You can reposition the measuring points by dragging either icon as long as the measuring function is active

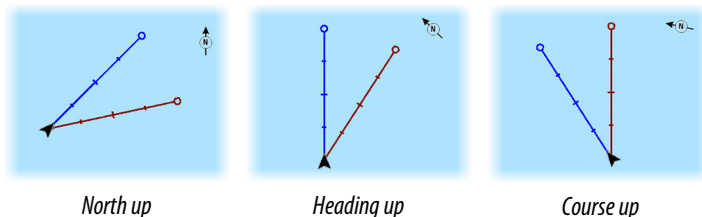
→ **Note:** The bearing is always measured from the grey icon to the blue icon.

You can also start the measuring function without an active cursor. Both measuring icons are then initially located at the vessel position. The grey icon follows the vessel as the vessel moves, while the blue icon remains at the position given when you activated the function. You terminate the measuring function by selecting the **Finish measuring** menu option.

Positioning the vessel on the chart panel

Chart orientation

Several options are available for 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

Displays the chart with north upward.

Heading up

Displays the chart with the vessel's heading directed upward. Heading information is received from a compass. If heading is not available, then the COG from the GPS is used.

Course up

Displays the chart with the direction the vessel is ACTUALLY traveling directed upward, which in some cases is not the direction the vessel is headed.

Look ahead

Moves the vessel icon closer to the bottom of the screen so that you can maximize your view ahead.

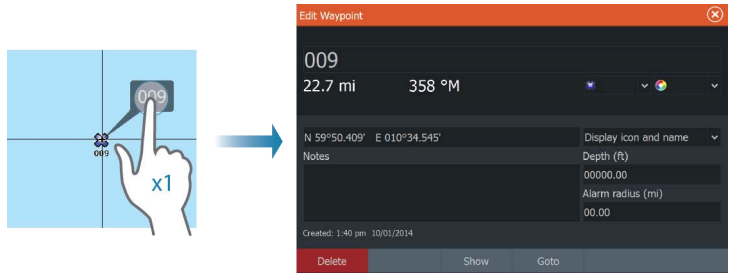
Displaying information about chart items

When you select a chart item, a waypoint, a route, or a target, basic information for the selected item is displayed. Select the chart item's pop-up to display all available information for that item. You can also activate the detailed information dialog from the menu.

→ **Note:** If you are viewing applicable C-MAP charts on your system, you can select marine objects to display information

about services and available multimedia (photos) associated with the location or object.

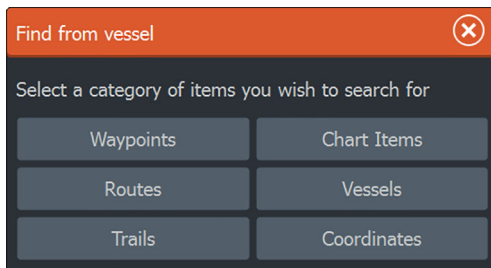
→ **Note:** Pop-up information has to be enabled in chart settings to see basic item information.



Find objects on chart panels

You can search for other vessels or various chart items from a chart panel.

Activate the cursor on the panel to search from the cursor position. If the cursor is not active, the system searches for items from the vessel's position.



→ **Note:** You must have an AIS receiver connected to search for vessels.

3D charts

The 3D option provides a three dimensional graphical view of land and sea contours.

→ **Note:** All chart types work in 3D mode, but without 3D cartography for the appropriate area the chart appears flat.

When 3D chart option is selected, the Pan and the Rotate icons appear on the right side of the chart panel.

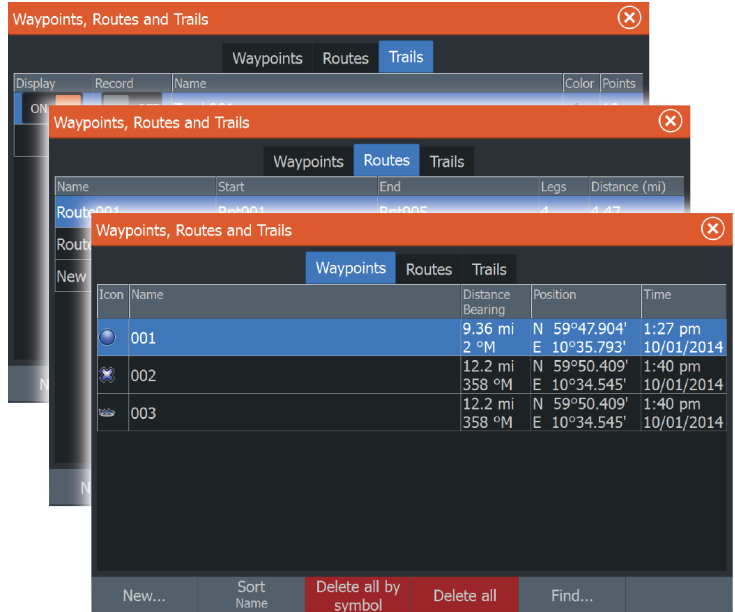
4

Waypoints, Routes, and Tracks

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.

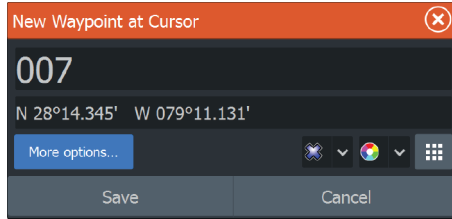
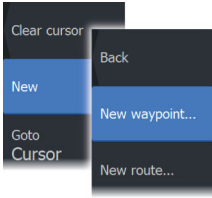


Waypoints

A waypoint is a user generated mark positioned on a chart, or on the Sonar image. Each waypoint has an exact position with latitude and longitude coordinates. A waypoint positioned on the Sonar image has a depth value, in addition to position information. 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

You can save a waypoint at a selected location by positioning the cursor on the panel, and then selecting the new waypoint option in the menu.



You can also save a waypoint by pressing the Waypoint key:

- Press once to display the New Waypoint dialog
- Press twice to quickly save a waypoint. If the cursor is active, the waypoint is saved at the cursor position. If the cursor is not active, the waypoint is saved at your vessel's position.

Moving a waypoint

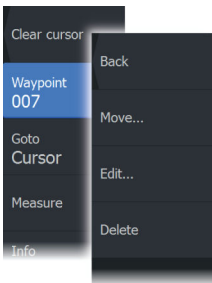
1. Select the waypoint you want to move. The waypoint icon expands to indicate that it is active.
2. Activate the menu and select the waypoint in the menu
3. Select the move option
4. Select the new waypoint position
5. Select Finish in the menu.

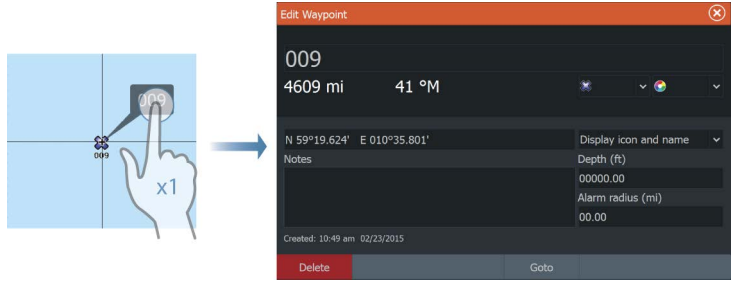
The waypoint is now automatically saved at the new position.

Edit a waypoint

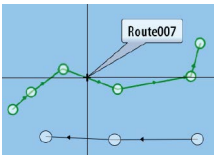
You can edit all information about a waypoint from the **Edit Waypoint** dialog.

The dialog can also be accessed from the Waypoints tool on the **Home** page.





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 chart panel it turns green, and the route name is displayed.

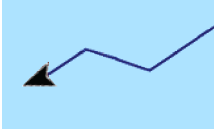
Creating a new route on the chart panel

1. Activate the cursor on the chart panel
2. Select the new route option from the menu
3. Position the first waypoint on the chart panel
4. Continue positioning new routepoints on the chart panel until the route is completed
5. Save the route by selecting the save option in the menu.

Edit a route from the chart panel

1. Select the route to make it active
 2. Select the route edit option in the menu
 3. Position the new routepoint on the chart panel:
 - If you set the new routepoint on a leg, a new point is added between existing routepoints
 - If you set the new routepoint outside the route, the new routepoint is added after the last point in the route
 4. Drag a routepoint to move it to a new position
 5. Save the route by selecting the save option in the menu.
- **Note:** The menu changes depending on the selected edit option. All edits are confirmed or cancelled from the menu.

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** dialog.

From the factory, the system is set to automatically track and draw the vessel's movement on the chart panel. The system continues to record the Trails 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 Trails dialog.

Creating new Trails

You can start a new trail from the **Trails** dialog, activated by using the **Trails** tool on the **Home** page.

5

Navigating

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

If autopilot functionality is included in your system, the autopilot can be set to automatically navigate the vessel.

For information about positioning waypoints and creating routes, refer to "*Waypoints, Routes, and Trails*" on page 20.

Steer panel



The Steer panel can be used to display information when you are navigating. It is activated from the **Home** page, either as a full page panel or as part of a multiple panel page.

- 1 Data fields
- 2 Vessel heading
- 3 Bearing to waypoint
- 4 Destination point

- 5 Bearing line with allowed off course limit
When travelling on a route the bearing line shows the intended course from one waypoint towards the next. When navigating towards a waypoint (cursor position, MOB, or an entered latitude and longitude position), the bearing line shows the intended course from the point at which navigation was started towards the waypoint.
- 6 Vessel symbol
Indicates distance and bearing relative to the intended course. If the XTE (Cross Track Error) exceeds the defined XTE limit, this is indicated with a red arrow including the distance from the track line.

Navigate to cursor position

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 a route

You can start navigating a route from the chart panel, steer panel or from the **Route** dialog.

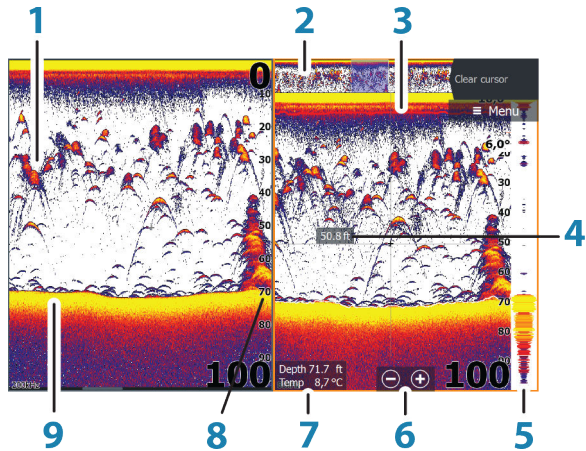
When route navigation is started, the menu expands and shows options for canceling the navigation, for skipping a waypoint, and for restarting the route from current vessel position.

6

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 History preview*
- 3 Temperature graph*
- 4 Depth at cursor
- 5 Amplitude scope*
- 6 Zoom (range) buttons
- 7 Water depth and Water temperature at cursor location
- 8 Range scale
- 9 Bottom

* Optional Sonar items that you turn on/off individually.

Viewing Sonar history

You can view echosounder history by panning the image. To resume normal scrolling, select the **Clear cursor** menu option.

Setting up the image

Use the Sonar menu options to set up the image. When the cursor is active, some options on the Sonar menu are replaced with cursor mode features. Select **Clear cursor** to return to the normal Sonar menu.

The range

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

Frequency

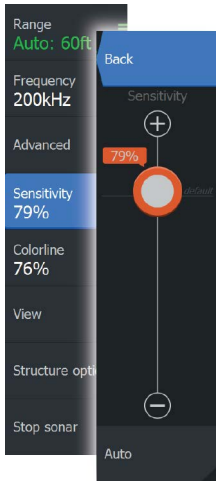
The unit supports several transducer frequencies. Available frequencies depend on the transducer model that is connected.

→ **Note:** This unit cannot operate CHIRP frequencies and SideScan at the same time. If you turn on StructureScan Left/Right view, you will not be able to use the CHIRP sonar.

You can view two frequencies at the same time by selecting dual Sonar panels from the **Home** page.

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.

Colorline

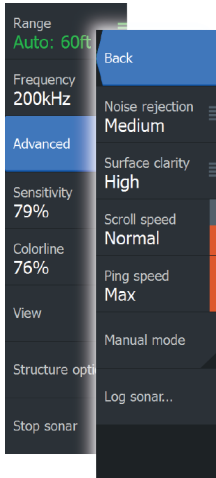
Allows the user to adjust the colors of the display to help differentiate softer targets from harder ones. Adjusting the Colorline can help separate fish and important structures on or near the bottom from the actual bottom.

Adjusting Sensitivity and Colorline

Select the Sensitivity or Colorline menu options in the Sonar menu and adjust them by dragging the bar vertically up/down. Minor adjustments can be made by tapping on the top or bottom of the slider bar.

Advanced options

The Advanced option is only available when the cursor is not active.



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.

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.

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.

Manual mode

Manual mode is an advanced user mode that restricts digital depth capability, so the unit only processes sonar signals in the selected range. This allows the display to continue smooth scrolling if the bottom depth is out of transducer range. When the unit is in manual mode, you might not receive any depth readings, or you might receive incorrect depth information.

Log sonar

Select to start and stop recording of sonar data. You can save the file internally in the unit, or save it onto a card inserted into the unit's card reader. When you select the record option in the Advanced menu, the Record sonar log dialog is displayed where you specify recording settings.

Recorded StructureScan data can also be uploaded to Insight Genesis if you specify **Upload to Insight Genesis** in the Log Sonar dialog.

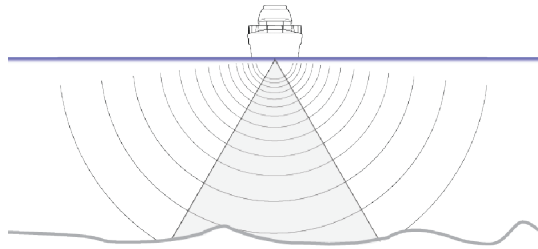
7

StructureScan

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

StructureScan HD provides a wide coverage in high detail with SideScan, while DownScan provides detailed images of structure and fish directly below your boat. The StructureScan page is accessed from the **Home** page when the TotalScan transducer is connected.

→ **Note:** This unit cannot operate CHIRP frequencies and SideScan at the same time. If you turn on StructureScan Left/Right view, you will not be able to use the CHIRP sonar.

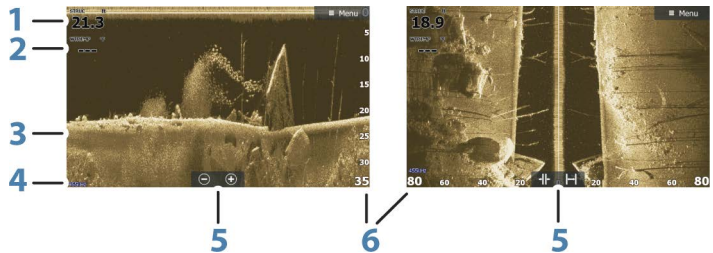


The StructureScan image

The view

The StructureScan panel can be set up as a DownScan image, or showing left/right side scanning.

The DownScan image can also be added as an overlay to the traditional Sonar image.



- 1 Depth
- 2 Temperature
- 3 Bottom
- 4 Frequency
- 5 Zoom (downscan) / Range (sidescan) icons
- 6 Range scale

Zooming the StructureScan image

You can zoom a StructureScan image by:

- using the zoom (+ or -) buttons
- using the +/- keys

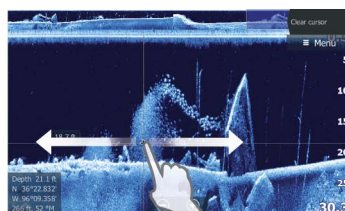
Zoom level is shown on the bottom left side of the panel.

Viewing StructureScan history

When the cursor is active in a DownScan view, the history bar is shown at the top of the panel.

In a SideScan view, you can pan the image to see sides and history by dragging the image left, right, and up.

To resume normal StructureScan scrolling, press **Clear cursor**.



Setting up the StructureScan image

Use the StructureScan menu to set up the image. When the cursor is active, some options in the menu are replaced with cursor mode features. Select **Clear cursor** to return to the normal menu.

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.

StructureScan frequencies

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

Contrast

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

To adjust the contrast setting:

1. Select the contrast icon or activate the contrast option in the menu to display the color adjustment bar
2. Drag the bar up or down to get the desired contrast setting or select **Auto contrast**.

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

Palettes

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

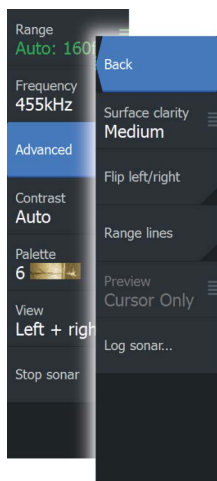
View

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

Stop sonar

Use the **Stop sonar** menu option when you want to turn off the StructureScan transducer, but not turn off the unit.

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.

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 depth (Downscan) and distance (SideScan).

Preview

You can turn off sonar history preview, have it always shown at the top of the screen, or have it appear only when the cursor is active. By default, the sonar history preview appears when the cursor is active.

Recording StructureScan data

Select the Log data menu option to start and stop recording of StructureScan data. You can save the file internally in the unit, or save it onto a card inserted into the unit's card reader. When you select the record option in the Advanced menu, the Record sonar log dialog is displayed where you specify recording settings.

Recorded StructureScan data can also be uploaded to Insight Genesis if you specify **Upload to Insight Genesis** in the Log Sonar dialog.

8

Info panels

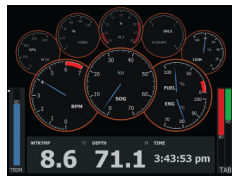
The **Info** panels consist of multiple gauges - analog, digital, and bar - that can be customized to display selected data. The panel displays data on dashboards, and you can define up to ten dashboards within the panel.

Dashboards

A set of dashboard styles are predefined to display vessel, navigation, and angler information.

→ **Note:** Only the Navigation dashboard is available on the ELITE-5Ti.

You switch between the panel's dashboards by selecting the left and right arrow buttons on the panel. You can also select the dashboard from the menu.



Vessel dashboard

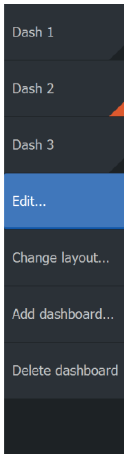


Navigation dashboard



Angler dashboard

→ **Note:** Additional dashboards can be activated from the menu if other systems are present on the network.



Customizing the Info panel

You can customize the Info panel by changing the data for each of the gauges in the dashboard, by changing the dashboard layout, and by adding new dashboards. You can also set limits for analog gauges.

All edit options are available from the Info panel menu.

Available editing options depend on which data sources are connected to your system.

9

Trolling motor autopilot

If a MotorGuide Xi5 trolling motor with Pinpoint GPS is connected to the network, then the SmartSteer (autopilot) functionality is available on all units except the ELITE-5Ti.

To use trolling motor autopilot functionality, you need the following:

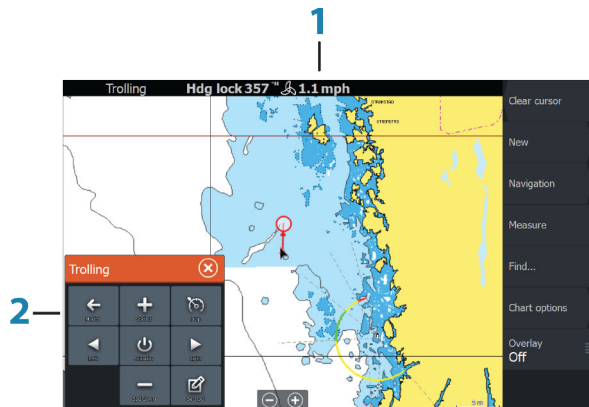
- MotorGuide Xi5 trolling motor with Pinpoint GPS (available from MotorGuide)
- MotorGuide Pinpoint GPS Gateway (available from MotorGuide)
- NMEA 2000 network

The Autopilot can automatically control the trolling motor to:

- Maintain a set heading
- Maintain the vessel's position
- Navigate to the cursor position, to a waypoint, or along a route
- Follow pre-defined turn patterns
- Control the speed of the trolling motor

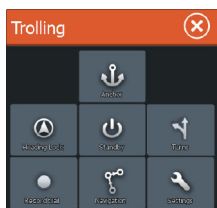
⚠ Warning: An autopilot is a useful navigational aid, but DOES NOT replace a human navigator.

Autopilot interface



1 Autopilot information bar

The Autopilot Controller



The autopilot is controlled from the **Autopilot Controller**, activated from the **System Controls** dialog displayed by pressing the **Power** key.

→ **Note:** As long as the **Autopilot Controller** is active, you cannot operate the background panel or its menu.

The **Autopilot Controller** can also be set up as a panel in a split panel page by using the Page Editor to make a Favorite page.

The Autopilot information bar

The Autopilot information bar is displayed when an autopilot mode is selected. The bar includes information about the autopilot mode and navigational information. The bar is present on all pages if the autopilot is in an active mode. In the Autopilot settings dialog, you can select that the bar is off when the autopilot is in standby mode.

10

Wireless connection

GoFree wireless connectivity gives you the ability to:

- Use a wireless device to remotely view (smartphone and tablet) and control the system (tablet only).
- Access the GoFree Shop.
- Upload your Sonar logs to create custom maps at Insight Genesis.
- Download software updates
- Connect to third party applications

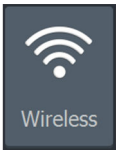


The unit includes:

- Built-in wireless functionality for connecting to the internet and wireless devices such as smartphones and tablets.
- Built-in Bluetooth wireless technology. The built-in Bluetooth wireless technology gives you the ability to connect the unit to Bluetooth enabled devices.

→ **Note:** Maps, charts, software updates, and other data files can be large. Your internet service provider may charge you based on the amount of data you transfer. If you are unsure, contact your service provider to confirm rates and restrictions.

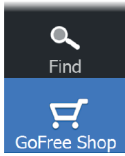
Connect and disconnect from a wireless hotspot



To connect to a wireless hotspot, select the Wireless option in the System Controls dialog and then select Not Connected. This opens the Wireless Devices dialog. Use this dialog to select the desired hotspot, enter the login information and then select Connect.

Connecting to a wireless hotspot changes the wireless mode to **Client mode**. In this mode, you can access the GoFree Shop.

To disconnect from a wireless hotspot, select the Wireless option in the System Controls dialog, then select Connected *hotspot_name*, and then Disconnect. This changes the wireless mode to **Access point mode**. In this mode, you can connect a wireless device so that Apps such as GoFree Controller & Viewer can access the vessel's navigation information.



GoFree Shop

The built-in wireless functionality must be connected to an external wireless hotspot in order to access the GoFree Shop.

At the GoFree Shop you can browse, purchase and download compatible content for your system including navigation charts and Insight Genesis Maps. When you log on, the system automatically gives you a notification if a new software version is available for your system. If an update is available, you can download it to a card slot or defer the download until later. If you defer the download until later, the notification is available in the About dialog accessible from the System Settings.



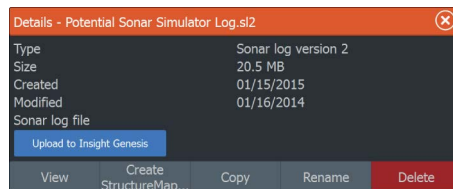
GoFree Controller & Viewer

The wireless functionality lets you use a wireless device to remotely view (smartphone and tablet) and control the system (tablet only). The system is viewed and controlled from the wireless device by the GoFree Controller & Viewer Apps downloaded from their relevant Application store. When remote control is accepted, the active page is mirrored to the wireless device.

- **Note:** To use smartphones and tablets to view and control the system, wireless functionality must be disconnected from the wireless hotspot (in **Access point mode**).
- **Note:** For safety reasons, Autopilot and CZone functions cannot be controlled from a wireless device.

Uploading log files to Insight Genesis

To upload a recorded sonar log file to Insight Genesis, select the file you want to upload from the Files panel and select the upload to Insight Genesis option.



- **Note:** You must be connected to a wireless hotspot to upload recorded log files to Insight Genesis.
- **Note:** Recorded log files can also be uploaded to Insight Genesis if you have specified **Upload to Insight Genesis** in the Log Sonar dialog. For more information, refer to "Log sonar" on page 29.

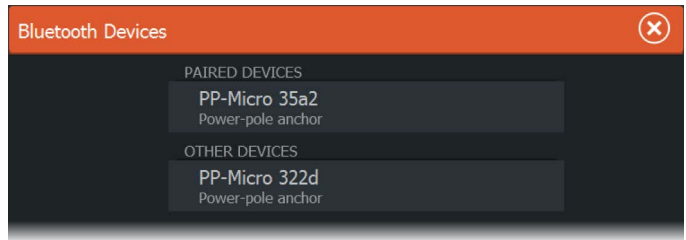
Bluetooth wireless technology

The ELITE Ti includes built-in Bluetooth wireless technology. To connect the ELITE Ti to Bluetooth enabled devices you must *pair* them.

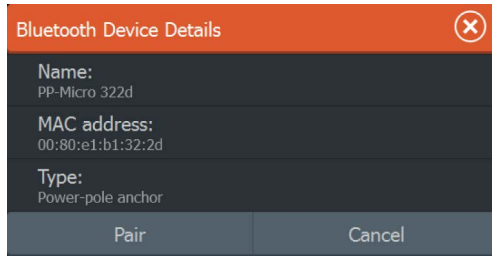
Pairing Bluetooth devices

To *pair* the unit with a Bluetooth enabled device, do the following:

1. Turn on the Bluetooth enabled device so that it is able to send and receive Bluetooth signals.
2. Open the Wireless settings dialog in the ELITE Ti and turn on Bluetooth, if it is not already enabled.
3. Select **Bluetooth devices**. The system searches for Bluetooth enabled devices, and lists them in the Bluetooth Devices dialog. Devices that are already paired are listed under **Paired Devices**. Devices that are not paired are listed under **Other Devices**.



4. Select the Bluetooth enabled device you want to *pair* with in the list under **Other Devices**. The **Bluetooth Device Details** dialog opens.



5. Select **Pair** to *pair* the ELITE Ti to the device.
6. Repeat these steps for each device you want to pair with the ELITE Ti.

11

Alarms

Alarm system

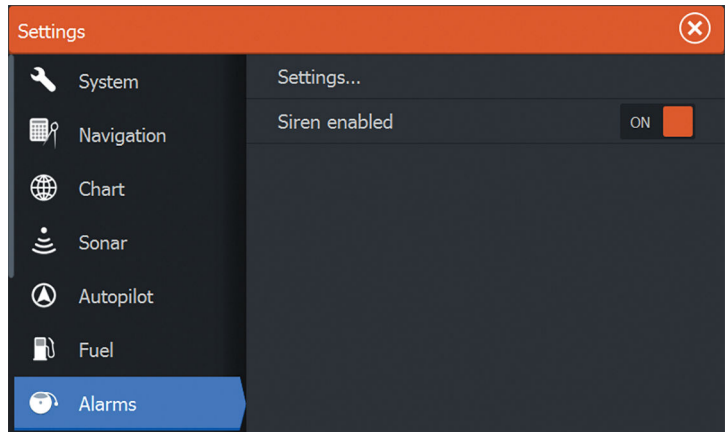
The system continuously checks for dangerous situations and system faults while the system is running. When an alarm situation occurs, an alarm message pops up on the screen.

If you have enabled the siren, the alarm message is followed by an audible alarm, and the switch for external alarm becomes active.

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

Alarms dialog

All alarms are setup in the Alarms Settings dialog. The alarm dialogs can also be activated from the Tools panel. The alarm dialogs include information about active alarms and alarm history.

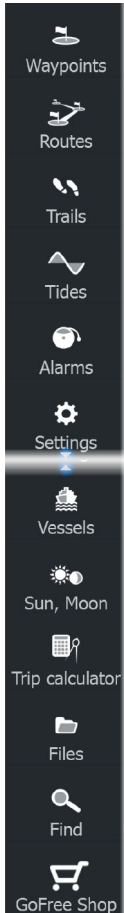


12

Tools

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

When external equipment is integrated to the unit, new icons might be added to the Tools panel. These icons are used for accessing the external equipment's features.



Waypoints/routes/trails

List of waypoints, routes, and trails with details.

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

Tides

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

Select the arrow panel buttons to change the date, or select the date field to access the calendar function.

Available tide stations can be selected from the menu.

Alarms

Active alarms

List of active alarms.

Alarm history

List of all alarms with time stamp.

Alarm settings

List of all available alarm options in the system, with current settings.

Settings

Provides access to application and system settings.

Vessels

Status listing

List of all AIS and DSC vessels with available information.

Message listing

List of all messages received from other AIS vessels with time stamp.

Sun, Moon

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

Trip calculator

Trip 1 / Trip 2

Displays voyage and engine information, with reset option for all data fields.

Today

Displays voyage and engine information for current date. All data fields are automatically reset when the date changes.

Files

File management system for Files, Waypoints, Routes, Trails, and Settings.

To view files, select a file in the Files panel and then the view file option in the Details dialog. 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 memory card.

To view recorded sonar logs, use the view sonar log option in the Sonar settings dialog.

Find

Search function for chart items (waypoints, routes, trails, etc.).

GoFree Shop

→ **Note:** The built-in wireless functionality must be connected to an external wireless hotspot in order to access the GoFree Shop. Refer to *"Connect and disconnect from a wireless hotspot"* on page 38.

Opens the GoFree Shop web site. At the GoFree Shop you can browse, purchase, and download compatible charts for your system. You can also upload your Sonar logs to be shared on Social Map

charts. When you log on, the system automatically gives you a notification if a new software version is available for your system. If an update is available, you can download it to a card slot or defer the download until later.



LOWRANCE®

CE0980

LOWRANCE

ELITE Ti

Operator Manual

ENGLISH



Preface

Disclaimer

As Navico is continuously improving this product, we retain the right to make changes to the product at any time which may not be reflected in this version of the manual. Please contact your nearest distributor if you require any further assistance.

It is the owner's sole responsibility to install and use the equipment in a manner that will not cause accidents, personal injury or property damage. The user of this product is solely responsible for observing safe boating practices.

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Power-Pole® is a registered trademark of JL Marine Systems, Inc.

C-Monster™ is a trademark of JL Marine Systems, Inc.

Navico product references

This manual can refer to the following Navico products:

- Broadband Sounder™ (Broadband Sounder)
- DownScan Imaging™ (DownScan)
- DownScan Overlay™ (Overlay)
- GoFree™ (GoFree)
- INSIGHT GENESIS® (Insight Genesis)
- SmartSteer™ (SmartSteer)
- StructureMap™ (StructureMap)
- StructureScan® (StructureScan)
- StructureScan® HD (StructureScan HD)

Copyright

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Warranty

The warranty card is supplied as a separate document.

In case of any queries, refer to the brand website of your display or system: www.lowrance.com.

Internet usage

Some features in this product use an internet connection to perform data downloads and uploads. Internet usage via a connected mobile/cell phone internet connection or a pay-per-MB type internet connection may require large data usage. Your service provider may charge you based on the amount of data you transfer. If you are unsure, contact your service provider to confirm rates and restrictions.

Regulatory statements

This equipment is intended for use in international waters as well as coastal sea areas administered by the USA, and countries of the E.U. and E.E.A.

This equipment complies with:

- CE under 2014/53/EU Directive
- The requirements of level 2 devices of the Radio communications (Electromagnetic Compatibility) standard 2008
- Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The relevant Declaration of conformity is available on the following website: www.lowrance.com.

About this manual

This manual is a reference guide for operating the ELITE Ti. It assumes that all equipment is installed and configured, and that the system is ready to use.

The manual assumes that the user has basic knowledge of navigation, nautical terminology and practices.

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

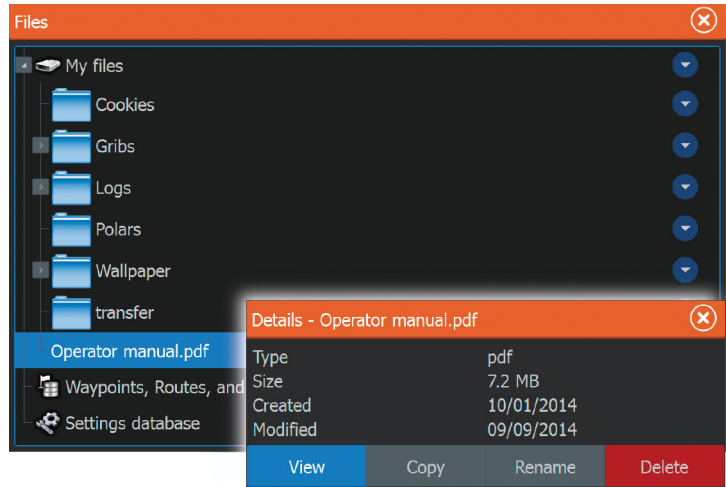
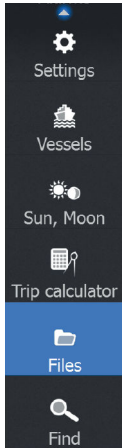
This manual is written for software version 2.0. The manual is continually updated to match new software releases. The latest

available manual version can be downloaded from www.lowrance.com.

Viewing the manual on the screen

The PDF viewer included in the unit makes it possible to read the manuals and other PDF files on the screen. Manuals can be downloaded from www.lowrance.com.

The manuals can be read from a card inserted in the card reader or copied to the unit's internal memory.



➔ **Note:** The rename and delete options, when selecting files under My files, are only available on the 5" unit.

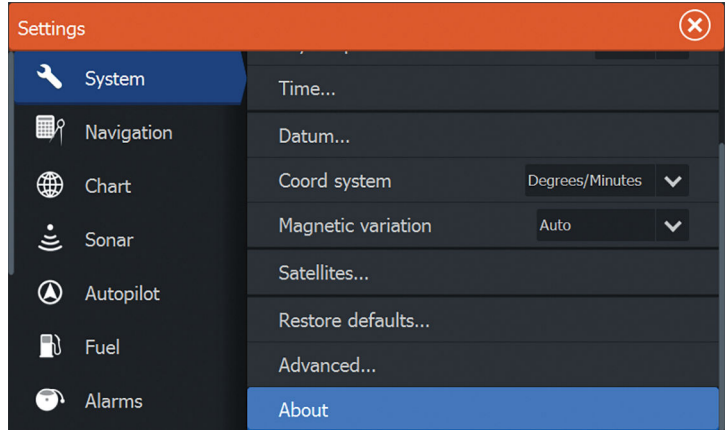
Use the menu options or the keys and on-screen buttons to maneuver in the PDF file as described below:

- Search, Goto page, Page Up and Down
Select the relevant panel button.
- Scroll pages
Drag finger on the screen in any direction.
- Panning on the page
Drag finger on the screen in any direction.
- Zoom In/Out
Key operation: Use the + and - keys.
- Exit the PDF viewer

Select the **X** in the upper right corner of the panel.

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 109. For upgrading your software, refer to *"Software upgrades"* on page 114.



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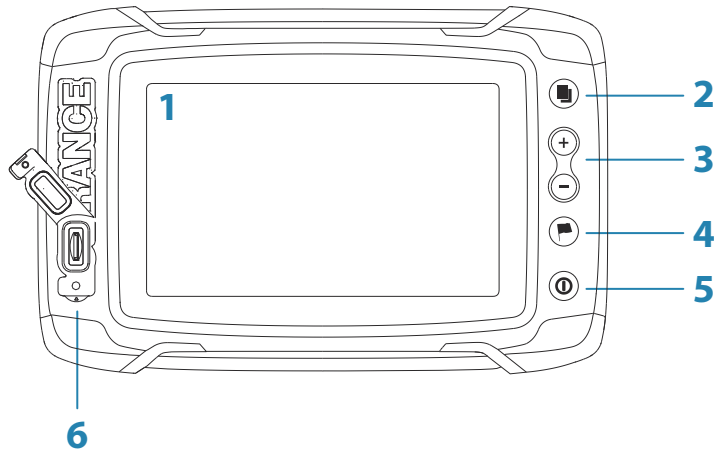
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1

Introduction

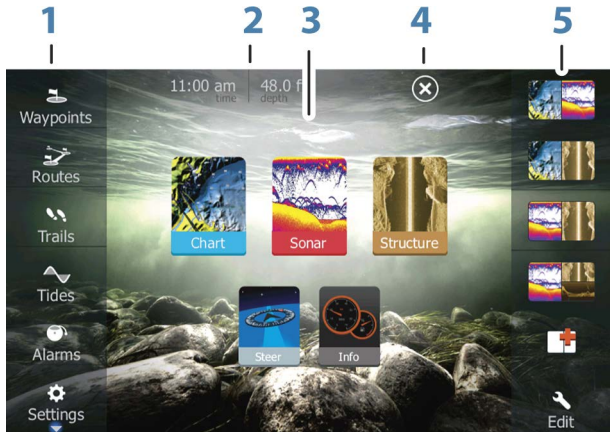
Front controls



- 1 Touch screen**
- 2 Pages**
- 3 Zoom out / Zoom in (combined press = MOB)**
- 4 New waypoint (long press = Find dialogue)**
- 5 Power button**
Press and hold to turn the unit ON/OFF.
Press once to display the System Controls dialog.
- 6 Card reader (behind logo)**

The Home page

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



1 Tools

Select a button to access dialogs used for carrying out a task, or for browsing stored information.

2 Local time and Water depth

3 Applications

Select a button to display the application as a full page panel.

Press and hold a button to display pre-configured split page options for the application.

4 Close button

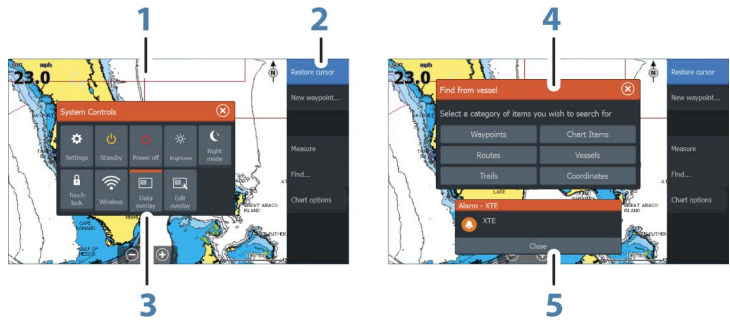
Select to exit the **Home** page and return to the previous active page.

5 Favorites

Select a button to display the panel combination.

Press and hold a favorite button to enter edit mode for the Favorites panel.

Application pages



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.

1 Application panel

2 Menu

Panel specific menu.

3 System Controls dialog

Quick access to basic system settings. Display the dialog by a short press on the **Power** key.

4 Dialog

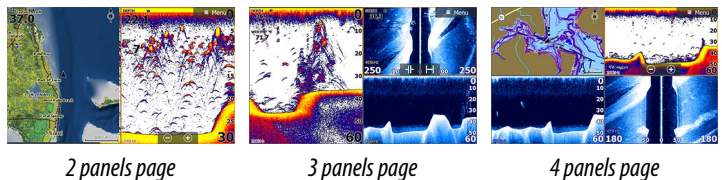
Information to or input from the user.

5 Alarm message

Displayed if dangerous situations or system faults occur.

Split pages

You can have up to 4 panels on each page.



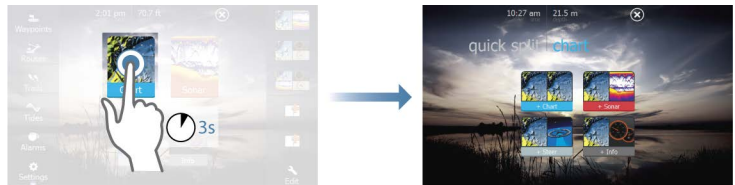
Panel sizes in a split page can be adjusted from the **System Controls** dialog.

Quick split pages

Each full screen application has several pre-configured **quick split** pages, featuring the selected application combined with each of the other panels.

→ **Note:** The number of quick split pages cannot be changed, and the pages cannot be customized or deleted.

Access a **quick split** page by pressing and holding the **application** button on the **Home** page.



Favorite pages

All preconfigured favorite pages can be modified and deleted, and you can create your own. You can have a total of 12 favorite pages.

For more information, refer to *"Adding new favorite pages"* on page 26.



Power-Pole anchors

Power-Pole anchors, which can be controlled by the C-Monster Control System installed on your boat, can be controlled from the ELITE Ti. To control the Power-Poles, you *pair* the Power-Poles with the ELITE Ti using Bluetooth wireless technology available in both products.

Power-Pole controls

When Power-Poles are paired with the ELITE Ti, the Power-Pole button becomes available in the System Controls dialog. Select it to display the Power-Pole controller.

For pairing Bluetooth devices, refer to *"Pairing Bluetooth devices"* on page 93. If you are pairing dual Power-Poles, also review *"Pairing with dual Power-Poles"* on page 94.

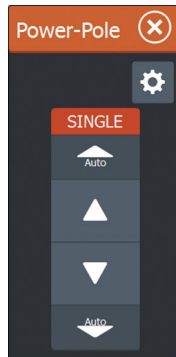


When the Power-Pole controller is opened, the system connects to paired Power-Poles. When the connection is confirmed the control buttons are enabled.

→ **Note:** The controls are grayed out until the system connects with the Power-Poles. Once connected and functional the arrows in the dialog turn white.

The Power-Pole controller displays control buttons for each Power-Pole that is paired to the ELITE Ti.

Single press the Auto buttons to raise and lower the Power-Poles automatically all the way up and down. The manual up and down buttons raise and lower them as quickly, and as high or low as you want.



Single Power-Pole controller



Dual Power-Poles controller



On a dual controller you can raise and lower the Power-Poles separately, or press the sync (links) button to allow for control of both with a single press of the auto buttons or the manual up and down buttons.



Stay connected

Select the Stay connected (cog) button on the Power-Pole controller to open the Power-Pole settings dialog where you can select to stay connected to all paired Power-Pole anchors.

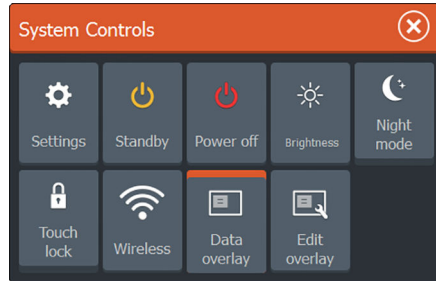
→ **Note:** Selecting to **Stay connected** speeds up access to the controls, but the anchors cannot be controlled from another display when it is selected. Turn off this option to allow connection from other displays.

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.



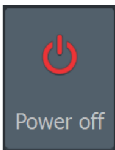
Activating functions

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.

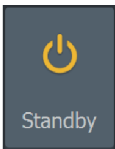


Standby mode

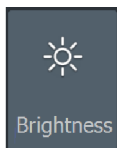
In Standby mode, the Sonar and the backlight for screen and keys are turned off to save power. The system continues to run in the background.

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

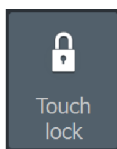
The display backlighting can be adjusted at any time from the **System Controls** dialog.

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 chart may be less visible when the Night mode is selected!



Locking the touchscreen

You can temporarily lock a touchscreen to prevent accidental operation of the system. Lock the touchscreen when large amounts of water are on the screen, for example, in heavy seas and weather. This feature is also useful when cleaning the screen while the unit is turned on.

When the touch lock is active you can only operate the unit from the keys.

You lock the touchscreen from the **System Controls** dialog.

You remove the lock function by a short press on the **Power** key.

Using menus and dialogs

Menus

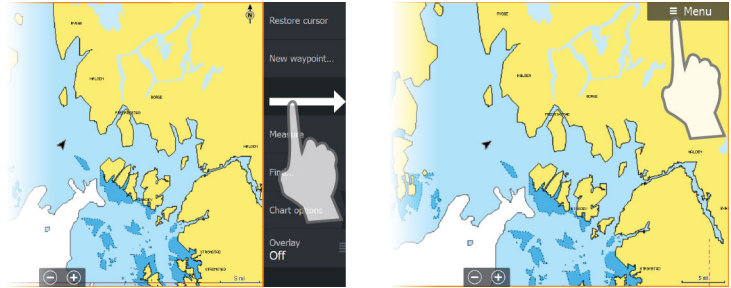
The menu is used to operate the system and to adjust settings.

- Activate a menu item and toggle on/off an option by selecting it
- Adjust a slide bar value by either:
 - dragging the slide bar
 - selecting the **+** or **-** icons

Select the **Back** menu option to return to the previous menu level, and then exit.

Page menus can be hidden to allow pages to be a full screen view. To hide the menu, drag the menu to the right.

When you hide a menu on one page, the menu on other pages is also hidden. To display the menu again, select the menu option.



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

Dialog boxes

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 selecting the **X** in the dialog's upper right corner.

Selecting pages and panels

Selecting a page

- Select a full page panel by selecting the relevant application button on the **Home** page
- Select a favorite page by selecting the relevant favorite button
- Select a predefined split panel by pressing and holding the relevant application icon

Select active panel

In a multiple panel page, only one panel can be active at a time. The active panel is outlined with a border.

You can only access the page menu of an active panel.

You activate a panel by tapping it.

Using the cursor on the panel

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

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

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

Position the cursor by tapping the desired location on the screen.

When the cursor is active, the cursor position window is displayed.

To remove the cursor and cursor elements from the panel, select the **Clear cursor** option.

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.

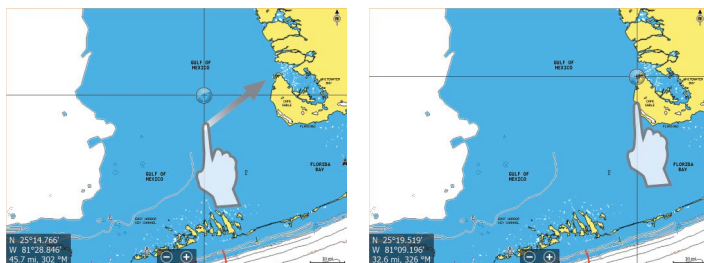
The Cursor assist function

The cursor assist function allows for fine tuning and precision placement of the cursor without covering details with your finger.

Press and hold your finger on the screen to switch the cursor symbol to a selection circle, appearing above your finger.

Without removing your finger from the screen, drag the selection circle over the desired item to display item information.

When you remove your finger from the screen the cursor reverts to normal cursor operation.



Measuring distance

The cursor can be used to measure the distance between your vessel and a selected position, or between 2 points on the chart panel.

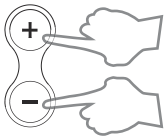
1. Position the cursor on the point from where you want to measure the distance. Start the measure function from the menu



- The measuring icons appear with a line drawn from the vessel center to the cursor position, and the distance is listed in the cursor information window.
2. You can reposition the measuring points by dragging either icon as long as the measuring function is active
- **Note:** The bearing is always measured from the grey icon to the blue icon.

You can also start the measuring function without an active cursor. Both measuring icons are then initially located at the vessel position. The grey icon follows the vessel as the vessel moves, while the blue icon remains at the position given when you activated the function. You terminate the measuring function by selecting the **Finish measuring** menu option.

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 the **Zoom In (+)** and **Zoom out (-)** 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 chart panel, centered on the vessel's position
- the system displays navigation information back to the MOB waypoint

Multiple MOB waypoints are saved by repeatedly pressing the **MOB** buttons. The vessel continues to show navigation information to the initial MOB waypoint. Navigation to subsequent MOB waypoints needs to be done manually.

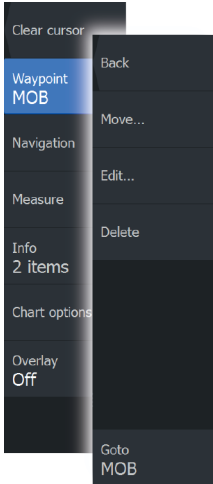
Cancel navigation to MOB

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 and then the MOB waypoint pop-up.



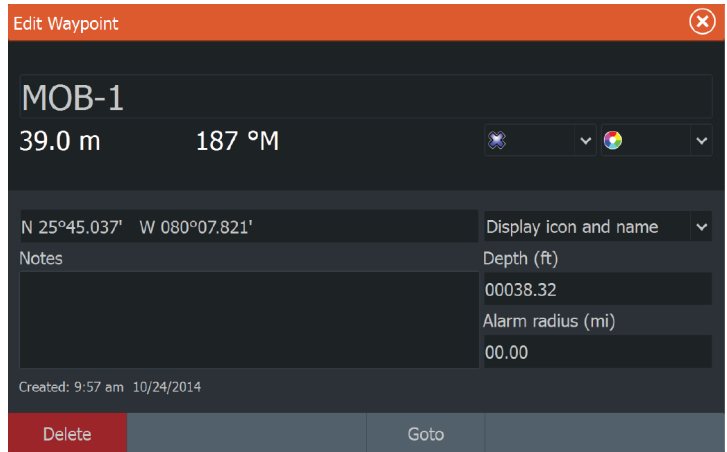


The MOB waypoint menu option

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** and **Power** keys to take a screen capture. Screen captures are saved to internal memory.

To view files, refer to "*Files*" on page 111.

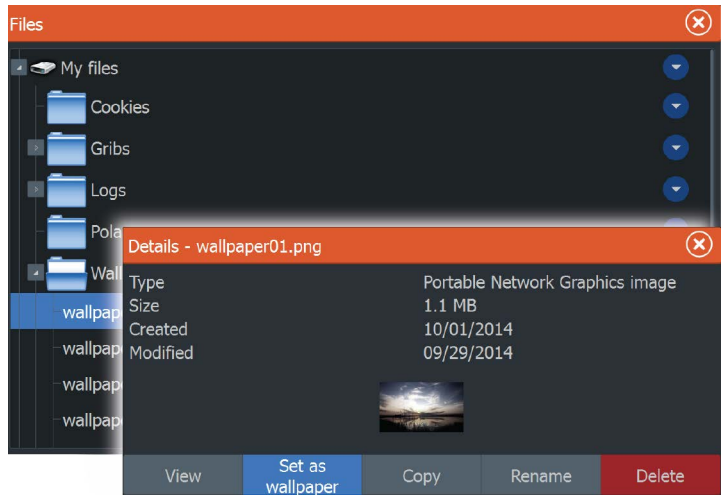
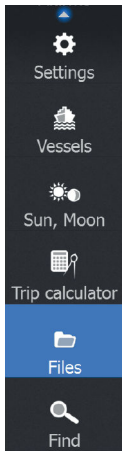
3

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.

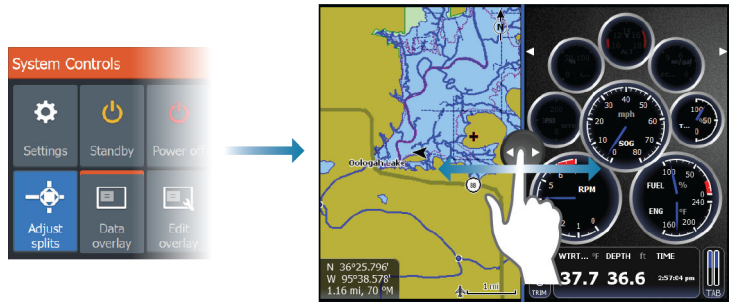
The images can be available on any location that can be seen in the files browser. When a picture is chosen as the wallpaper, it is automatically copied to the Wallpaper folder.



Adjusting panel size

You can change the panel size for an active split page. The panel size can be adjusted for both favorite pages and for predefined split pages.

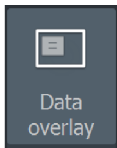
1. Activate the **System Controls** dialog
2. Select the adjust splits option in the dialog
3. Adjust the panel size by dragging the adjustment icon
4. Confirm your changes by tapping one of the panels or selecting the save option in the menu.



The changes are saved to the active favorite or split page.

Data Overlay

You can have data information as overlay on a page. The information can be any data available on the network.



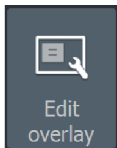
Turning Data overlay on and off

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

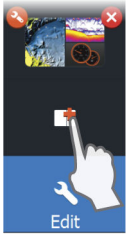
Use the **Edit overlay** option on the **System Controls** dialog to access edit menu options to:

- 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 and moving it.



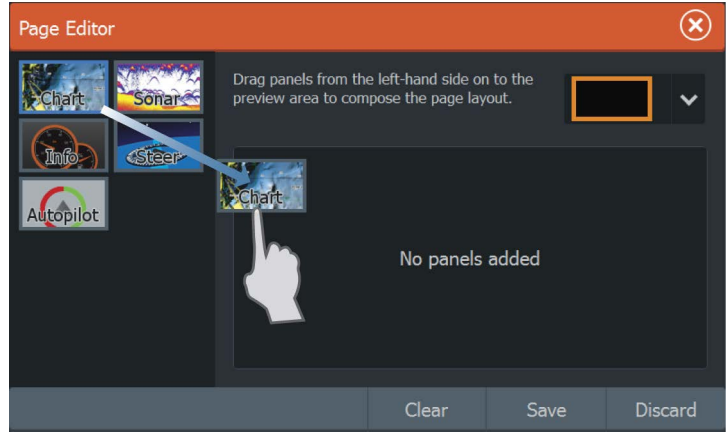
Adding new favorite pages

1. Select the **New** icon in the favorite panel on the **Home** page to open the page editor dialog

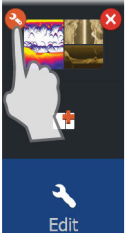


2. Drag and drop page icons to set up a new page
3. Change the panel arrangement (only possible for 2 or 3 panels), if required
4. Save the page layout.

The system displays the new favorite page, and the new page is included in the list of favorite pages on the **Home** page.



Edit favorite pages



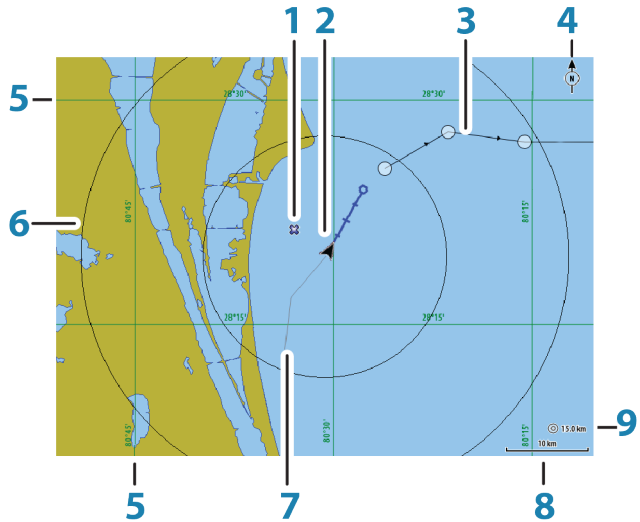
1. Select the edit icon in the Favorite panel:
 - Select the X icon on a favorite icon to remove the page
 - Select the tool icon on a favorite icon to display the page editor dialog
2. Add or remove panels in the page editor dialog
3. Save or discard your changes to leave the favorite edit mode.

4

Charts

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, place waypoints, and display AIS targets. You can also overlay a StructureScan image.

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.

Chart data

The system is delivered with different embedded cartography depending on region.

All units support Insight charts from Navico including Insight Genesis. The system also supports charts from Navionics and C-MAP as well as content created by a variety of third party mapping providers in the AT5 format. For a full selection of available charts, visit www.gofreeshop.com, www.c-map.com, or www.navionics.com.

- **Note:** In this manual, all possible chart menu options are described. These options vary depending on the chart you are using.
- **Note:** Insight charts are referred to as Lowrance in the menu.
- **Note:** The system does not automatically switch to embedded cartography if the chart card is removed. A low-resolution chart will be displayed until you re-insert the card or manually switch back to the embedded cartography.

Selecting chart type

You specify the chart type in the Chart panel by selecting one of the available chart types in the chart source menu option.

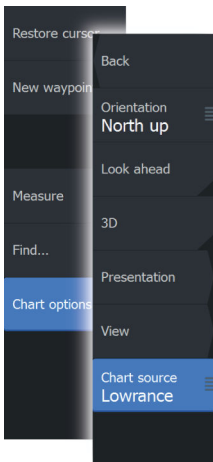
Vessel symbol

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.

- **Note:** Without a heading sensor on the network, the vessel icon orientates itself using COG (Course over Ground).

Chart scale

You zoom in and out on the chart by using the zoom (+ or -) buttons or the + and - keys.



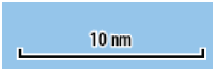


Chart range scale and range rings interval (when turned on) are shown in the lower right corner of the chart panel.

Panning the chart

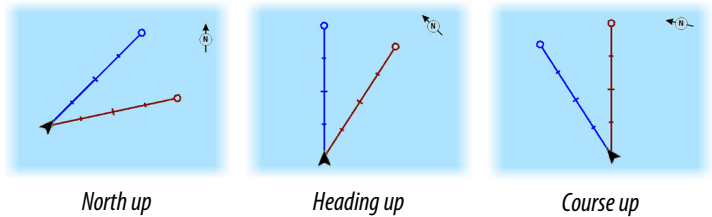
You can move the chart in any direction by dragging your finger on the screen.

Select the **Clear cursor** menu option to remove the cursor and cursor window from the panel. This also centers the chart to the vessel position.

Positioning the vessel on the chart panel

Chart orientation

Several options are available for 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

Displays the chart with north upward.

Heading up

Displays the chart with the vessel's heading directed upward. Heading information is received from a compass. If heading is not available, then the COG from the GPS is used.

Course up

Displays the chart with the direction the vessel is ACTUALLY traveling directed upward, which in some cases is not the direction the vessel is headed.

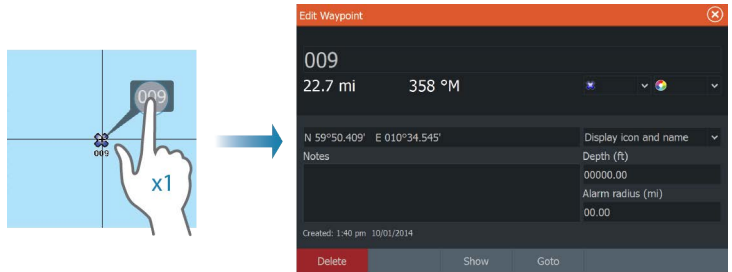
Look ahead

Moves the vessel icon closer to the bottom of the screen so that you can maximize your view ahead.

Displaying information about chart items

When you select a chart item, a waypoint, a route, or a target, basic information for the selected item is displayed. Select the chart item's pop-up to display all available information for that item. You can also activate the detailed information dialog from the menu.

- **Note:** If you are viewing applicable C-MAP charts on your system, you can select marine objects to display information about services and available multimedia (photos) associated with the location or object.
- **Note:** Pop-up information has to be enabled in chart settings to see basic item information.



Using the cursor on the chart panel

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

When you activate the cursor, the cursor position window is displayed. When the cursor is active, the chart does not pan or rotate to follow the vessel.

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

Select the **Clear cursor** menu option to remove the cursor and the cursor window from the panel. This also centers the chart to the vessel position.

Select the **Restore cursor** menu option to display the cursor in its previous location. The **Clear cursor** and **Restore cursor** options are useful features for toggling between the vessel's current location and the cursor position.

Creating routes

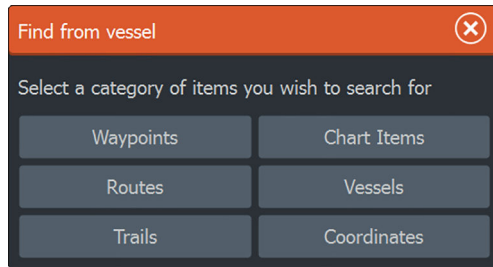
You can create routes as follows on the chart panel.

1. Position the cursor on the chart panel
 2. Select **New** followed by **New route** in the menu
 3. Continue positioning the remaining routepoints
 4. Save the route by selecting the save option in the menu.
- **Note:** For more information, refer to *"Waypoints, Routes, and Trails"* on page 45.

Find objects on chart panels

You can search for other vessels or various chart items from a chart panel.

Activate the cursor on the panel to search from the cursor position. If the cursor is not active, the system searches for items from the vessel's position.



- **Note:** You must have an AIS receiver connected to search for vessels.

3D charts

The 3D option provides a three dimensional graphical view of land and sea contours.

- **Note:** All chart types work in 3D mode, but without 3D cartography for the appropriate area the chart appears flat.

When the 3D chart option is selected, the Pan and the Rotate icons appear on the chart panel.

Panning the 3D chart



You can move the chart in any direction by selecting the Pan icon and then panning in the desired direction.

Select the **Return to vessel** menu option to stop panning, and to center the chart to vessel position.



Controlling the view angle

You can control the view angle by selecting the Rotate icon and then panning the chart panel.

- To change the direction you are viewing, pan horizontally
- To change the tilt angle of the view, pan vertically

→ **Note:** When centered on the vessel position, only the tilt angle can be adjusted. The view direction is controlled by the chart orientation setting. See "*Positioning the vessel on the chart panel*" on page 30.

Zooming a 3D chart

You zoom in and out on a 3D chart by using the zoom (+ or -) buttons or by using the + and - keys.

Chart overlay

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

When an overlay is selected, the chart menu expands to include basic menu functions for the selected overlay.

For more information about the StructureMap menu functions, refer to "*Structure options*" on page 78.

Insight and C-MAP charts

All possible menu options for Insight and C-MAP charts are described below. The features and menu options available can vary depending on the charts you use. This section shows menus from an Insight chart.

→ **Note:** A menu option is greyed out if it is not available on the chart displayed. For example, raster charts are not available with Insight, so the Raster charts menu option is greyed out when Insight charts are displayed.

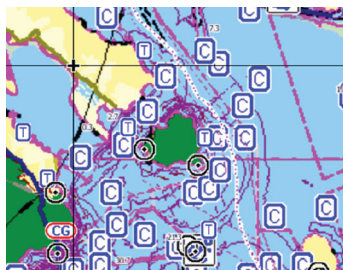
Insight and C-MAP tides and currents

The system can display Insight and C-MAP tides and currents. With this information it is possible to predict the time, level, direction and strength of currents and tides. This is an important tool when considering planning and navigation of a trip.

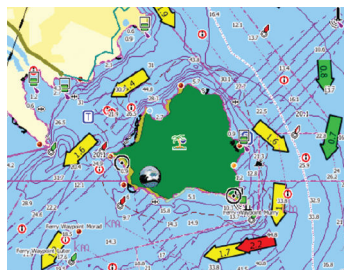
In large zoom ranges the tides and currents are displayed as a square icon including the letter **T** (Tides) or **C** (Current). When you select one of the icons, tidal or current information for that location are displayed.

Dynamic current data can be viewed by zooming inside a 1-nautical mile zoom range. At that range, the Current icon changes to an animated dynamic icon that shows the speed and direction of the current. Dynamic icons are colored in black (greater than 6 knots), red (greater than 2 knots and less than or equal to 6 knots), yellow (greater than 1 knot and less than or equal to 2 knots) or green (equal to or less than 1 knot), depending on the current in that location.

If there is no current (0 knots) this will be shown as a white, square icon.



Static Current and Tide icons



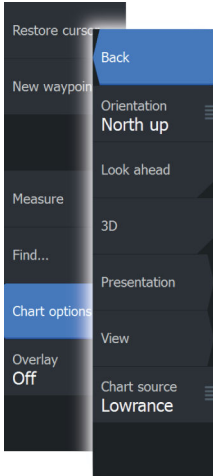
Dynamic Current icons

Insight and C-MAP specific chart options

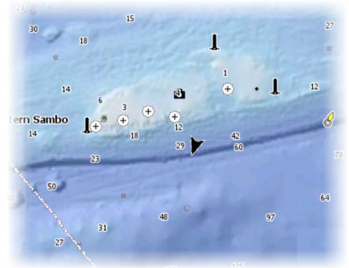
Orientation, Look ahead, 3D, and change Chart source (previously described in this section) are common for all chart types.

Presentation

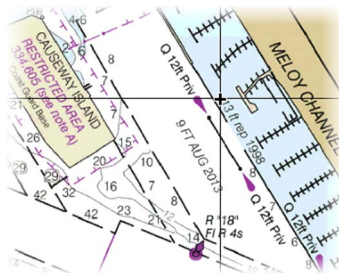
The charts can be displayed in different imagery styles.



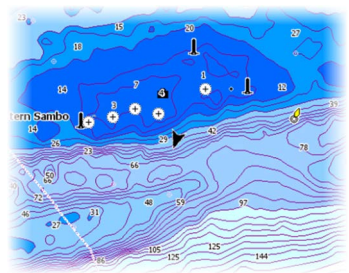
Shaded relief



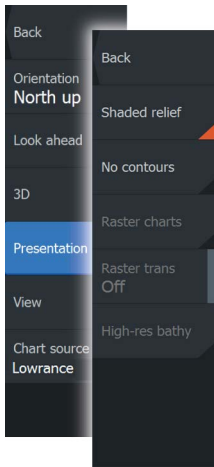
No contours



Raster imagery



High resolution bathymetry



Shaded relief

Shades seabed terrain.

No contours

Removes contour lines from the chart.

Raster charts

Changes the view to that of a traditional paper chart.

Raster transparency

Controls the transparency of raster imagery.

High resolution bathymetry

Enables and disables higher concentration of contour lines.

Insight and C-MAP view options

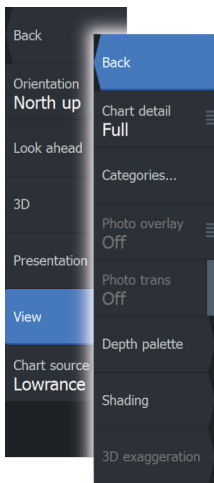


Chart detail

- **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.

Insight and C-MAP chart categories

Insight and C-MAP charts include several categories and sub-categories that you can turn on/off individually depending on which information you want to see.

Photo overlay

Photo overlay enables you to view satellite photo images of an area as an overlay on the chart. The availability of such photos is limited to certain regions, and cartography versions.

You can view photo overlays in either 2D or 3D modes.



No Photo overlay

Photo overlay, land only

Full Photo overlay

Photo transparency

The Photo transparency sets the opaqueness of the photo overlay. With minimum transparency settings the chart details are almost hidden by the photo.



Minimum transparency



Transparency at 80

Depth palette

Controls the Depth palette used on the map.

Paper chart

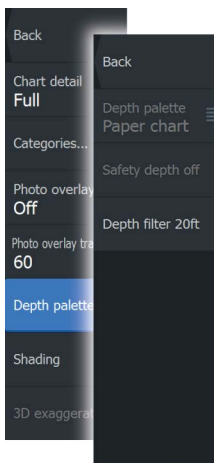
Changes the appearance of the map to a paper chart style.

Safety depth

Insign and 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.

Depth filter

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



Shading

Shades different areas of the seabed, depending on the selected Shading category.

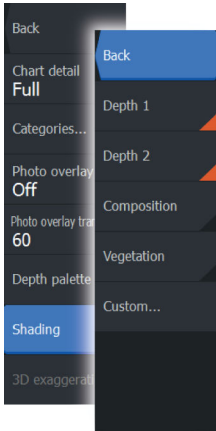
→ **Note:** Composition and Vegetation shading are not applicable to C-MAP charts.

Depth 1 and Depth 2

Depth presets that shade different depths in different colors.

Custom

You can adjust the depth threshold, color and opacity (transparency) of color shading for Depth 1 and Depth 2.



Custom Shading				
	Depth 1	Depth 2	Composition	Vegetation
Depth (m)	Color	Opacity (%)		
0		100		
12		100		
24		100		
37		100		
49		100		
61		100		
73		100		

3D exaggeration

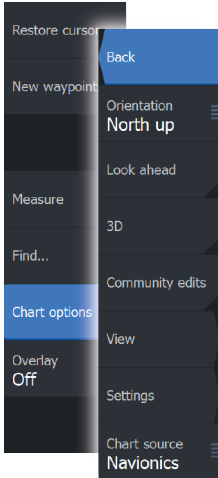
Graphical settings that are available in 3D mode only. Exaggeration is a multiplier applied to the drawn height of hills on land, and troughs in water to make them look taller or deeper.

→ **Note:** This option is grayed out if the data is not available in the map card inserted.

Navionics charts

Navionics specific chart options

Orientation, Look ahead, 3D and change Chart source (previously described in this section) are common for all chart types.



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.

Navionics chart settings

Colored seabed areas

Used for displaying different depth areas in different shades of blue.

Annotation

Determines what area information, such as names of locations and notes of areas, is available to display.

Presentation type

Provides marine charting information such as symbols, colors of the navigation chart and wording for either International or U.S. presentation types.

Chart details

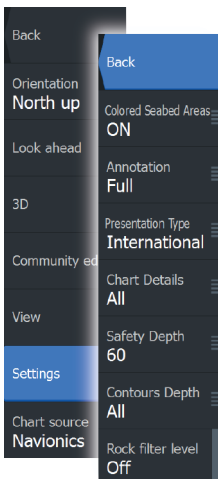
Provides you with different levels of geographical layer information.

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.



Contours depth

Determines which contours you see on the chart down to the selected safety depth value.

Rock filter level

Hides rock identification on the chart beneath a given depth.

This helps you to declutter charts in areas where there are many rocks located at depths well below your vessel's draught.

Navionics view options

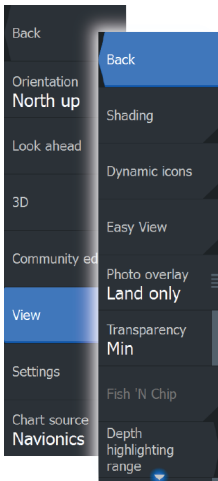


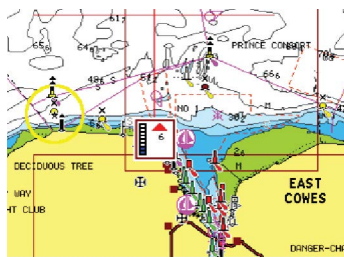
Chart shading

Shading adds terrain information to the chart.

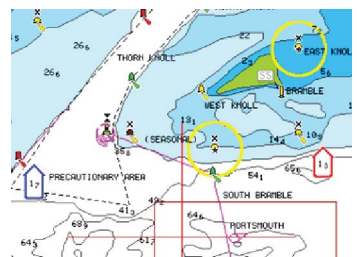
Navionics dynamic tide and current icons

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.

Photo overlay

Photo overlay enables you to view satellite photo images of an area as an overlay on the chart. The availability of such photos is limited to certain regions, and cartography versions.

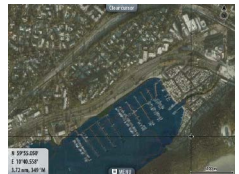
You can view photo overlays in either 2D or 3D modes.



No Photo overlay



Photo overlay, land only



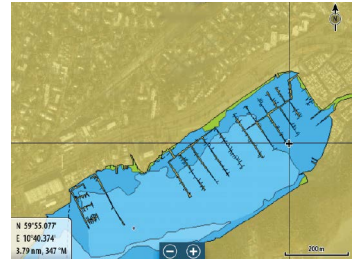
Full Photo overlay

Photo transparency

The Photo transparency sets the opaqueness of the photo overlay. With minimum transparency settings the chart details are almost hidden by the photo.



Minimum transparency



Maximum transparency

Navionics Fish N' Chip

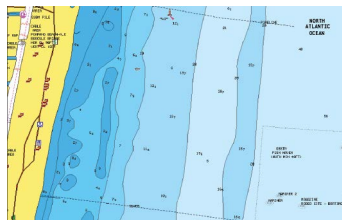
The system supports Navionics Fish N' Chip chart feature.

For more information, see www.navionics.com.

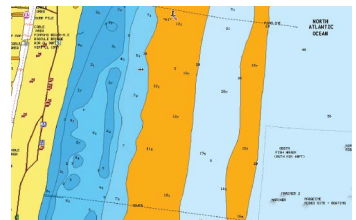
Depth highlight range

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.



No Depth highlight range

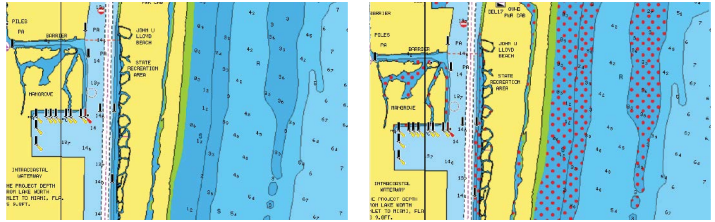


Depth highlight range: 6 m - 12 m

Shallow water highlight

Highlights areas of shallow water.

This allows you to highlight areas of water between 0 and the selected depth (up to 10 meters/30 feet).

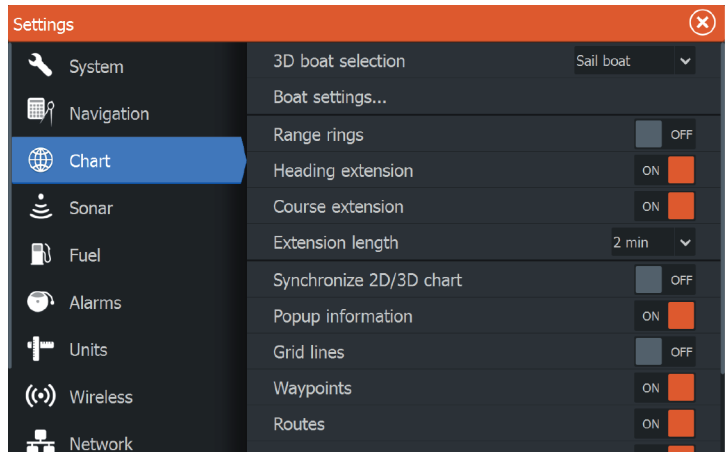
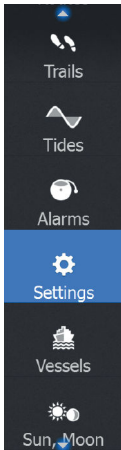


No shallow water highlighted

Shallow water highlight: 0 m - 3 m

Chart settings

Settings and display options made in the Chart settings page are common for all chart panels.



3D boat selection

Determines which icon to use on 3D charts.

Boat settings

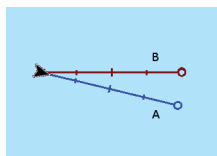
Not used.

Range Rings

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

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

Extension lines



Sets the lengths of the heading and course extension lines for your vessel. For setting extension line lengths on other vessels shown as AIS targets, refer to AIS "*Course extension lines*" on page 103 lines.

A: Heading

B: Course Over Ground (COG)

The lengths of the extension lines are either set as a fixed distance, or to indicate the distance the vessel moves in the selected time period. If no options are turned on for the vessel then no extension lines are shown for your vessel.

Your vessel heading is based on information from the active heading sensor and the COG is based on information from the active GPS sensor.

Synchronize 2D/3D chart

Links the position shown on one chart with the position shown on the other chart when a 2D and a 3D chart are shown side by side.

Pop-up information

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

Grid lines

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

Hide chart

If the option is set to ON when viewing a Lowrance chart, the chart (background) is not displayed and only the vessel, extensions, waypoints, and routes are displayed on a white background.

Waypoints, Routes, Trails

Turns on/off displaying of these items on chart panels. Also opens the Waypoints, Routes and Trails dialogs you can use to manage them.

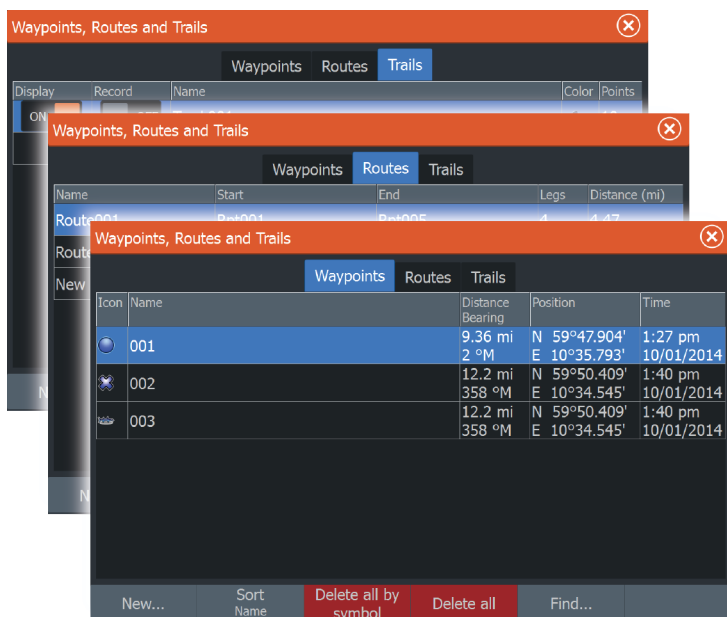
5

Waypoints, Routes, and Trails

Waypoints, Routes, and Trails dialogs

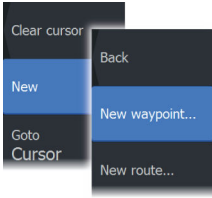
The Waypoints, Routes, and Trails dialogs give access to advanced edit functions and settings for these items.

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



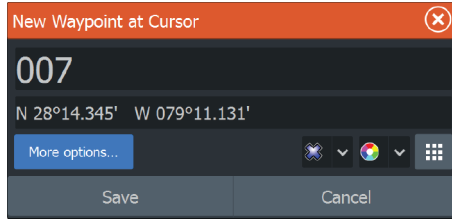
Waypoints

A waypoint is a user generated mark positioned on a chart, or on the Sonar image. Each waypoint has an exact position with latitude and longitude coordinates. A waypoint positioned on the Sonar image has a depth value, in addition to position information. 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.



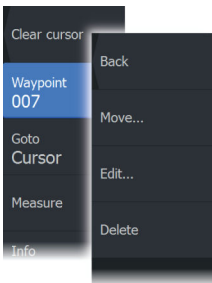
Saving waypoints

You can save a waypoint at a selected location by positioning the cursor on the panel, and then selecting the new waypoint option in the menu.



You can also save a waypoint by pressing the Waypoint key:

- Press once to display the New Waypoint dialog
- Press twice to quickly save a waypoint. If the cursor is active, the waypoint is saved at the cursor position. If the cursor is not active, the waypoint is saved at your vessel's position.



Moving a waypoint

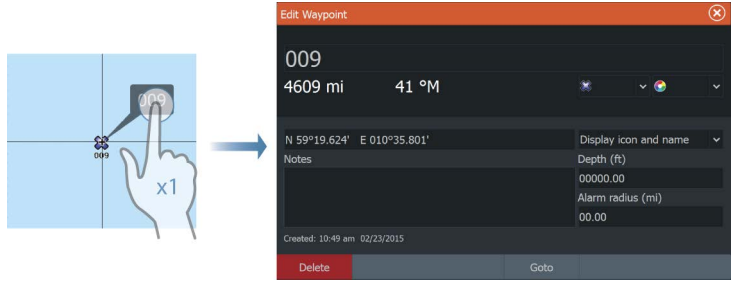
1. Select the waypoint you want to move. The waypoint icon expands to indicate that it is active.
2. Activate the menu and select the waypoint in the menu
3. Select the move option
4. Select the new waypoint position
5. Select Finish in the menu.

The waypoint is now automatically saved at the new position.

Edit a waypoint

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

The dialog can also be accessed from the Waypoints tool on the **Home** page.



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.

You can also delete waypoints from the Waypoints tool on the **Home** page.

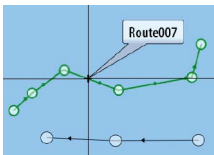
You can delete MOB waypoints the same way.

Waypoint alarm settings

You can set an alarm radius for each individual waypoint you create. The alarm is set in the **Edit Waypoint** dialog.

→ **Note:** The waypoint radius alarm must be toggled ON in the alarm dialog to activate an alarm when your vessel comes within the defined radius. For more information, refer to *"Alarms dialog"* on page 105.

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 chart panel it turns green, and the route name is displayed.

Creating a new route on the chart panel

1. Activate the cursor on the chart panel
2. Select the new route option from the menu
3. Position the first waypoint on the chart panel
4. Continue positioning new routepoints on the chart panel until the route is completed
5. Save the route by selecting the save option in the menu.

Edit a route from the chart panel

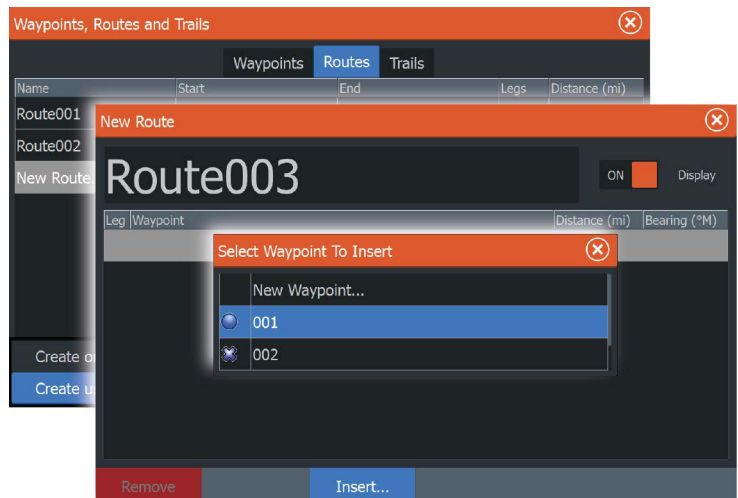
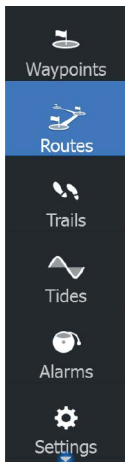
1. Select the route to make it active.
 2. Select the route edit option in the menu.
 3. Position the new routepoint on the chart panel:
 - If you set the new routepoint on a leg, a new point is added between existing routepoints.
 - If you set the new routepoint outside the route, the new routepoint is added after the last point in the route.
 4. Drag a routepoint to move it to a new position.
 5. Save the route by selecting the save option in the menu.
- **Note:** The menu changes depending on the selected edit option. All edits are confirmed or cancelled from the menu.

Delete a route

You can delete a route by selecting the **Delete** menu option when the route is activated. You can also delete routes from the Routes tool on the **Home** page.

Creating routes using existing waypoints

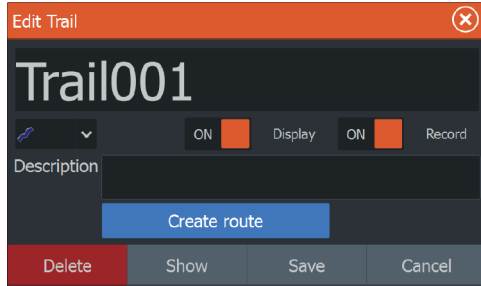
You can create a new route by combining existing waypoints from the **Routes** dialog. The dialog is activated by using the **Routes** tool on the **Home** page.



Converting Trails to Routes

You can convert a trail to a route from the Edit Trail dialog. The dialog is activated by activating the trail, then selecting the trail's pop-up, or the **Trail** menu option.

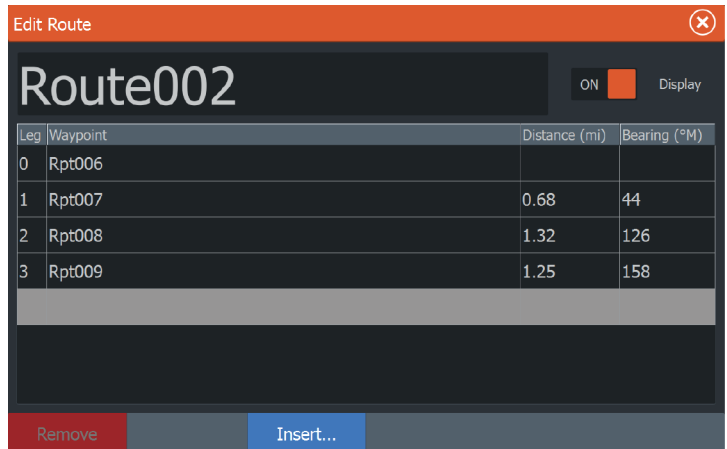
The Edit Trails dialog can also be accessed by selecting the Trails tool on the **Home** page.



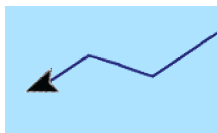
The Edit Route dialog

You can add and remove routepoints from the **Edit Route** dialog. This dialog is activated by selecting an active route's pop-up or from the menu.

The dialog can also be accessed by using the **Routes** tool on the **Home** page.



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** dialog.

From the factory, the system is set to automatically track and draw the vessel's movement on the chart panel. The system continues to record the Trails 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 Trails dialog.

Creating new Trails

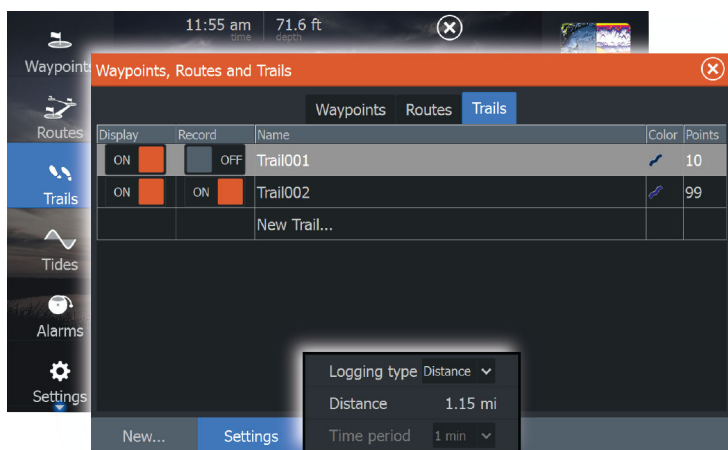
You can start a new trail from the **Trails** dialog, activated by using the **Trails** tool on the **Home** page.

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 waypoint automatically when a course change is registered.

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



6

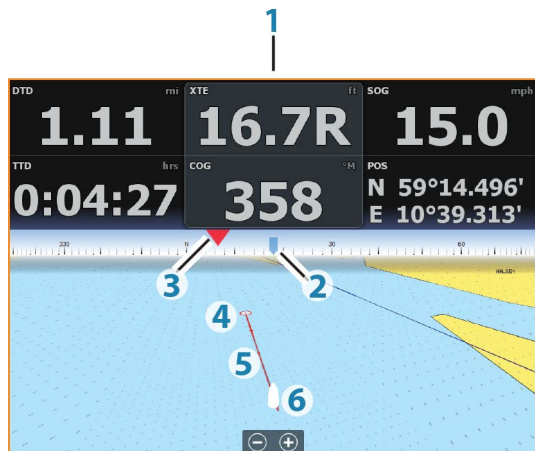
Navigating

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

If autopilot functionality is included in your system, the autopilot can be set to automatically navigate the vessel.

For information about positioning waypoints and creating routes, refer to "*Waypoints, Routes, and Trails*" on page 45.

Steer panel



The Steer panel can be used to display information when you are navigating. It is activated from the **Home** page, either as a full page panel or as part of a multiple panel page.

- 1 Data fields
- 2 Vessel heading
- 3 Bearing to waypoint
- 4 Destination point

- 5** Bearing line with allowed off course limit
When travelling on a route the bearing line shows the intended course from one waypoint towards the next. When navigating towards a waypoint (cursor position, MOB, or an entered latitude and longitude position), the bearing line shows the intended course from the point at which navigation was started towards the waypoint.
- 6** Vessel symbol
Indicates distance and bearing relative to the intended course. If the XTE (Cross Track Error) exceeds the defined XTE limit, this is indicated with a red arrow including the distance from the track line.

Data Fields

The Steer panel provides the following information:

XTE	Cross track error
SOG	Speed over ground
COG	Course over ground
POS	Position
DTD	Distance to destination
TTD	Time to destination

Navigate to cursor position

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 a route

When route navigation is started, the menu expands and shows options for canceling the navigation, for skipping a waypoint, and for restarting the route from current vessel position.

Starting a route from the chart panel

Activate a route on the panel, and then select the route navigation option from the menu.

You can select a routepoint to start navigating from a selected position.

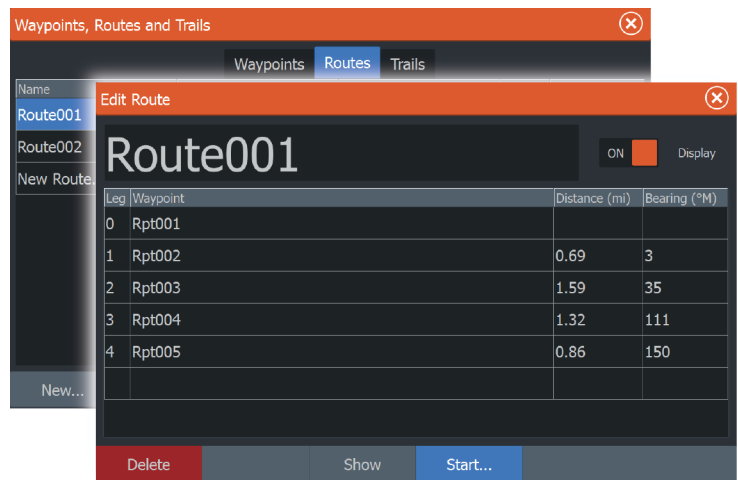
Starting a route from the steer panel

Select the start route option on the menu, and then details from the dialogs.

Start navigating a route from the Route dialog

You can start navigating from the **Route** dialog, activated by:

- Selecting the **Route** tool from the **Home** page
- Selecting the route details from the menu



Navigating with the autopilot

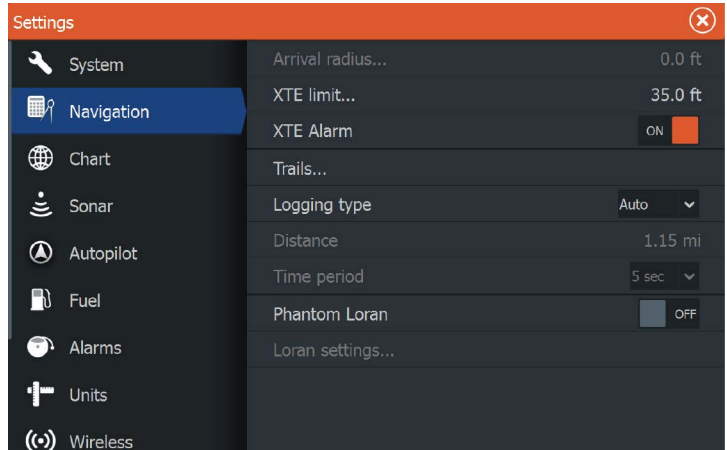
Navigating with the autopilot is available with all units that have set up the trolling motor autopilot. Autopilot is not available on the ELITE-5Ti.

When you start navigation on a system with autopilot functionality, you are prompted to set the autopilot to navigation mode.

If you choose not to engage the autopilot, the autopilot can be set to navigation mode from the Autopilot Controller later on.

For more information about autopilot functionality, refer to *"Autopilot"* on page 82.

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 *"Converting Trails to Routes"* on page 49.

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.

Phantom Loran

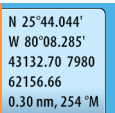
Enables use of Phantom Loran positioning system.

Loran settings

Defines Loran chains (GRI) and preferred station for waypoint entry, cursor position and position panel.

The graphic example shows a cursor position window with Loran position information.

For more information refer to your Loran system documentation.



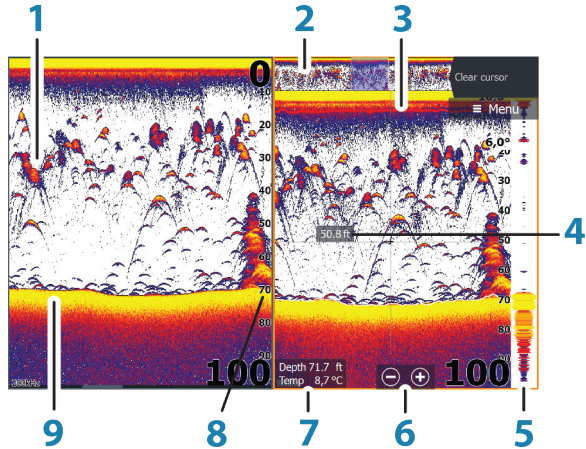
N 25°44.044'
W 80°08.285'
43132.70 7980
62156.66
0.30 nm, 254 °M

7

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 sea floor.

The Sonar image



- 1 Fish arches
- 2 History preview*
- 3 Temperature graph*
- 4 Depth at cursor
- 5 Amplitude scope*
- 6 Zoom (range) buttons
- 7 Water depth and Water temperature at cursor location
- 8 Range scale
- 9 Bottom

* Optional Sonar items that you turn on/off individually.

Zooming the image

You can zoom the image by:

- using the zoom (+ or -) buttons
- using the +/- keys

Zoom level is shown on the bottom left side of the image.

When zooming in, the sea floor is kept near the bottom of the screen, irrespective of whether it is in auto-range or manual range.

If the range is set considerably less than the actual depth, the unit is not able to find the bottom when zooming.

If the cursor is active, the unit zooms in where the cursor is pointed.

Zoom bar

The zoom bar is displayed when you zoom the image.

Drag the zoom bar vertically to view different parts of the water column.

Using the cursor on the image

The cursor can be used to measure a distance to a target, to mark a position, and to select targets.

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

When you position the cursor on the image; the screen pauses, the depth at the cursor position is shown, and the information window and the history bar are activated.

To remove the cursor and cursor elements from the panel, select the **Clear cursor** menu option.

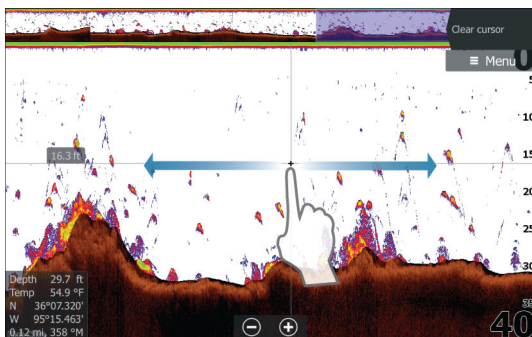
Viewing history

Whenever the cursor is shown on the Sonar panel, the scroll bar is shown at the top of the panel. The scroll bar shows the image you are currently viewing in relation to the total Sonar image history stored.

If the scroll bar is on the far right side, it indicates that you are viewing the latest soundings. If you position the cursor to the left side of the screen, the history bar starts scrolling towards the left, and the automatic scrolling as new soundings are received is turned off.

You can view sonar history by panning the image. You can also use the preview feature to pan history, refer to *"Preview"* on page 65.

To resume normal scrolling, select the **Clear cursor** menu option.



Setting up the image

Use the Sonar menu options to set up the image. When the cursor is active, some options on the Sonar menu are replaced with cursor mode features. Select **Clear cursor** to return to the normal Sonar menu.

The range

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

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. Auto is the preferred setting for most fish finding sonar use.

Preset range levels

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

Custom range

This option allows you to manually set both upper and lower range limits.

→ **Note:** Setting a custom range puts the sonar in manual mode. If the bottom is well beyond the lower range set, you may lose digital depth.

Frequency

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

→ **Note:** This unit cannot operate CHIRP frequencies and SideScan at the same time. If you turn on StructureScan Left/Right view, you will not be able to use the CHIRP sonar.

You can view two frequencies at the same time by selecting dual Sonar panels from the **Home** page.

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

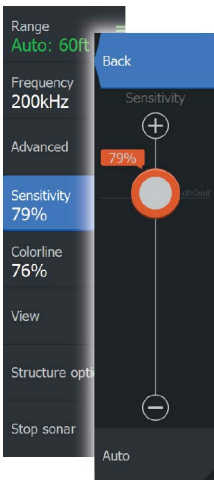
Auto sensitivity automatically adjusts the sonar return to the optimal levels. Auto sensitivity can be adjusted (+/-) to your preference while still maintaining the auto sensitivity functionality.

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.

Adjusting Sensitivity and Colorline

Select the Sensitivity or Colorline menu options in the Sonar menu and adjust them by dragging the bar vertically up/down. Minor adjustments can be made by tapping on the top or bottom of the slider bar.

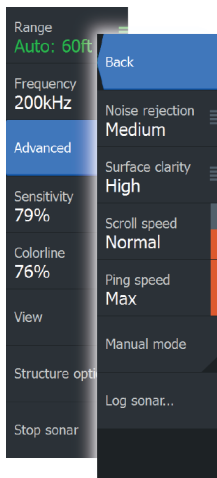


Stop sonar

Select the **Stop sonar** menu option to stop the sonar from pinging. Use the stop sonar option anytime you want to disable the sonar but not power off the unit.

Advanced options

The Advanced option is only available when the cursor is not active.



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.

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.

Ping speed

Ping speed controls the rate the transducer transmits the Sonar 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.

Manual mode

Manual mode is an advanced user mode that restricts digital depth capability, so the unit only processes sonar signals in the selected

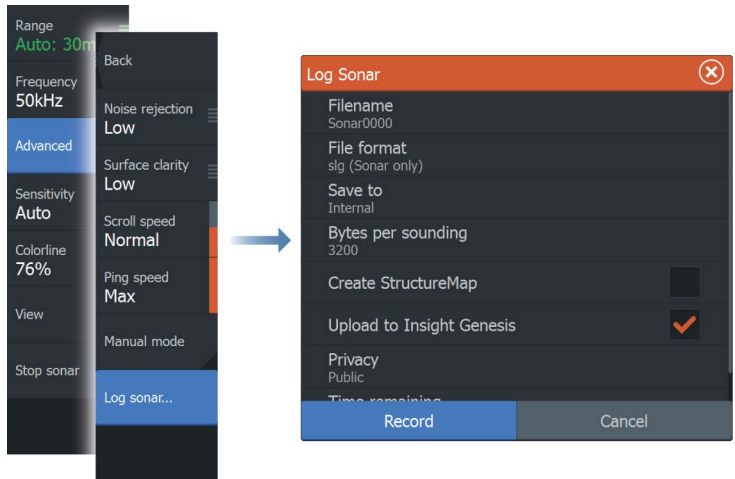
range. This allows the display to continue smooth scrolling if the bottom depth is out of transducer range. When the unit is in manual mode, you might not receive any depth readings, or you might receive incorrect depth information.

Start recording log data

You can start recording 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 **Advanced** menu option, or from the **Sonar Settings** dialog.

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 (DownScan only*), or sl2 (Sonar and DownScan).

→ **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.

Bytes per sounding

Select how many bytes per seconds that are to be used when saving the log file. More bytes yield better resolution, but cause the record file to increase in size compared to using lower byte settings.

Create StructureMap

If StructureScan is available on the network, 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.

Upload to Insight Genesis

Files are transmitted to Insight Genesis when recording completes, if you are connected to a wireless hotspot. For information about wireless hotspots, refer to "*Wireless connection*" on page 90.

Privacy

If allowed by your selected Insight Genesis account, you can choose between setting the recorded log files as Private or Public at Insight Genesis.

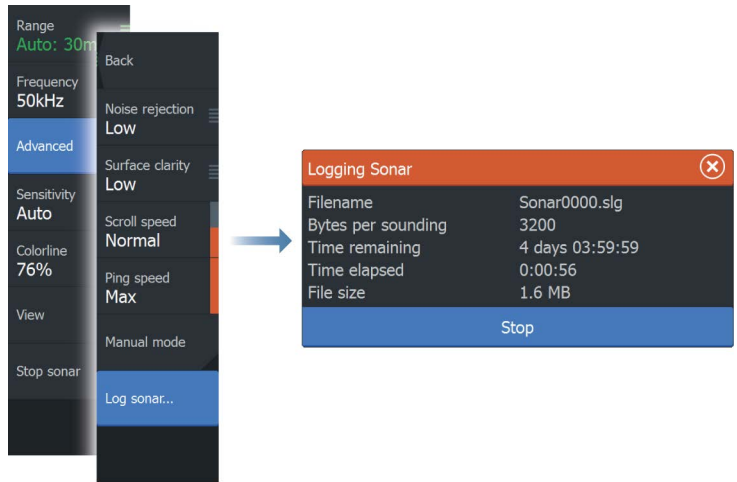
Time remaining

Shows the remaining allocated space available for recordings.

Stop recording log data

Select **Stop** in the Logging Sonar dialog to fully stop the recording of all sonar log data.

→ **Note:** If you have selected the **Upload to Insight Genesis** option and are connected to a wireless hotspot, your recorded files are transmitted to Insight Genesis when you select **Stop**.



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 66.

The log file is displayed as a paused image, and you control the scrolling and display from the replay menu option.

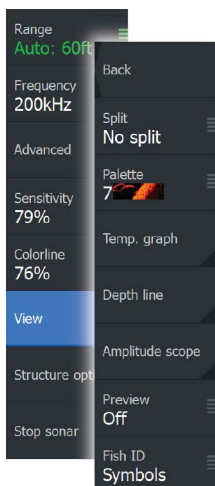
You can use the cursor on the replay image, and pan the image as on a normal echo image.

If more than one channel was recorded in the selected echo file, you can select which channel to display.

You exit the replay mode by selecting the **X** symbol in the upper right corner of the replay image.

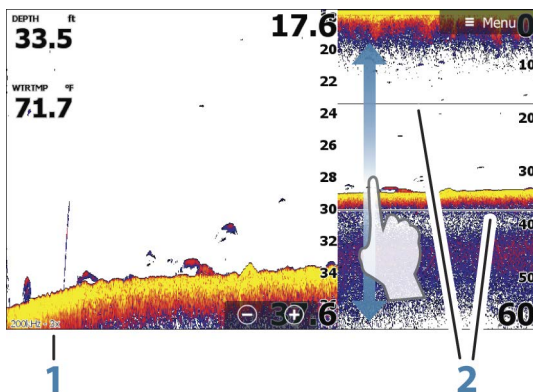
Sonar view options

Select the View option in the Sonar menu to see View options.



Split screen options

Zoom



- 1 Zoom level
- 2 Zoom bars

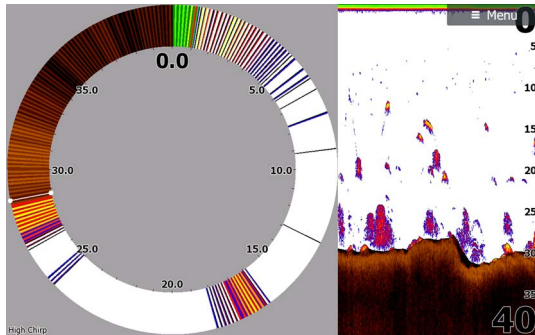
The Zoom mode presents a magnified view of the sounder image on the left side of the panel. By default the zoom level is set to 2x. You can select up to 8x zoom from the drop-down menu, using the +/- keys, or the zoom (+ or -) buttons. The range zoom bars on the right side of the display shows the range 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.



Palettes

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

Temperature graph

The temperature graph is used to illustrate changes in water temperature.

When toggled on, a colored line and temperature digits are shown on the Sonar image.

Depth line

A depth line can be added to the bottom surface to make it easier to distinguish the bottom from fish and structures.

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.

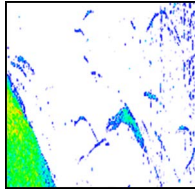
Preview

You can have all available sonar history shown at the top of the sonar screen. The Preview bar is a snapshot of available sonar history. You can scroll through sonar history by dragging the

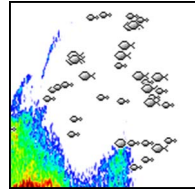
preview slider horizontally. By default, Preview is turned on when the cursor is active.

Fish ID

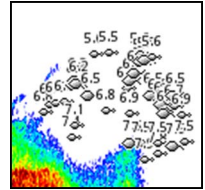
You can select how you want the echoes to appear on the screen. You can also select if you want to be notified by a beep when a fish ID appears on the panel.



Traditional fish echoes



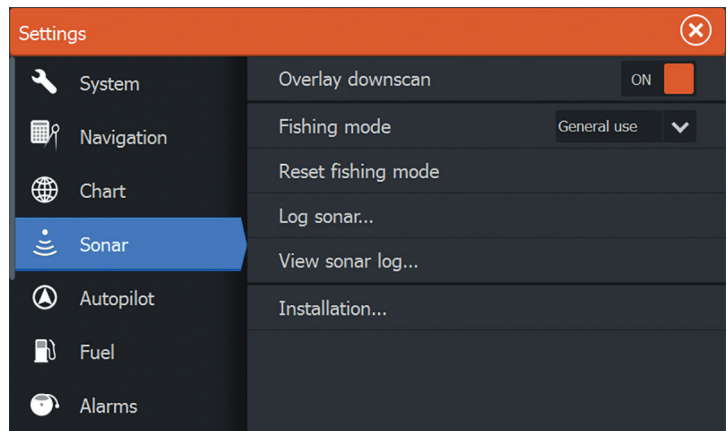
Fish symbols



Fish symbols and depth indication

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

Sonar settings



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.

Select Overlay on the Structure options menu to adjust the level of structure overlay shown on the screen. You can make adjustments using the Overlay slider bar.

Fishing mode

This feature consists of preset packages of sonar settings designed for specific fishing conditions.

→ **Note:** Selecting the proper fishing mode is critical to optimal sonar performance. If you completed configuration setup at initial startup, the proper fishing mode has already been selected.

Fishing mode	Depth	Palette
General Use	≤ 1,000 ft	White background
Shallow Water	≤ 60 ft	White background
Fresh Water	≤ 400 ft	White background
Deep Water	≤ 5,000 ft	Deep Blue
Slow Trolling	≤ 400 ft	White background
Fast Trolling	≤ 400 ft	White background
Clear Water	≤ 400 ft	White background
Ice Fishing	≤ 400 ft	White background

Reset fishing mode

Resets selected fishing mode to default settings, allowing you to clear settings adjustments made while using a fishing mode.

Log sonar

Select to start and stop recording of Sonar data. For more information, refer to "*Start recording log data*" on page 61.

This option is also available from the Advanced option in the Sonar menu.

View Sonar log

Used to view Sonar recordings. The log file is displayed as a paused image, and you control the scrolling and display from the menu.

You can use the cursor on the image, measure distance, and set view options as on a live Sonar image. If more than one channel was recorded in the selected Sonar file, you can select which channel to display.

You exit the view function by selecting the **X** in the upper right corner.

Installation

Used for installation and setup. See the separate ELITE Ti Installation manual.

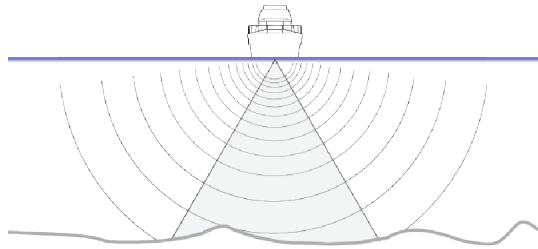
8

StructureScan

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

StructureScan HD provides a wide coverage in high detail with SideScan, while DownScan provides detailed images of structure and fish directly below your boat. The StructureScan page is accessed from the **Home** page when the TotalScan transducer is connected.

→ **Note:** This unit cannot operate CHIRP frequencies and SideScan at the same time. If you turn on StructureScan Left/Right view, you will not be able to use the CHIRP sonar.

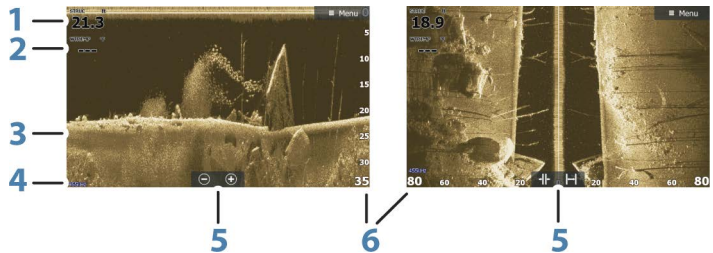


The StructureScan image

The view

The StructureScan panel can be set up as a DownScan image, or showing left/right side scanning.

The DownScan image can also be added as an overlay to the traditional Sonar image.



- 1 Depth
- 2 Temperature
- 3 Bottom
- 4 Frequency
- 5 Zoom (downscan) / Range (sidescan) icons
- 6 Range scale

Zooming the StructureScan image

You can zoom a StructureScan image by:

- using the zoom (+ or -) buttons
- using the +/- keys

Zoom level is shown on the bottom left side of the panel.

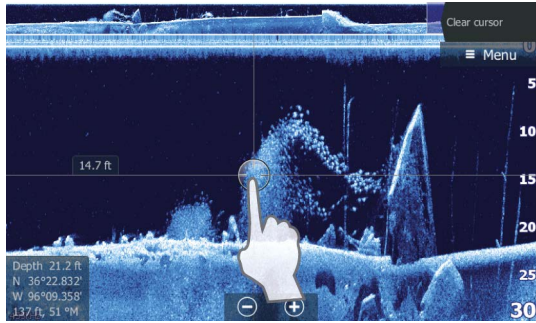
Using the cursor on the StructureScan panel

By default, the cursor is not shown on the StructureScan image.

When you position the cursor on a DownScan image, the screen pauses, the cursor information window and the history bar are activated. On a DownScan image, the depth is shown at cursor position.

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, select the **Clear cursor** option.

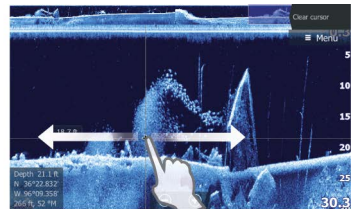
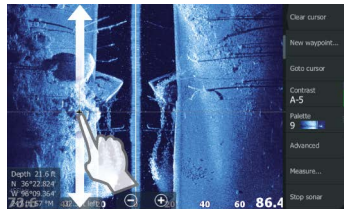


Viewing StructureScan history

When the cursor is active in a DownScan view, the history bar is shown at the top of the panel.

In a SideScan view, you can pan the image to see sides and history by dragging the image left, right, and up.

To resume normal StructureScan scrolling, press **Clear cursor**.



Setting up the StructureScan image

Use the StructureScan menu to set up the image. When the cursor is active, some options in the menu are replaced with cursor mode features. Select **Clear cursor** to return to the normal menu.

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.

StructureScan frequencies

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

Contrast

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

To adjust the contrast setting:

1. Select the contrast icon or activate the contrast option in the menu to display the color adjustment bar
2. Drag the bar up or down to get the desired contrast setting or select **Auto contrast**.

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

Palettes

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

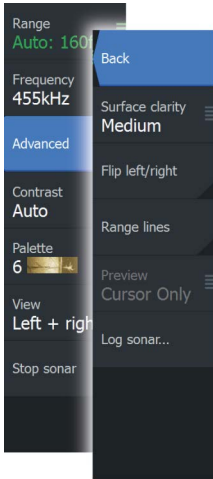
View

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

Stop sonar

Use the **Stop sonar** menu option when you want to turn off the StructureScan transducer, but not turn off the unit.

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.

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 depth (Downscan) and distance (SideScan).

Preview

You can turn off sonar history preview, have it always shown at the top of the screen, or have it appear only when the cursor is active. By default, the sonar history preview appears when the cursor is active.

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 61.

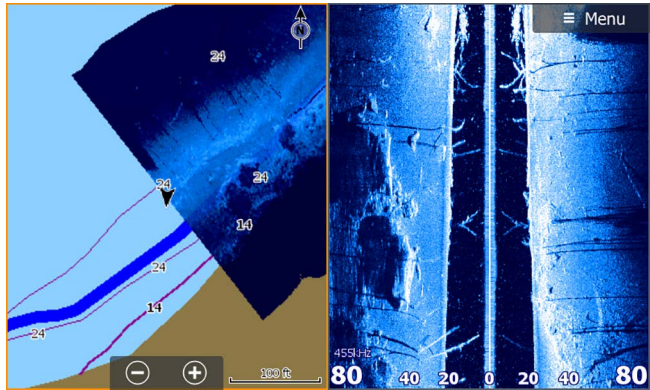
9

StructureMap

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:

- Touch operation: zoom the chart and the scanned image by using the zoom (+ or -) buttons. Drag on the panel to view the scanned image.
- Key operation: zoom the chart and the scanned image by using the +/- keys.

Selecting the **Clear cursor** option removes the cursor from the panel, and the chart center is positioned at the vessel.

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 sources

Two sources can be used to overlay Structure logs on the charts, but only one can be viewed at a time:

- Live data - Used when StructureScan data is available on the system.
- Saved files - These are recorded StructureScan (*.sl2) data that are converted to StructureMap (*.smf) format. Saved *.smf files can be used even if no StructureScan sources are connected.

Live source

When live data is selected, the SideScan imaging history is displayed as a trail behind the vessel icon. The length of this trail varies depending on available memory in the unit and range settings. As the memory fills up, the oldest data is automatically deleted as new data is added. When increasing the search range, the ping speed of the StructureScan transducer is reduced, but the width and the length of the image history is increased.

→ **Note:** Live mode does not save any data. If the unit is turned off, all recent data is lost.

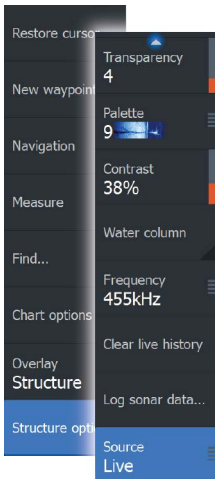
Saved files

When Saved files are selected, the StructureMap file is overlaid on the map based on position information in the file.

If the chart scale is large, the StructureMap area is indicated with a boundary box until the scale is large enough to show Structure details.

Saved mode is used to review and examine StructureMap files, and to position the vessel on specific points of interest on a previous scanned area.

→ **Note:** When saved files are used as the source, all StructureMap files found on the memory card and in the system's internal memory are displayed. If there is more than one StructureMap of the same area, the images overlap and clutter the chart. If several logs of the same area are required, the maps should be put on separate memory cards.



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 use Autorange when using StructureScan. Set your structure range to a significantly greater level (two-to-three times) than the water depth to ensure a complete scan and to maximize conversion accuracy.
- Do not overlap history trails when conducting a side-by-side scan of an area.

Recording StructureScan data

StructureScan data can be recorded from a chart panel with Structure overlay enabled.

StructureScan recordings can also be started from a StructureScan panel.

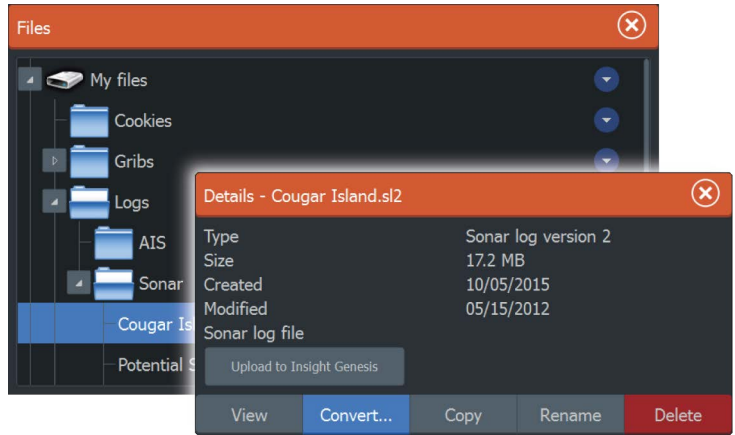
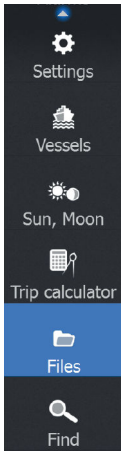
When StructureScan data is being recorded, there is a flashing red symbol and a message appears periodically at the bottom of the screen.

- **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 re-selecting the record function.

Converting StructureScan data to StructureMap format

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



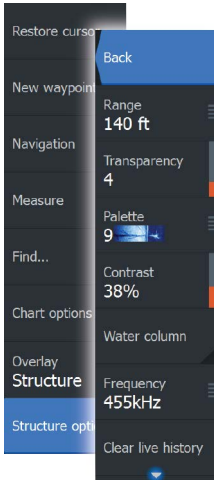
You can create standard or high resolution files. High resolution .smf files capture more detail, but take longer to convert and are larger than standard resolution files.

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

Using StructureMap with mapping cards

StructureMap allows you to maintain full chart capability and can be used with embedded cartography as well as Navionics, Insight 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.

Range

Sets the search range.

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.

Frequency

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

Clear live history

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

Log Sonar data

Records StructureScan data.

Source

Selects StructureMap source.

10

Info panels

The **Info** panels consist of multiple gauges - analog, digital, and bar - that can be customized to display selected data. The panel displays data on dashboards, and you can define up to ten dashboards within the panel.

Dashboards

A set of dashboard styles are predefined to display vessel, navigation, and angler information.

→ **Note:** Only the Navigation dashboard is available on the Elite-5Ti.

You switch between the panel's dashboards by selecting the left and right arrow buttons on the panel. You can also select the dashboard from the menu.



Vessel dashboard

Navigation dashboard

Angler dashboard

→ **Note:** Additional dashboards can be activated from the menu if other systems are present on the network.

Customizing the Info panel

You can customize the Info panel by changing the data for each of the gauges in the dashboard, by changing the dashboard layout, and by adding new dashboards. You can also set limits for analog gauges.

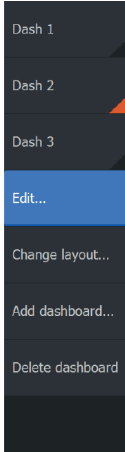
All edit options are available from the Info panel menu.

Available editing options depend on which data sources are connected to your system.

Edit a dashboard

Activate the dashboard you want to edit, then:

1. Activate the menu
2. Select the edit option
3. Select the gauge you want to change. Selected gauge is indicated with a colored background
4. Select information to be displayed, configure limits, and eventually change the source for the information
5. Save your changes by selecting the save option in the menu



11

Trolling motor autopilot

If a MotorGuide Xi5 trolling motor with Pinpoint GPS is connected to the NMEA 2000 network, then the SmartSteer (autopilot) functionality is available on all units except the ELITE-5Ti.

To use trolling motor autopilot functionality, you need the following:

- MotorGuide Xi5 trolling motor with Pinpoint GPS (available from MotorGuide)
- MotorGuide Pinpoint GPS Gateway (available from MotorGuide)
- NMEA 2000 network

Connect the MotorGuide Pinpoint GPS Gateway to your NMEA 2000. For details about installing this equipment, refer to the separate installation manuals that come with the equipment.

The Autopilot can automatically control the trolling motor to:

- Maintain a set heading
- Maintain the vessel's position
- Navigate to the cursor position, to a waypoint, or along a route
- Follow pre-defined turn patterns
- Control the speed of the trolling motor

→ **Note:** An autopilot is a useful navigational aid, but DOES NOT replace a human navigator.

Xi5 trolling motor software

If at any time there is an update required for your Xi5 trolling motor, instructions will be made available by MotorGuide, and posted on lowrance.com.

Follow the onscreen instructions to update Xi5 software.

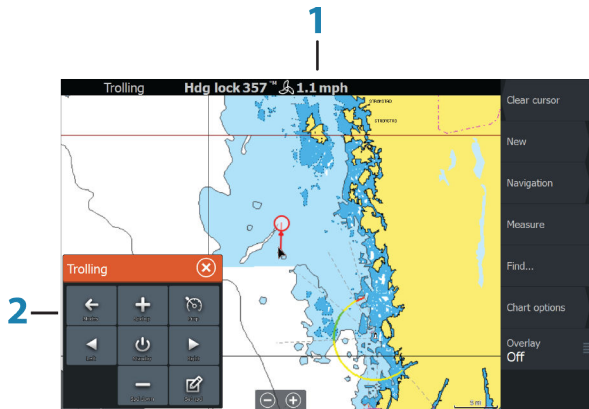
Safe operation with the autopilot

⚠ Warning: An autopilot is a useful navigational aid, but DOES NOT replace a human navigator.

Switching from automatic navigation to standby mode

To switch from autopilot to handheld remote or foot pedal steering, set the autopilot to standby mode. You can select standby mode from the **Autopilot Controller** or the **System Controls** dialog.

Autopilot interface

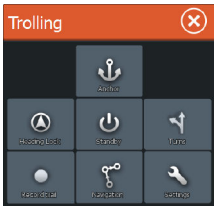


- 1 Autopilot information bar
- 2 Autopilot Controller

The Autopilot Controller

The autopilot is controlled from the **Autopilot Controller**, activated from the **System Controls** dialog displayed by pressing the **Power** key.

You can select the position of the Autopilot Controller on the page. Refer to "*Autopilot settings*" on page 88.



→ **Note:** As long as the **Autopilot Controller** is active, you cannot operate the background panel or its menu.

The **Autopilot Controller** can also be set up as a panel in a split panel page by using the Page Editor to make a Favorite page. For

information about Favorite pages, refer to *"Adding new favorite pages"* on page 26.

The Autopilot information bar

The **Autopilot information bar** is displayed when an autopilot mode is selected. The bar includes information about the autopilot mode and navigational information. The bar is present on all pages if the autopilot is in an active mode. In the Autopilot settings dialog, you can select that the bar is off when the autopilot is in standby mode. Refer to *"Autopilot settings"* on page 88.

Autopilot control of the trolling motor

Selecting an Arrival mode

The autopilot switches from navigation mode to the selected arrival mode when your vessel reaches the destination. Arrival mode is set to Standby by default. Before starting a navigation mode or a turn pattern, it is important to select an arrival mode that fits your navigation needs. Refer to *"Arrival mode"* on page 88.

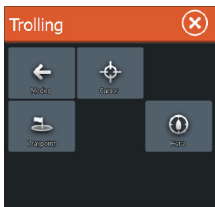
Anchor mode

Maintains your vessel position at a selected location.

→ **Note:** When in anchor mode, your vessel orientation can be affected by wind or currents.

The following occurs when you select to anchor at:

- **Waypoint**
Enables anchor mode when your vessel arrives at a selected waypoint.
- **Cursor**
Enables anchor mode when your vessel arrives at the cursor position.
- **Here**
Enables anchor mode at your current location.





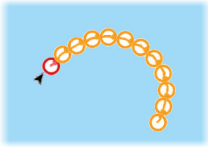
Heading Lock mode

Locks and maintains the current vessel heading. Use the left and right arrow buttons in the **Autopilot Controller** to make heading adjustments. To make small heading adjustments, single-select the left or right buttons. For larger adjustments, select and hold the left or right buttons.

Standby mode

Cancels autopilot activity and returns the vessel to handheld remote or foot pedal steering control.

Turn pattern steering



Steers the vessel in predefined turn patterns. When you select a turn pattern, the system creates temporary waypoints on the turn. The last waypoint on the turn is the final waypoint. When the vessel reaches the final waypoint, the vessel goes into arrival mode. Refer to "*Arrival mode*" on page 88.

Setting up a turn pattern

1. Select a turn pattern.
2. Enter the desired value(s) in the turn pattern dialog or use default settings.
3. Select the direction of the turn.

→ **Note:** Selecting a turn radius smaller than the GPS accuracy may result in incomplete navigation of the turn pattern.

U-turn

Changes the current set heading to be 180° in the opposite direction.

C-turn

Steers the vessel in a C-shaped pattern.

Spiral turn

Steers the vessel in a spiral with a decreasing or increasing radius. Negative values indicate decreasing radius while positive values indicate increasing radius.

Zigzag turns

Steers the vessel in a zigzag pattern.

Square turn

Makes the vessel automatically turn 90° after having travelled a defined leg distance.

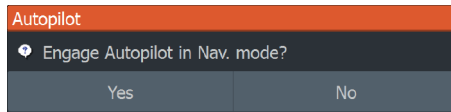
Lazy S-turn

Makes the vessel yaw around the main heading.

Navigation mode

In Nav. mode you can use the autopilot to steer the boat to cursor position, to a waypoint position, or along a pre-defined route. The position information from the GPS is used to keep the boat on the track line towards the destination point.

When you start navigating from an application (chart, steering, etc) you are prompted to engage the autopilot in Nav. mode.



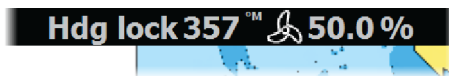
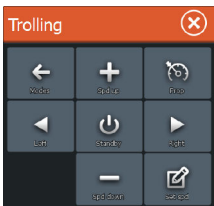
You can also initiate Nav. mode from the **Autopilot Controller** after navigation is started.

When you reach the destination, the autopilot switches to your **Arrival mode** setting. Refer to "*Autopilot settings*" on page 88.

Trolling motor speed control

In navigation modes (Heading lock mode, Nav. mode, and Turn pattern steering) there are two ways to control speed:

- Prop - selects a target propeller rate (percentage of power) shown as % in the Autopilot information bar.





- Cruise - selects a target cruise control speed shown as **mph**, **kn**, or **kph** in the Autopilot information bar.



- **Note:** Cruise set speed sets the target speed for your vessel. Your vessel may not be able to achieve the set target. The Cruise set speed (not your current speed) is displayed in the Autopilot information bar.

Speed adjustments

You can make speed adjustments on the Heading lock and Navigation control dialogs by selecting the Spd up (+) and Spd down (-) buttons, or by selecting the **Set Spd** or **Set prop** option and entering your desired speed or propeller rate.

Recording and converting a trail to a route

The **Record trail** button is used to record and convert a trail or part of a trail to a route.

1. Select **Record trail** at the desired location to start recording a new trail.
2. Select **Save route** to select the end location of the route. The Edit trail dialog appears.
3. Select **Create route**. The Edit route dialog appears.
4. Enter the route details and save it.

Autopilot settings

Autopilot settings is applicable for all units except ELITE-5Ti.

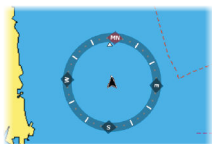
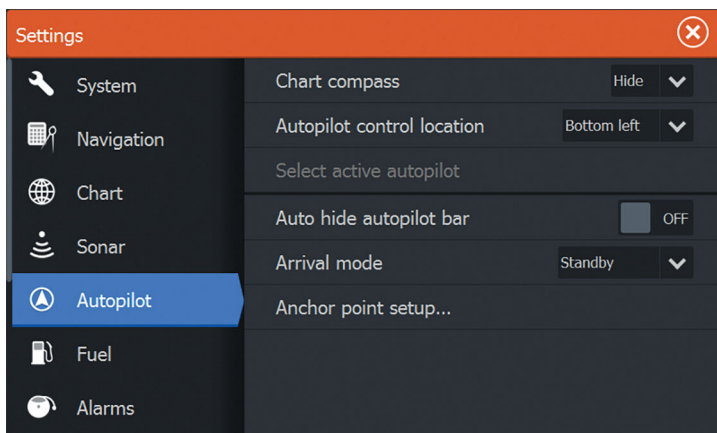


Chart compass

You can select to show a compass symbol around your boat on the chart panel. The compass symbol is off when the cursor is active on the panel.

Autopilot control location

Controls the location of the **Autopilot controller** on the panel.

Auto hide autopilot bar

Controls whether the Autopilot information bar is shown when the autopilot is in Standby mode.

Arrival mode

The trolling motor autopilot switches from navigation mode to the selected arrival mode when your vessel reaches the destination.

→ **Note:** Before starting a navigation mode or a turn pattern, it is important to select an arrival mode that fits your navigation needs.

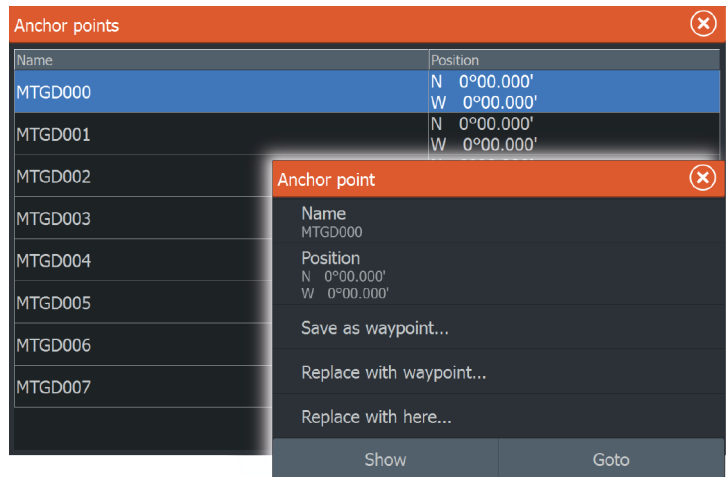
Arrival modes are:

- **Standby**
Cancels autopilot activity and returns the vessel to handheld remote or foot pedal control.
- **Heading lock**
Locks and maintains the last vessel heading.
- **Anchor**
Anchors the vessel at the current destination.

→ **Note:** We recommend only using heading lock in open water.

Anchor point setup

Anchor points can be saved as a new waypoint, replaced with an existing waypoint, or set as your current coordinates.



Anchor points are synced with the Xi5 trolling motor. If any anchor points are stored in the motor, they appear in the anchor points list.

12

Wireless connection

GoFree wireless connectivity gives you the ability to:

- Use a wireless device to remotely view (smartphone and tablet) and control the system (tablet only).
- Access the GoFree Shop.
- Upload your Sonar logs to create custom maps at Insight Genesis.
- Download software updates
- Connect to third party applications



→ **Note:** Maps, charts, software updates, and other data files can be large. Your data provider may charge you based on the amount of data you transfer. If you are unsure contact the service provider for information.

The unit includes:

- Built-in wireless functionality for connecting to the internet and wireless devices such as smartphones and tablets.
- Built-in Bluetooth wireless technology.

The built-in Bluetooth wireless technology gives you the ability to connect the unit to Bluetooth enabled devices. For more information, refer to "*Bluetooth wireless technology*" on page 93.

Connect and disconnect from a wireless hotspot



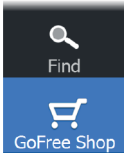
To connect to a wireless hotspot, select the Wireless option in the System Controls dialog and then select Not Connected. This opens the Wireless Devices dialog. Use this dialog to select the desired hotspot, enter the login information and then select Connect.

Connecting to a wireless hotspot changes the wireless mode to **Client mode**. In this mode, you can access the GoFree Shop.

To disconnect from a wireless hotspot, select the Wireless option in the System Controls dialog, then select Connected *hotspot_name*, and then Disconnect. This changes the wireless mode to **Access point mode**. In this mode, you can connect a wireless device so that Apps

such as GoFree Controller & Viewer can access the vessel's navigation information.

GoFree Shop



The built-in wireless functionality must be connected to an external wireless hotspot in order to access the GoFree Shop.

At the GoFree Shop you can browse, purchase and download compatible content for your system including navigation charts and Insight Genesis Maps. When you log on, the system automatically gives you a notification if a new software version is available for your system. If an update is available, you can download it to a card slot or defer the download until later. If you defer the download until later, the notification is available in the About dialog accessible from the System Settings.

GoFree Controller & Viewer



The wireless functionality lets you use a wireless device to remotely view (smartphone and tablet) and control the system (tablet only). The system is viewed and controlled from the wireless device by the GoFree Controller & Viewer Apps downloaded from their relevant Application store. When remote control is accepted, the active page is mirrored to the wireless device.

- **Note:** To use smartphones and tablets to view and control the system, wireless functionality must be disconnected from the wireless hotspot (in **Access point mode**).
- **Note:** For safety reasons, Autopilot and CZone functions cannot be controlled from a wireless device.

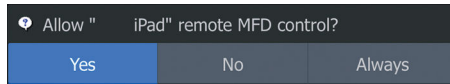
Connecting a tablet

Install the GoFree App on the tablet before following this procedure.

1. Set the internal wireless to **Access Point** mode. To do this, select the **Wireless devices** page in the Wireless settings dialog and then select the Internal wireless. Next, select the **Mode** option and then select **Internal Access Point**.
2. Select the Internal Wireless device on the **Wireless devices** page to view its Network key.
3. Navigate to the wireless network connection page on the tablet, and find the unit or GoFree wireless **xxxx** network. If more than

one is in range, review the **Wireless devices** page on the unit to confirm which wireless device is connected to the unit.

4. Enter the Network Key in the tablet to connect to the network.
5. Open the GoFree application - the unit should be automatically detected. The name displayed will be either the default, or that assigned in the Device Name setting. If the unit does not appear, follow the on screen instructions to manually find the device.
6. Select the graphic icon of the unit. The unit displays a prompt similar to the following:



7. Select **Yes** for one-time connection, or **Always** if device is to be remembered for regular connection. This setting can be changed later if required.

→ **Note:** The internal wireless module only supports GoFree connection to itself. Other units connected on the network are not visible.

Connecting a smartphone

Install the GoFree App on the smartphone before following this procedure.

1. Set the internal wireless to **Access Point** mode. To do this, select the **Wireless devices** page in the Wireless settings dialog and then select the unit's Internal Wireless. Next, select the **Mode** option and then select **Internal Access Point**.
2. Select the Internal Wireless device on the **Wireless devices** page to view its Network Key.
3. Navigate to the wireless network connection page on the smartphone, and find the unit or GoFree wireless **xxxx** network. If more than one is in range, review the **Wireless devices** page from the unit's Wireless settings dialog to confirm which wireless device is connected to the unit.
4. Enter the Network Key in the smartphone to connect to the network.
5. Open the GoFree application on the smartphone, the unit should be automatically detected. The name displayed will be either the default, or that assigned in the Device Name setting. If

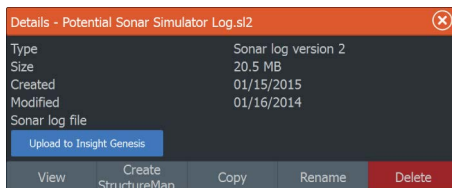
the unit does not appear, follow the on screen instructions to manually find the device.

The MFD's display is shown on the smartphone. To change the MFD's display on the smartphone, use the MFD to change the display on the MFD. The display change on the MFD is reflected on the smartphone.

Uploading log files to Insight Genesis

To upload a recorded Sonar log file to Insight Genesis, select the file you want to upload from the Files panel and select the upload to Insight Genesis option.

- **Note:** You must be connected to a wireless hotspot to upload recorded log files to Insight Genesis.
- **Note:** Recorded log files can also be uploaded to Insight Genesis if you have specified **Upload to Insight Genesis** in the Log Sonar dialog. For more information, refer to "*Start Recording log data*" on page 61.



Bluetooth wireless technology

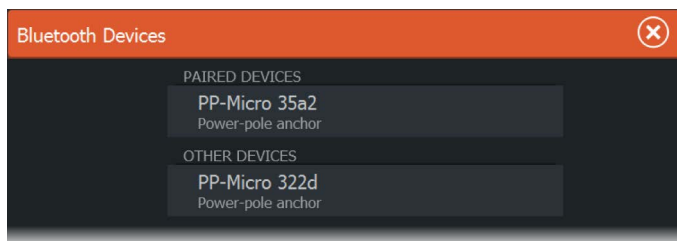
The ELITE Ti includes built-in Bluetooth wireless technology. To connect the ELITE Ti to Bluetooth enabled devices you must *pair* them.

Pairing Bluetooth devices

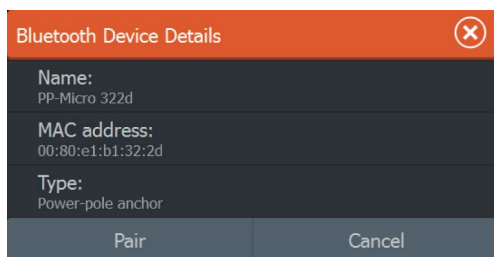
To *pair* the unit with a Bluetooth enabled device, do the following:

1. Turn on the Bluetooth enabled device so that it is able to send and receive Bluetooth signals.
2. Open the Wireless settings dialog in the ELITE Ti and turn on Bluetooth, if it is not already enabled.
3. Select **Bluetooth devices**. The system searches for Bluetooth enabled devices, and lists them in the Bluetooth Devices dialog.

Devices that are already paired are listed under **Paired Devices**. Devices that are not paired are listed under **Other Devices**.



4. Select the Bluetooth enabled device you want to *pair* with in the list under **Other Devices**. The **Bluetooth Device Details** dialog opens.



5. Select **Pair** to *pair* the ELITE Ti to the device.
6. Repeat these steps for each device you want to pair with the ELITE Ti.

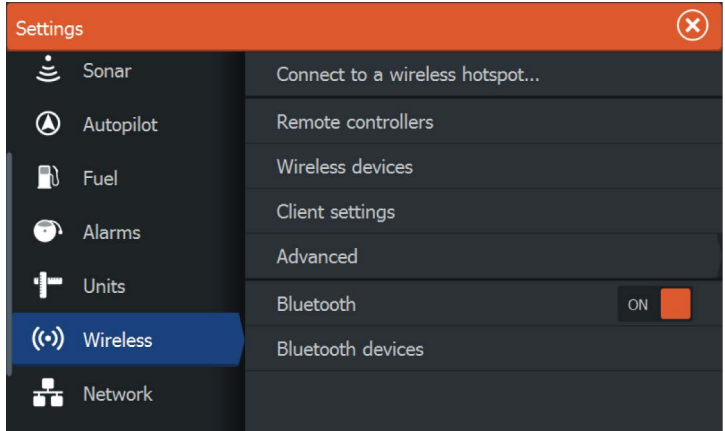
Pairing with dual Power-Poles

If dual Power-Poles are installed on your boat, the one that is paired first automatically becomes **Port** and the second is set to **Starboard** in the Power-Pole controls.

To swap them around, unpair the connected Power-Poles. And then, toggle off and on **Bluetooth** in the Wireless settings dialog to reset the Bluetooth memory. Once Bluetooth has been toggled back on, proceed in pairing the Power-Poles in the correct order.

Wireless settings

Provides configuration and setup options for the wireless functionality.



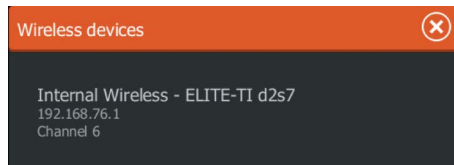
Connect to a wireless hotspot

Displays the Wireless device dialog that you can use to connect the wireless functionality to a wireless hotspot.

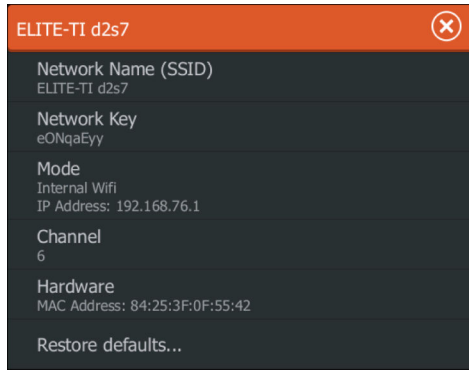
Remote controllers

When a wireless device (smart phone or tablet) is connected, it should appear in the Remote controllers list. Selecting **Always allow** means the device can automatically connect without needing a password each time. This menu also allows you to disconnect devices that no longer require access.

Wireless devices



This dialog shows the internal wireless, its IP address and channel number. Select the Internal Wireless listed to view additional detail.



To view and change internal wireless detail values (Network Name (SSID), Network Key, or Channel) the internal wireless must be in **Access Point** (Internal Wifi) mode. To select a network (hotspot) to connect to, the internal wireless must be in **Client Mode**. Use the Mode option to change modes.

Client settings

Displays information about the wireless hotspot your unit is connected to or the last one your unit was connected to. You can select the hotspot in the dialog to set it as a hotspot you want to always connect to when in range or you can select to delete it.

Advanced

Initiates the Iperf and DHCP Probe tools that help in fault-finding and setting up the wireless network.

→ **Note:** Iperf and DHCP Probe are tools provided for diagnostic purposes by users familiar with network terminology and configuration. Navico is not the original developer of these tools, and does not provide support related to their use.

Bluetooth

Enables the built-in Bluetooth wireless technology functionality.

Bluetooth devices

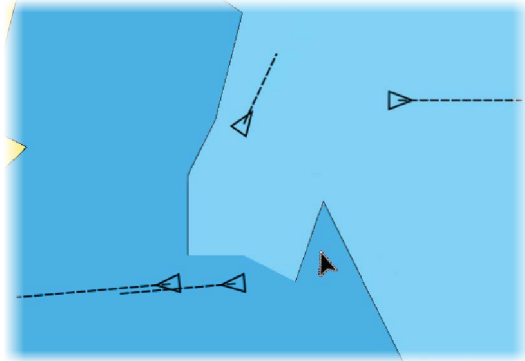
Displays the Bluetooth Device list dialog. Use the Bluetooth Device List dialog to pair or remove pairing to Bluetooth enabled devices.

13

AIS




Any AIS or NMEA 0183 VHF that can do AIS can be used by the ELITE-5Ti, if the AIS receiver can send and receive at the same NMEA 0183 baud rate. All units, except the ELITE-5Ti, can use any NMEA 2000 or NMEA 0183 AIS device.



AIS targets can be displayed as overlay on chart images, making this feature an important tool for safe travelling and collision avoidance. You can set alarms to notify you if an AIS target gets too close or if the target is lost.



AIS target symbols

The system uses the AIS target symbols shown below:

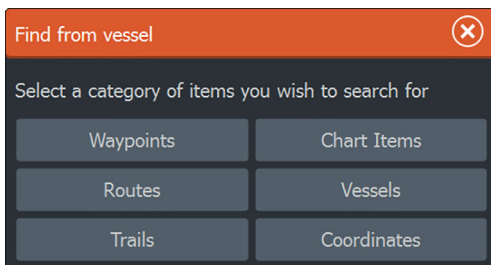
	Sleeping AIS target (not moving or at anchor).
	Moving and safe AIS target with course extension line.
	Dangerous AIS target, illustrated with bold line. A target is defined as dangerous based on the CPA and TCPA settings. Refer to " <i>Defining dangerous vessels</i> " on page 103.

	<p>Lost AIS target. When no signals have been received within a time limit, a target is defined as lost. The target symbol represents the last valid position of the target before the reception of data was lost.</p>
	<p>Selected AIS target, activated by selecting a target symbol. The target returns to the default target symbol when the cursor is removed from the symbol.</p>

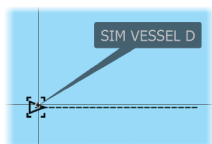
Searching for AIS items

You can search for AIS targets by using the **Find** option in the Tools panel.

From a chart panel you can search for AIS targets by using the **Find** option in the menu. If the cursor is active, the system searches for vessels around the cursor position. Without an active cursor, the system searches for vessels around your vessel's position.

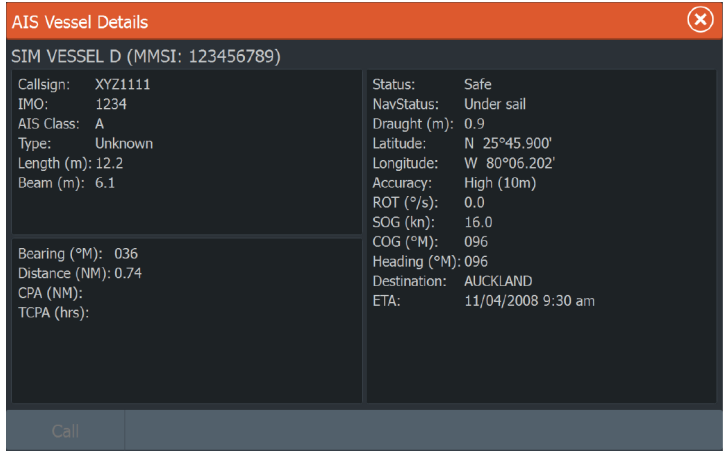


Viewing information about single AIS targets



When you select an AIS icon on the chart panel the symbol changes to Selected target symbol, and the vessel's name is displayed.

You can display detailed information for a target by selecting the AIS pop-up, or from the menu when the target is selected.

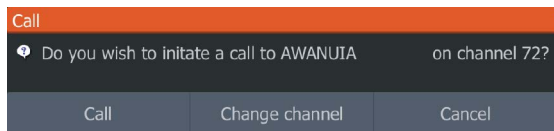


Calling an AIS vessel

If the system includes a VHF radio supporting DSC (Digital Select Calling) calls over NMEA 2000 (all units except ELITE-5Ti) or NMEA 0183 (all units), you can initiate a DSC call to other vessels from the unit.

The call option is available in the **AIS Vessel Details** dialog, and in the **Vessel** status dialog activated from the **Tools** panel.

From the **Call** dialog you can change channel or cancel the call. The **Call** dialog is closed when the connection is established.



AIS SART

When an AIS SART (Search and Rescue beacon) is activated, it starts transmitting its position and identification data. This data is received by your AIS device.

If your AIS receiver is not compliant with AIS SART, it interprets the received AIS SART data as a signal from a standard AIS transmitter. An icon is positioned on the chart, but this icon is an AIS vessel icon.



If your AIS receiver is compliant with AIS SART, the following takes place when AIS SART data is received:

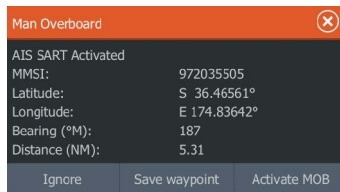
- An AIS SART icon is located on the chart in the position received from the AIS SART
- An alarm message is displayed

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

→ **Note:** The icon is green if the received AIS SART data is a test and not an active message.

AIS SART alarm message

When data is received from an AIS SART, an alarm message is displayed. This message includes the AIS SART's unique MMSI number, and its position, distance, and bearing from your vessel.



You have the following options:

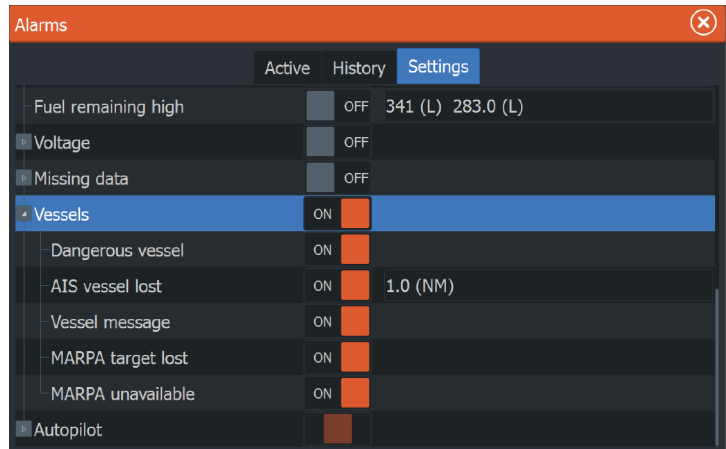
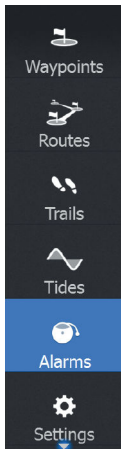
- Ignore the alarm
 - The alarm is muted and the message closed. The alarm does not reappear
- **Note:** If you ignore the alarm, the AIS SART icon remains visible on your chart, and the AIS SART remains in the Vessels list.
- Save the waypoint
 - The waypoint is saved to your waypoint list. This waypoint name is prefixed with MOB AIS SART - followed by the unique MMSI number of the SART. For example, MOB AIS SART - 12345678.
- Activate the MOB function
 - The display switches to a zoomed chart panel, centered on the AIS SART position
 - The system creates an active route to the AIS SART position

- **Note:** If the MOB function is already active, this will be terminated and replaced by the new route towards the AIS SART position!
- **Note:** If the AIS stops receiving the AIS SART message, the AIS SART remains in the Vessels list for 10 minutes after it receives the last signal.

If you select the AIS SART icon on the chart panel, then you can see the AIS MOB details.

Vessel alarms

You can define several alarms to alert you if a target shows up within predefined range limits, or if a previously identified target is lost.



Dangerous vessel

Controls whether an alarm will be activated when a vessel comes within the predefined CPA or TCPA. Refer to *"Defining dangerous vessels"* on page 103.

AIS vessel lost

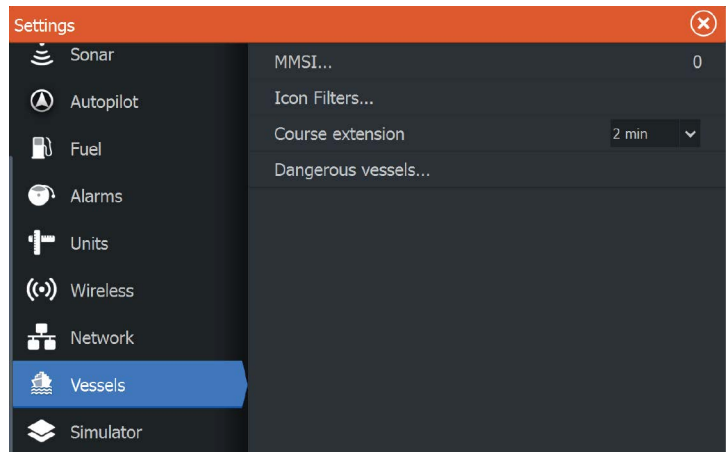
Sets the range for lost vessels. If a vessel is lost within the set range, an alarm occurs.

→ **Note:** The check box controls whether the alarm pop-up box is displayed and if the siren goes on. The CPA and TCPA define when a vessel is dangerous regardless of the enabled or disabled state.

Vessel message

Controls whether an alarm will be activated when a message is received from an AIS target.

Vessel settings



Your vessel's MMSI number

You need to have your own MMSI (Maritime Mobile Service Identity) number entered in the system to receive addressed messages from AIS and DSC vessels.

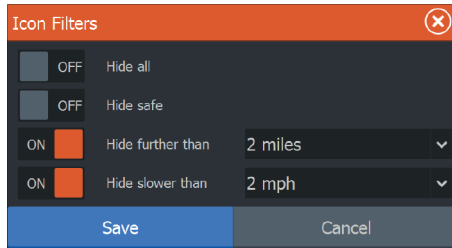
It is also important to have the MMSI number entered to avoid seeing your own vessel as an AIS target on the chart.

→ **Note:** The Vessel message option in the alarm settings must be toggled on for any MMSI message to be displayed.

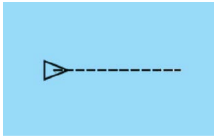
Icon filters

By default, all targets are shown on the panel if an AIS device is connected to the system.

You can select not to show any targets, or to filter the icons based on security settings, distance, and vessel speed.



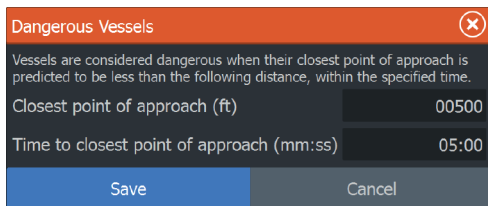
Course extension lines



You can set the length of the Course Over Ground (COG) extension lines for other AIS vessels. The length of the extension lines is either set as off, as a fixed distance, or to indicate the distance the vessel will move in the selected time period. If Off is selected, then no COG extension lines are shown for the vessel. For information about extension lines for your vessel, refer to *"Extension lines"* on page 44.

Defining dangerous vessels

You can define an invisible guard zone around your vessel. When a target comes within the set limits, the symbol changes to the Dangerous target symbol. An alarm is triggered if activated in the Alarm settings panel.



14

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, and the switch for external alarm becomes active.

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

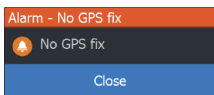
Type of messages

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

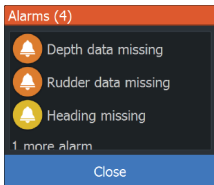
Single alarms

A single alarm is displayed with the name of the alarm as the title, and with details for the alarm.



Multiple alarms

If more than one alarm is activated simultaneously, then the alarm message displays a list of up to 3 alarms. The alarms are listed in the order they occur with the alarm activated first at the top. The remaining alarms are available in the Alarms dialog.



Acknowledging a message

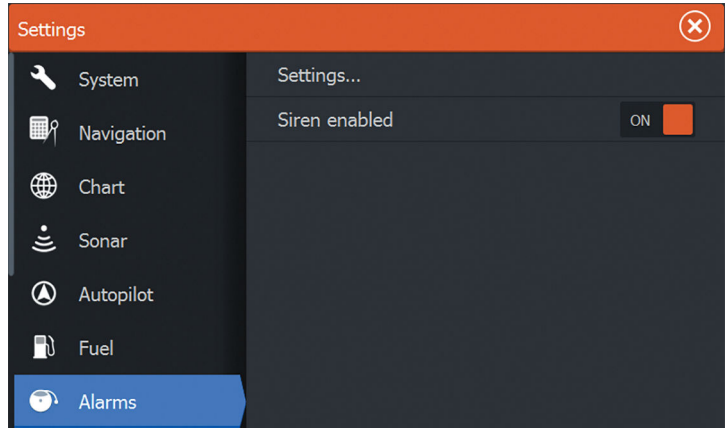
The following options are available in the alarm dialog for acknowledging a message:

- **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.

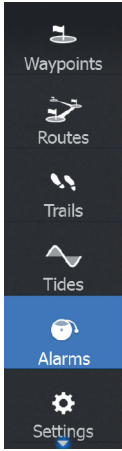
There is no time-out on the alarm message or siren. They remain until you acknowledge the alarm or until the reason for the alarm is removed.

Alarms dialog

All alarms are setup in the Alarms Settings dialog.



The alarm dialogs can also be activated from the Tools panel. The alarm dialogs include information about active alarms and alarm history.



Alarms

Active History Settings

Depth data missing

Alarms

Active History Settings

Depth data missing raised 8:21 am 10/03/2014

Alarms

Active History Settings

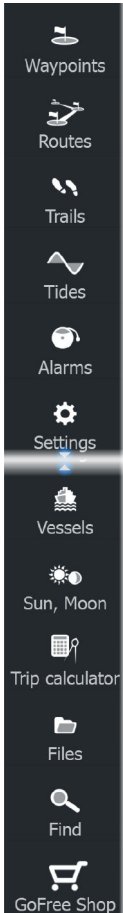
No GPS fix	ON	<input type="checkbox"/>	
No G Shallow water	ON	<input type="checkbox"/>	6.0 (ft)
No G Deep water	ON	<input type="checkbox"/>	100.0 (ft)
No G Water temp rate	ON	<input type="checkbox"/>	9 (°F/min)
Vess Anchor	OFF	<input type="checkbox"/>	164 (ft)
Vess Low boat speed	ON	<input type="checkbox"/>	6 (mph)
XTE	ON	<input type="checkbox"/>	
Waypoint radius	ON	<input type="checkbox"/>	
Arrival	ON	<input type="checkbox"/>	
True wind shift	OFF	<input type="checkbox"/>	45 (°)

15

Tools

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

When external equipment is integrated to the unit, new icons might be added to the Tools panel. These icons are used for accessing the external equipment's features.



Waypoints/routes/trails

List of waypoints, routes, and trails with details.

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

Tides

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

Select the arrow panel buttons to change the date, or select the date field to access the calendar function.

Available tide stations can be selected from the menu.

Alarms

Active alarms

List of active alarms.

Alarm history

List of all alarms with time stamp.

Alarm settings

List of all available alarm options in the system, with current settings.

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

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 chart 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.

WAAS (and EGNOS) differential position correction can be configured to ON or OFF.

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.

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 54.

Chart

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 43.

Sonar

Provides options and dialogs where you specify settings for your sonar. Refer to "*Sonar settings*" on page 66.

Autopilot

Provides options where you specify settings for your autopilot. Refer to "*Autopilot settings*" on page 88.

Fuel

Provides a dialog showing total fuel used, fuel used per trip, and fuel used per season. In addition, it provides access to configuration engine and tanks, and calibration of tanks (refuel) dialogs. Refer to the Installation Manual.

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.

Units

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

Wireless

Provides dialogs where you set remote controllers, view wireless devices, and customize advanced settings. For more information about using this panel, refer to "*Wireless settings*" on page 94.

Network

Provides information about your network, settings options, and configuration options. For more information about using this panel, refer to the Installation Manual.

Vessels

Provides dialogs where you define your vessel's MMSI, set icon filters, set course extension length, and specify dangerous vessels settings of closest point of approach and time to closest point of approach. For more information about using this panel, refer to "*Vessel settings*" on page 102.

Simulator

Provides for manually controlling the simulator. For more information, refer to "*Simulator*" on page 118.

Vessels

Status listing

List of all AIS and DSC vessels with available information.

Message listing

List of all messages received from other AIS vessels with time stamp.

Sun, Moon

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

Trip calculator

Trip 1 / Trip 2

Displays voyage and engine information, with reset option for all data fields.

Today

Displays voyage and engine information for current date. All data fields are automatically reset when the date changes.

Files

File management system for Files, Waypoints, Routes, Trails, and Settings.

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 113.

Find

Search function for chart items (waypoints, routes, trails, etc.).

GoFree Shop

→ **Note:** The built-in wireless functionality must be connected to an external wireless hotspot in order to access the GoFree Shop. Refer to "*Connect and disconnect from a wireless hotspot*" on page 90.

Opens the GoFree Shop web site. At the GoFree Shop you can browse, purchase, and download compatible charts for your system.

You can also upload your Sonar logs to be shared on Social Map charts. When you log on, the system automatically gives you a notification if a new software version is available for your system. If an update is available, you can download it to a card slot or defer the download until later.

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Maintenance

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.

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 lock, ensure that it is in the correct position.

Touchscreen calibration

→ **Note:** Ensure the screen is clean and dry before doing the calibration. Do not touch the screen unless prompted to do so.

In some cases it may be required to re-calibrate the touch screen. To re-calibrate your touchscreen, do the following:

1. Turn the unit off
2. Press and hold the **Waypoint** key, and turn the unit on
3. Continue to press in the **Waypoint** key during power on, until the calibration utility screen comes up
4. Follow the instructions on the screen to perform the calibration.

When completed, the unit returns to the application screen.

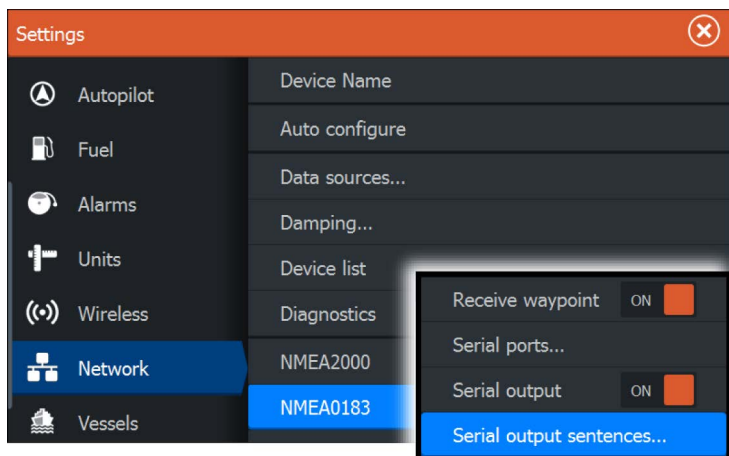
NMEA Data logging

All serial output sentences sent over the NMEA TCP connection are logged to an internal file. You can export and review this file for service and fault finding purposes.

The maximum file size is predefined. If you have added several other files to the system (file recordings, music, pictures, PDF files), this may reduce the allowed file size for the log file.

The system logs as much data as possible within the file size limitation, and then it starts overwriting the oldest data.

→ **Note:** NMEA 2000 is not available on the ELITE-5Ti.



Exporting the log file

The log file can be exported from the files dialog.

When you select the Log database you are prompted to select a destination folder and filename. Once accepted, the log file is written to the chosen location.

Software upgrades

The latest software is available for download from our website, 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 115.

The update file must be loaded to the root directory of the memory card.

The update may be initiated at start up: insert the memory card into the card reader before turning the unit on, restart the unit, and follow the on-screen instructions.

Alternatively, in the Files menu, locate the update file on the memory card inserted in the card reader and select **Upgrade**, followed by **This Display**. Accept the prompt to restart the unit, and wait a few moments as the unit restarts. Do not remove the memory card or repower the unit until the process is completed (this typically takes no more than a couple of minutes).

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 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)**

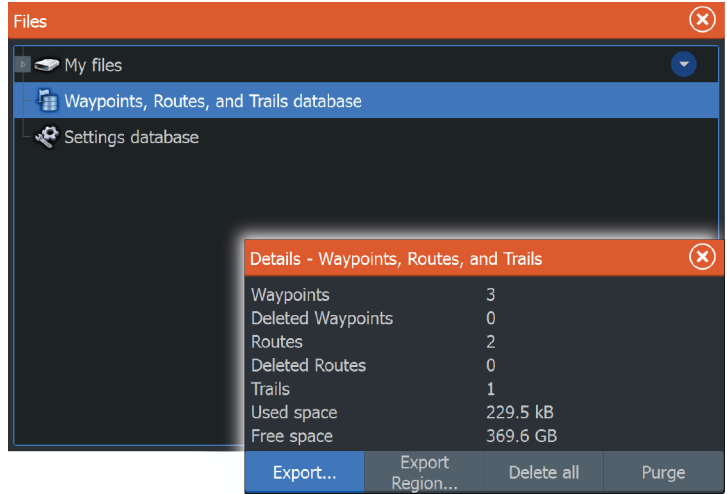
Can be used when transferring user data from one system to a legacy product (Lowrance LMS, LCX)

- **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 competitors 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. Drag the boundary box to define the desired region



3. Select the export option from the menu
4. Select the appropriate file format
5. Select the serial port field to start the export

Purging Waypoints, Routes and Trails

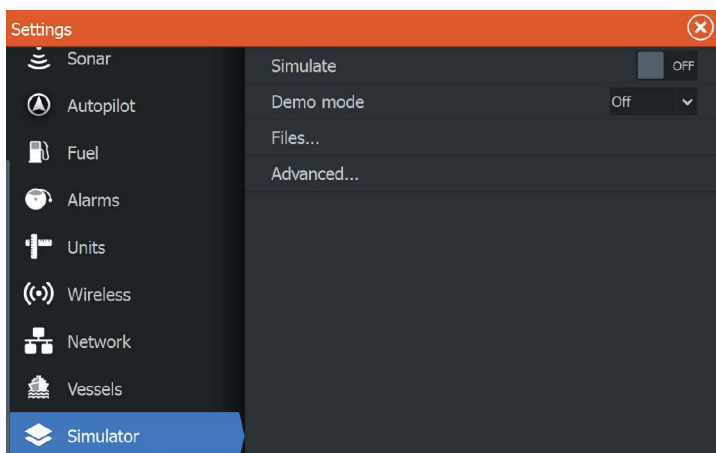
→ **Note:** When user data is purged from the memory, it cannot be recovered.

17

Simulator

The simulation feature lets you see how the unit works in a stationary position and without being connected to the Sonar, GPS, etc.

Use the simulator to become familiar with your unit before using it on the water.



Demo mode

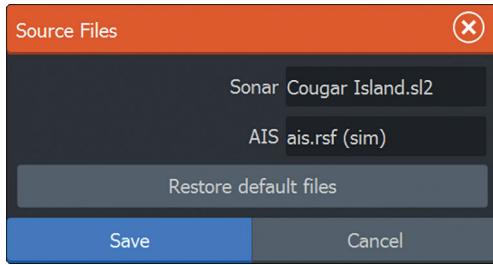
In this mode the unit automatically runs through the main features of the product; it changes pages automatically, adjusts settings, opens menus, etc.

If you tap on a touchscreen or press a key when demo mode is running, the demonstration pauses. After a time-out period, demo mode resumes and any changed settings are restored to default.

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

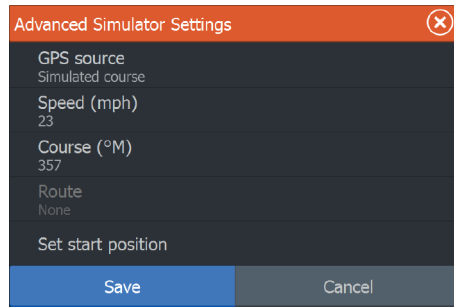
Simulator source files

You can select which 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 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.

18

Touchscreen operation

Basic touchscreen operation on the different panels is shown in the table below.

The panel sections in this manual have more information about panel specific touchscreen operation.

Icon	Description
	Tap to: <ul style="list-style-type: none">• Activate a panel on a multi-panel page• Position the cursor on a panel• Select a menu and a dialog item• Toggle a checkbox option on or off• Show basic information for a selected item
	Press and hold: <ul style="list-style-type: none">• On any panel with a cursor to activate the cursor assist feature• On a panel button to see available split screen options• On a favorite button to enter edit mode
	Scroll through a list of available options without activating any option.
	Flick to quickly scroll through e.g. the waypoint list. Tap the screen to stop the scrolling.
	Pan to position a chart or Sonar image on the panel.

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LOWRANCE®

CE0980

LOWRANCE®

ELITE Ti

Installation Manual

ENGLISH



Preface

Disclaimer

As Navico is continuously improving this product, we retain the right to make changes to the product at any time which may not be reflected in this version of the manual. Please contact your nearest distributor if you require any further assistance.

It is the owner's sole responsibility to install and use the equipment in a manner that will not cause accidents, personal injury or property damage. The user of this product is solely responsible for observing safe boating practices.

NAVICO HOLDING AS AND ITS SUBSIDIARIES, BRANCHES AND AFFILIATES DISCLAIM ALL LIABILITY FOR ANY USE OF THIS PRODUCT IN A WAY THAT MAY CAUSE ACCIDENTS, DAMAGE OR THAT MAY VIOLATE THE LAW.

Governing Language: This statement, any instruction manuals, user guides and other information relating to the product (Documentation) may be translated to, or has been translated from, another language (Translation). In the event of any conflict between any Translation of the Documentation, the English language version of the Documentation will be the official version of the Documentation.

This manual represents the product as at the time of printing. Navico Holding AS and its subsidiaries, branches and affiliates reserve the right to make changes to specifications without notice.

Copyright

Copyright © 2016 Navico Holding AS.

Warranty

The warranty card is supplied as a separate document.

In case of any queries, refer to the brand website of your unit or system: www.lowrance.com.

Regulatory statements

This equipment is intended for use in international waters as well as coastal sea areas administered by the USA, and countries of the E.U. and E.E.A.

This equipment complies with:

- CE under 2014/53/EU Directive
- The requirements of level 2 devices of the Radio communications (Electromagnetic Compatibility) standard 2008
- Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The relevant Declaration of conformity is available on the following website: www.lowrance.com.

Industry Canada

IC RSS-GEN, Sec 7.1.3 Warning Statement- (Required for license exempt devices)

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie

Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes: (1)

l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de

l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Warning

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off

and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that of the receiver
- Consult the dealer or an experienced technician for help

Internet usage

Some features in this product use an internet connection to perform data downloads and uploads. Internet usage via a connected mobile/cell phone internet connection or a pay-per-MB type internet connection may require large data usage. Your service provider may charge you based on the amount of data you transfer. If you are unsure, contact your service provider to confirm rates and restrictions.

Countries of intended use in the EU

AT - Austria
BE - Belgium
BG - Bulgaria
CY - Cyprus
CZ - Czech Republic
DK - Denmark
EE - Estonia
FI - Finland
FR - France
DE - Germany
GR - Greece
HU - Hungary
IS - Iceland
IE - Ireland
IT - Italy
LV - Latvia
LI - Liechtenstein
LT - Lithuania

LU - Luxembourg
MT - Malta
NL - Netherlands
NO - Norway
PL - Poland
PT - Portugal
RO - Romania
SK - Slovak Republic
SI - Slovenia
ES - Spain
SE - Sweden
CH - Switzerland
TR - Turkey
UK - United Kingdom

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C-Monster™ is a trademark of JL Marine Systems, Inc.

Navico product references

This manual refers to the following Navico products:

- Broadband Sounder™ (Broadband Sounder)
- DownScan Overlay™ (Overlay)
- GoFree™ (GoFree)
- INSIGHT GENESIS® (Insight Genesis)
- StructureMap™ (StructureMap)
- StructureScan® (StructureScan)
- StructureScan® HD (StructureScan HD)

About this manual

This manual is a reference guide for installing the ELITE Ti.

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.

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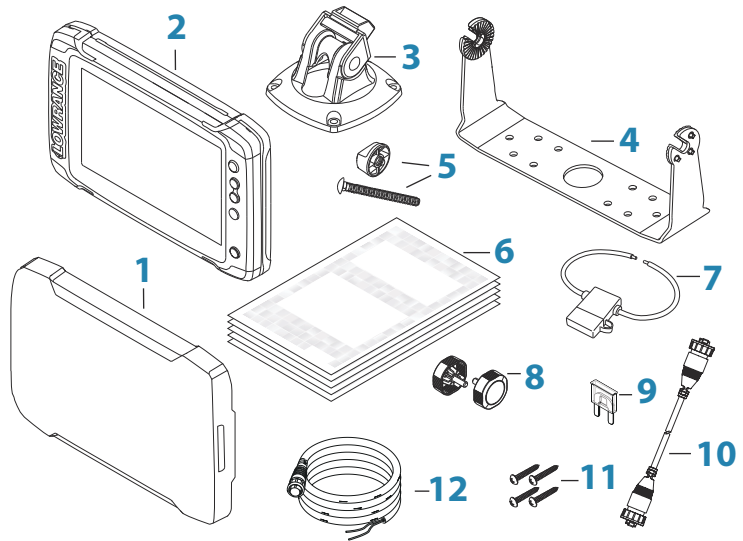
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1

Check the contents



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- 2 ELITE Ti
- 3 Quick release mounting bracket (ELITE-5Ti and ELITE-7Ti only)
- 4 U bracket (ELITE-9Ti and ELITE-12Ti only)
- 5 Quick release bracket locking bolt and knob. (ELITE-7Ti only)
- 6 Documentation pack
- 7 Fuse holder (ATC blade)
- 8 U bracket knobs (2x) (ELITE-9Ti and ELITE-12Ti only)
- 9 Fuse (3 amp)
- 10 7-pin to 9-pin transducer adapter cable. Included only with units that do not include transducers.
- 11 Bracket mounting screws (4 x #10 x 3/4 PN HD SS screws)
- 12 Power cable

2

Overview

The unit has a built-in CHIRP/Broadband and StructureScan sonar. ELITE-Ti units, except the ELITE-T5i, can network over NMEA 2000, this allows access to sensor data.

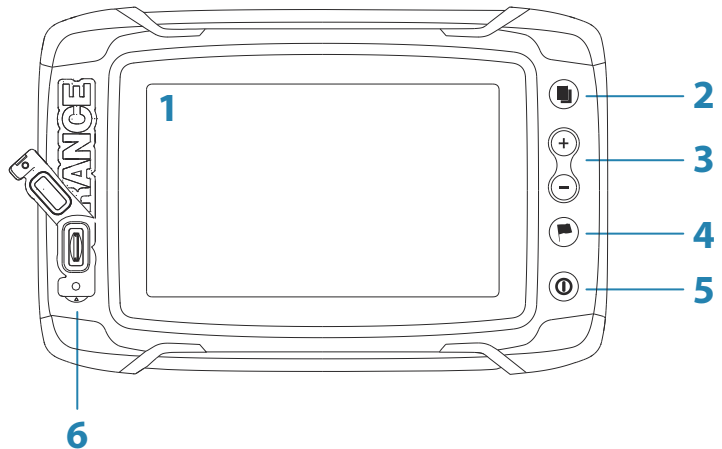
ELITE-Ti units can send and receive data via NMEA 0183.

The unit has built-in high speed GPS receiver (10Hz) and supports Insight charts from Navico including Insight Genesis. The system also supports charts from Navionics and C-MAP as well as content created by a variety of third party mapping providers in the AT5 format. For a full selection of available charts, visit www.gofreemarine.com, www.c-map.com or www.navionics.com.

The unit may be mounted to the vessel with the supplied mounting bracket, or panel mounted on the dash.

The unit is intended for 12 V DC operation and will accept the moderate fluctuations commonly seen in DC systems.

Front controls

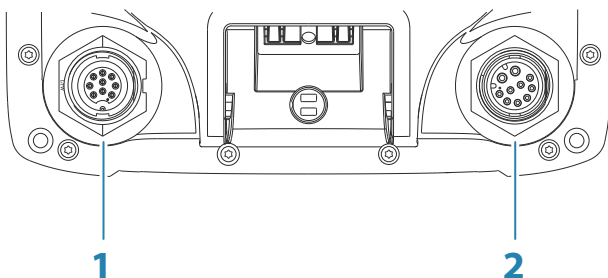


- 1 Touch screen**
- 2 Pages**
- 3 Zoom out / Zoom in (combined press = MOB)**

- 4 **New waypoint (long press = Find dialogue)**
- 5 **Power button**
Press and hold to turn the unit ON/OFF.
Press once to display the System Controls dialog.
- 6 **Card reader** (behind logo)

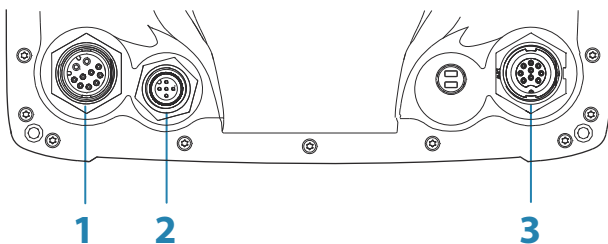
Rear connections

ELITE-5Ti rear connections



- 1 **Sonar** - CHIRP, Broadband, DownScan and SideScan imaging
- 2 **Power** (12 V supply input) only, or **Power** and **NMEA 0183**

ELITE-7Ti, ELITE-9Ti and ELITE-12Ti rear connections



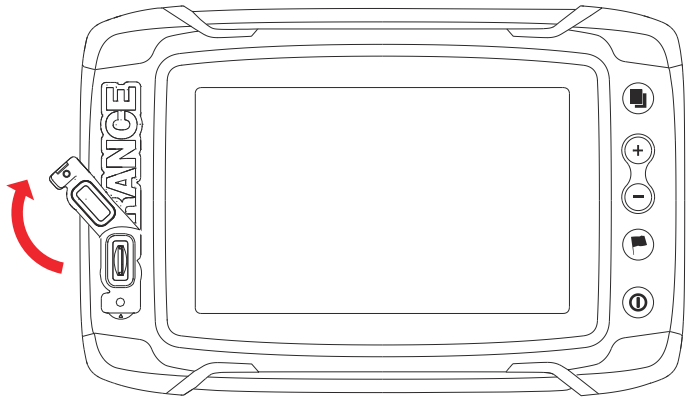
- 1 **Power** (12 V supply input) only, or **Power** and **NMEA 0183**

- 2 **NMEA 2000** - data input / output
- 3 **Sonar** - CHIRP, Broadband, DownScan and SideScan imaging

Card reader

Used for attaching a microSD memory card. The memory card can be used for detailed chart data, software updates, transfer of user data, and system backup.

The card reader door is opened by flipping back the logo and pulling the rubber cover open.



The card reader door should always be securely shut immediately after inserting or removing a card, in order to prevent possible water ingress.

3

Installation

Mounting location

Choose the mounting locations carefully before you drill or cut. The unit should be mounted so that the operator can easily use the controls and clearly see the screen.

The unit has a high-contrast screen and is viewable in direct sunlight, but for best results install the unit out of direct sunlight. The chosen location should have minimal glare from windows or bright objects.

Ensure that any holes cut are in a safe position and will not weaken the boat's structure. If in doubt, consult a qualified boat builder, or marine electronics installer.

Before cutting a hole in a panel, make sure that there are no hidden electrical wires or other parts behind the panel.

Check that it is possible to route cables to the intended mounting location.

Leave sufficient clearance to connect all relevant cables.

Do not mount any part where it can be used as a hand hold, where it might be submerged, or where it will interfere with the operation, launching, or retrieving of the boat.

The mounting location may affect the internal GPS receiver. Test the unit in its intended location to ensure satisfactory reception. An external GPS source can be added to overcome poor reception areas.

For overall width and height requirements, refer to "*Dimensional drawings*" on page 64.

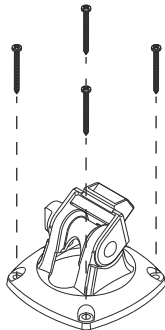
Good ventilation is required. Choose a location that will not expose the unit to conditions that exceed the specifications - refer to "*Technical specifications*" on page 62.

▲ Warning: When installing, ensure appropriate safety equipment is used. For example, ear muffs, protective glasses, gloves and a dust mask. Power tools may exceed safe noise levels, and can cast off dangerous projectiles. The dust from many materials commonly used in boat construction may cause irritation or damage to eyes, skin, and lungs.

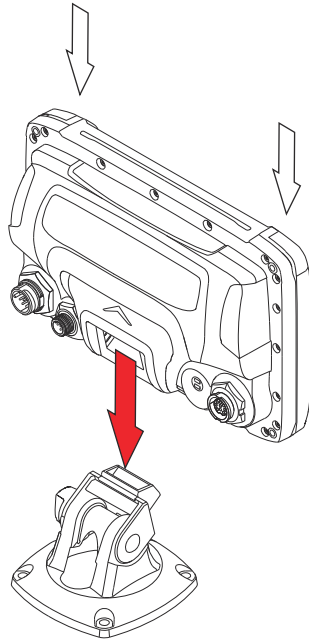
Quick release bracket mounting

The ELITE-5Ti and ELITE-7Ti can be mounted with the quick release bracket.

1. Place the bracket in the desired mounting location. Ensure that the chosen location has enough height to accommodate the unit fitted in the bracket, allows tilting of the unit and connecting cables in the back.
 - **Note:** Ensure that the chosen location has enough height to accommodate the unit fitted in the bracket, allows tilting of the unit and connecting cables in the back.
2. Mark the screw locations using the bracket as a template, and drill pilot holes.
 - **Note:** Use fasteners suited to the mounting surface material. If the material is too thin for self-tappers, reinforce it, or mount the bracket with machine screws and large washers. Use only 304 or 316 stainless steel fasteners.
3. Screw down the bracket.



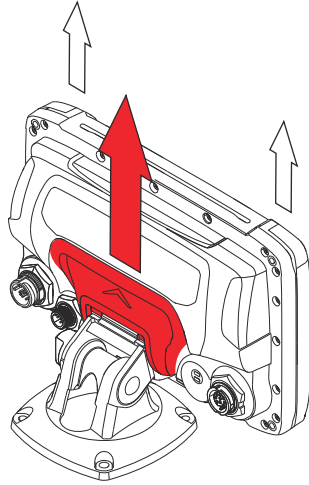
4. Snap the unit to the bracket.



5. Tilt the unit to the desired position angle.
6. For ELITE-7Ti only, set the desired angle and then insert the locking bolt and knob. Tighten to stop angle movement

Removing the unit from the quick release bracket

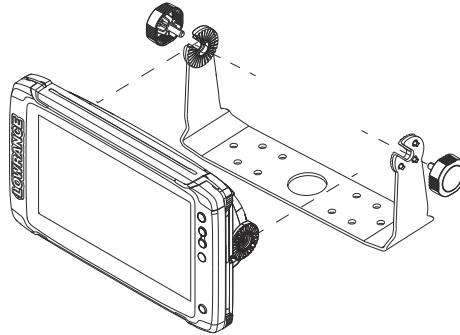
Pull and hold the release handle and then pull the unit from the bracket.



U-bracket mounting

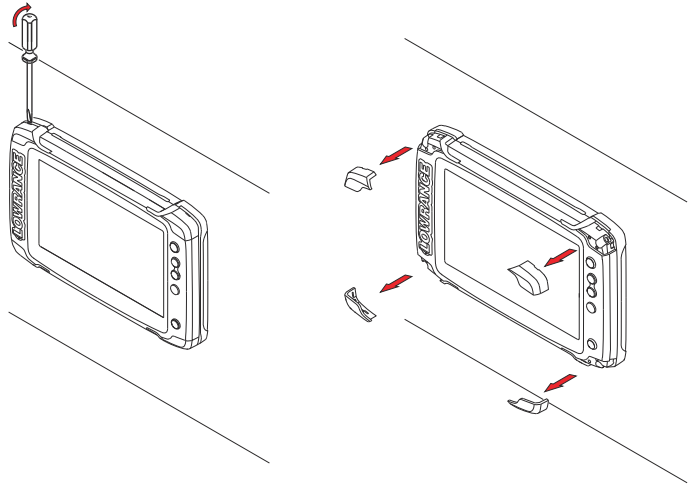
The ELITE-9Ti and ELITE-12Ti can be mounted with the U-bracket.

1. Place the bracket in the desired mounting location. Ensure that the chosen location has enough height to accommodate the unit fitted in the bracket, and allows tilting of the unit. Also adequate space is required on both sides to allow tightening and loosening of the knobs.
2. Mark the screw locations using the bracket as a template, and drill pilot holes. Use fasteners suited to the mounting surface material. If the material is too thin for self-tappers, reinforce it, or mount the bracket with machine screws and large washers. Use only 304 or 316 stainless steel fasteners.
3. Screw down the bracket.
4. Mount the unit to the bracket using the knobs. Hand tighten only. The ratchet teeth in the bracket and unit case ensure a positive grip and prevent the unit from changing from the desired angle.

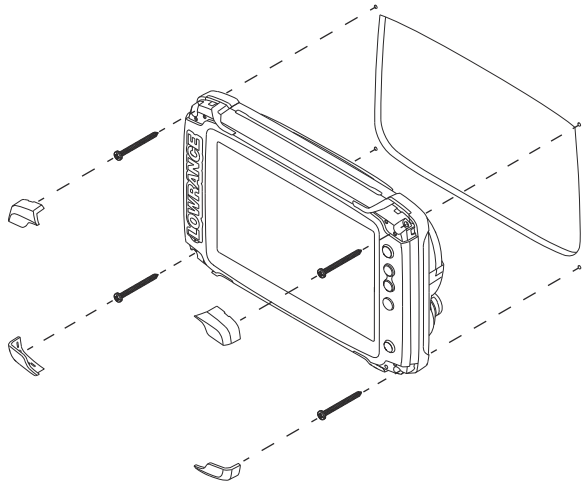


Panel mount

1. Check the Mounting Template for scaling accuracy, using a tape measure or ruler against the ruler printed on the template.
2. Cut away excess paper, and tape down the template. Check that it is correctly aligned to a vertical or horizontal reference. Do not use a bubble level as the vessel might not be level. Adjust where required.
3. Drill all marked pilot holes. For recommended pilot hole size, refer to the Mounting Template.
4. Using an appropriate saw, cut through the template and mounting surface, along the dotted line bordering the shaded center of the template.
5. Using a fingernail or small flat screwdriver, pry off the corner clips at the slotted points located at the top or bottom of each corner clip.



6. Check the fit of the unit, and use a file to remove any remaining obstructions. If water-tightness is required, apply a thin, continuous bead of sealant to the back of the unit prior to final installation. Sealant should be of a *neutral cure* type to prevent damage to the plastics.
7. Secure the unit with screws (not supplied). For recommended screw size and type, refer to the mounting template. Once screws are fully tightened, ensure there is complete contact with the mounting surface.
8. Press the four corner clips back into position.



4

Mounting the transducer

This chapter provides instructions for mounting a transom mount skimmer transducer. Separate instructions for installing the StructureScan HD and TotalScan transducers are provided with the transducers.

Transducer location selection and installation are two of the most critical steps in Sonar installation. To function properly the transducer must be in the water at all times, and in a location that has a smooth flow of water while the boat is moving.

▲ Warning: Read all the mounting instructions before drilling or cutting holes in your vessel.

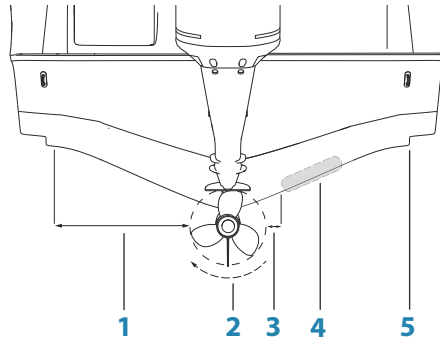
Research

Before starting the installation of the transducer, check the following:

- Find out if the boat builder has a recommended installation location
- Establish the direction of rotation of the propeller(s)
- With the boat traveling at cruising speed, watch the water flow behind the boat to find the area with the smoothest flow (least bubbles)

Select a transducer location

The primary aim is to stay clear of propeller and hull generated turbulence, while mounting the transducer as close to the center of the vessel as possible.

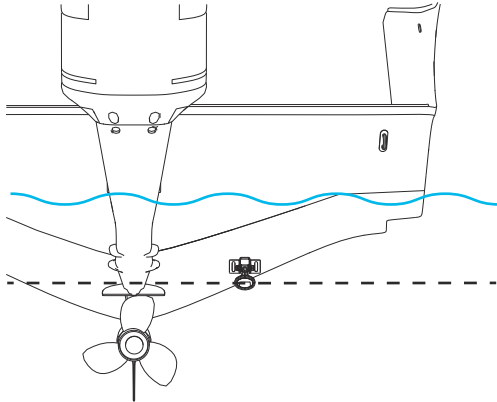


- 1 Avoid mounting within 1 m (3.3') to port (left) of propeller**
- 2 Conventional clockwise propeller rotation**
- 3 Avoid mounting within 7.5 cm (3") to starboard of propeller**
- 4 Best mounting location - undisturbed water flow**
- 5 Planing strake - avoid mounting behind here**

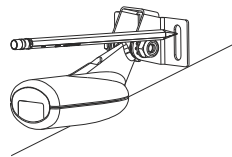
- **Note:** Reverse the distance guides (1 & 3) from propeller where engine is of counterclockwise configuration.
- **Note:** Vessels with strakes or ribs on the hull can create large amounts of turbulence at higher speeds. A good transducer location on these types of boats is between the ribs closest to the engine.
- **Note:** If the transducer is not placed in a smooth flow of water, interference caused by bubbles and turbulence may show onscreen in the form of random lines or dots. The unit could also lose bottom signal when the boat is on plane.
- **Note:** Trim tabs vary in the amount of turbulence they create as they are adjusted, stay clear of these.

Attaching the transducer

The transducer should be installed parallel with the transom's waterline, not the bottom of the boat (deadrise).



→ **Note:** Ensure the entire bottom surface of the transducer hangs at least 3 mm (1/8th of an inch) lower than the bottom of the hull.



Hold the transducer with bracket up to the transom of the boat and trace the slotted screw hole locations (two on the 83/200 KHz transducer, and four on the 50/200 KHz transducer). Mark drilling points in the middle of each outline, to allow for transducer height adjustment. Drill pilot holes to suit fasteners.

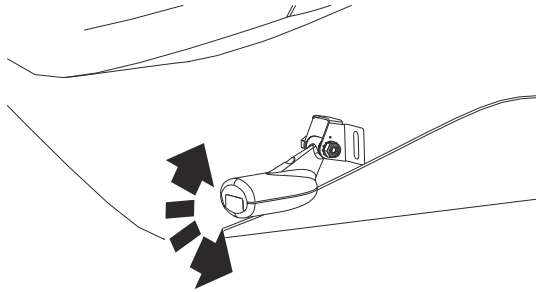
→ **Note:** Check that there is nothing on the other side of the mounting surface that may be damaged by drilling.

Attach transducer to transom, using supplied stainless steel fasteners. Drill a 25 mm (1") hole above the waterline, large enough to pass the plug through.

Secure the cable to the hull at regular intervals using cable P clips or saddles and ensure that moving parts such as an outboard motor or boarding ladder cannot snag the cable.

Adjusting the transducer

If the sonar image shows interference lines on the screen when moving, which worsen with speed, it may be possible to eliminate these by adjusting the angle of the transducer.



→ **Note:** A transducer that is tilted too far in either direction does not perform well; missing targets, or losing the bottom at speed.

If performance does not improve with tilting, try adjusting the height of the transducer relative to the transom of the boat. If the transducer is too high it may be seeing cavitation caused by the trailing edge of the transom.

5

Wiring

Guidelines

Don't:

- make sharp bends in the cables
- run cables in a way that allows water to flow down into the connectors
- run the data cables adjacent to radar, transmitter, or large/high current carrying cables or high frequency signal cables.
- run cables so they interfere with mechanical systems

Do this:

- make drip and service loops
- use cable-tie on all cables to keep them secure
- solder/crimp and insulate all wiring connections if extending or shortening the cables. Extending cables should be done with suitable crimp connectors or solder and heat shrink. Keep joins as high as possible to minimize possibility of water immersion.
- leave room adjacent to connectors to ease plugging and unplugging of cables

⚠ Warning: Before starting the installation, be sure to turn electrical power off. If power is left on or turned on during the installation, fire, electrical shock, or other serious injury may occur. Be sure that the voltage of the power supply is compatible with the unit.

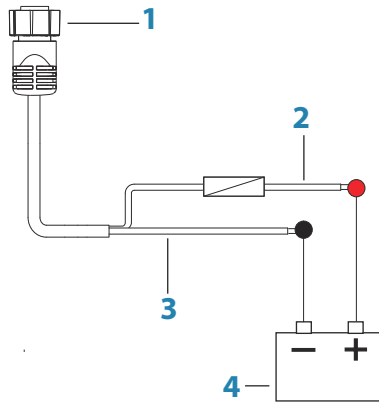
⚠ Warning: The unit has a voltage rating of 12 V DC, it is not suited for use with 24 V DC systems.

⚠ Warning: The positive supply wire (red) should always be connected to (+) DC with the supplied fuse or a circuit breaker (closest available to fuse rating).

Power connection

The plug of the supplied power cable has one cable exiting from it and it contains two wires (red and black). The red and black wires provide power into the system.

→ **Note:** The unit supports the Power and NMEA 0183 Cable, part number 000-0127-49 (sold separately). This plug has two cables. One cable is for power and the other is for connecting to NMEA 0183 devices. Refer to "*NMEA 0183 device connection*" on page 30.



- 1 Power cable connector to unit
- 2 12 V positive wire (red) shown with fuse holder installed inline
- 3 12 V negative wire (black)
- 4 Vessel's 12 V DC supply

The unit can be powered on and off using the power button on the front of the unit.

Transducer connection

The unit has internal CHIRP, Broadband, and StructureScan sonar.

Transducers fitted with a 9 pin connector can be plugged directly into the 9 pin port on the back of the unit. For 9 pin port location, refer to "*Rear connections*" on page 13.

- **Note:** The connector attached to the transducer cable is keyed, and can only be inserted in one orientation. Once inserted, turn locking collar to secure.
- **Note:** StructureScan HD, StructureScan 3D and TotalScan transducer installation instructions are included with the transducers.

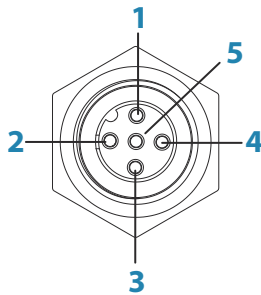
NMEA 2000 backbone

- **Note:** All units, with the exception of the ELITE-5Ti, are equipped with a NMEA 2000 connector. This section does not apply to the ELITE-5Ti.

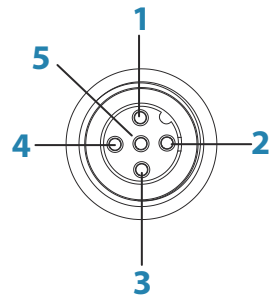
NMEA 2000 Device connection

The NMEA 2000 data port allows the receiving and sharing of a multitude of data from various sources.

- **Note:** The ELITE-5Ti does not have a NMEA 2000 data port.



Unit socket (male)



Cable plug (female)

Key	Purpose	Color
1	Shield	Drain
2	NET-S (+12 VDC)	Red
3	NET-C (- 12 VDC)	Black

Key	Purpose	Color
4	NET-H	White
5	NET-L	Blue

Planning and installing a network backbone

The backbone needs to run between the locations of all products to be installed - typically in a bow to stern layout - and be no further than 6 m from a device to be connected.

Choose from the following components to make up the backbone:

- Micro-C cables: 0.6 m (2 ft), 1.8 m (6 ft), 4.5 m (15 ft), and 7.6 m (25 ft) cables.
- T-connector or 4-way connector. Used to connect a drop cable to the backbone.
- Micro-C power cable. Connect to the backbone at a position that is central to the network load using a T-connector or 4-way connector.

Power the network

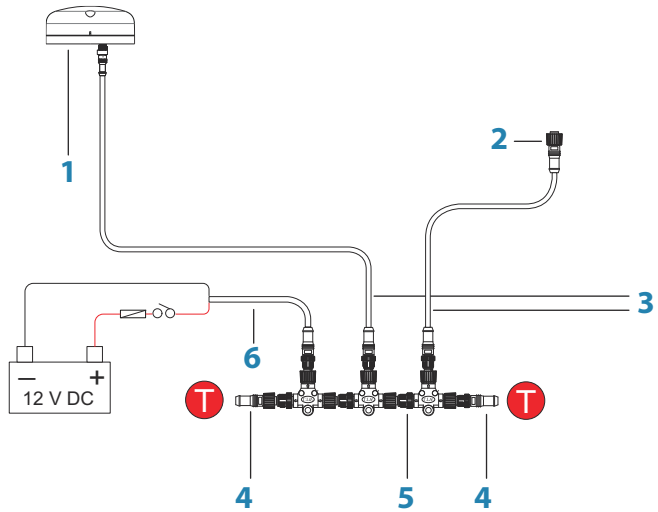
The network requires its own 12 V DC power supply protected by a 3 amp fuse or breaker.

Connect power at any location in the backbone for smaller systems.

For larger systems introduce power at a central point in the backbone to *balance* the voltage drop of the network.

- **Note:** If joining to an existing NMEA 2000 network that already has its own power supply, do not make another power connection elsewhere in the network, and ensure the existing network is not powered by 24 V DC.
- **Note:** Do not connect the NMEA 2000 power cable to the same terminals as the engine start batteries, autopilot computer, bow thruster or other high current devices.

The following drawing demonstrates a typical small network. The backbone is made up of directly interconnected T-connectors.



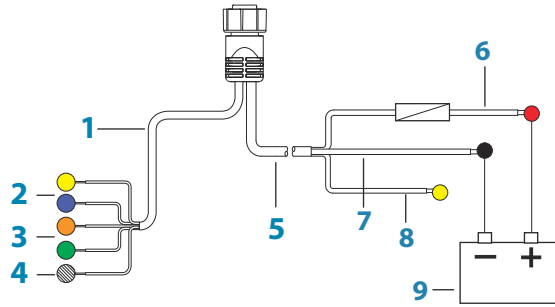
- 1 NMEA 2000 device
- 2 Connector to unit
- 3 Drop-cable, should not exceed 6 m (20 ft)
- 4 Terminators
- 5 Backbone
- 6 Power cable

NMEA 0183 device connection

→ **Note:** The unit supports the Power and NMEA 0183 Cable, part number 000-0127-49 (sold separately). This plug has two cables. One cable is for power and the other is for connecting to NMEA 0183 devices.

The unit has a combined power and data - NMEA 0183 serial port, providing both an input and output for NMEA 0183 data. For connection location, refer to *"Rear connections"* on page 13.

The NMEA0183 sentences output can be individually turned on or off. For a complete list of sentences, refer to *"NMEA 0183 supported sentences"* on page 60.



- 1 Data cable (combined in same plug as power cable)
- 2 Transmit (output from this unit): TX_A (yellow), TX_B (blue)
- 3 Receive (input to this unit): RX_A (orange), RX_B (green)
- 4 Ground (shield)
- 5 Power cable
- 6 12 V positive wire (red) shown with fuse holder installed inline
- 7 12 V negative wire (black)
- 8 Not used (yellow)
- 9 Vessel's 12 V DC supply

→ **Note:** The majority of NMEA 0183 devices communicate at 4,800 baud. AIS is a common exception, and normally transmits at 38,400 baud.

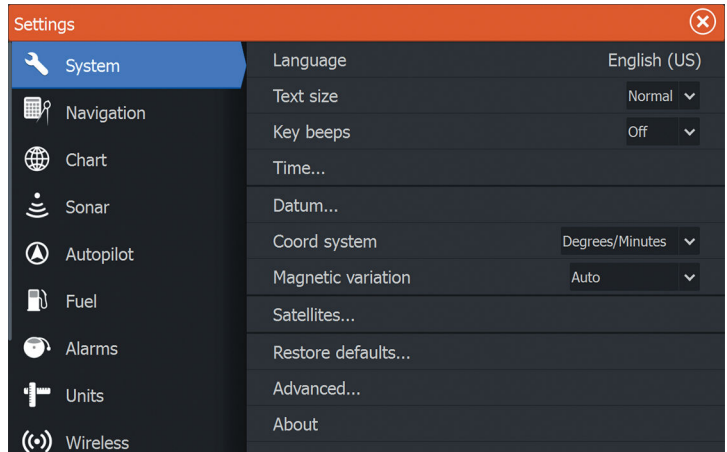
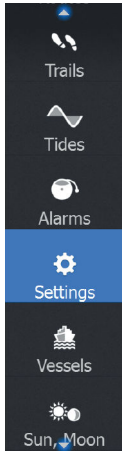
Talkers and Listeners

Do not connect multiple devices outputting data (Talkers) on to any serial input (RX) of the unit. The RS422 protocol is not intended for this type of connection, and data will be corrupted if more than one device transmits simultaneously. The output (TX) however may drive multiple receivers (Listeners). The number of receivers is finite, and depends on the receiving hardware. Typically three devices is possible.

6

Software Setup

This unit requires some initial configuration before use, in order to get the most out of the product. The following sections focus on settings that typically do not require change once configured. User preference settings and operation are covered in the Operator Manual. Selecting the Home button opens the Home page, which has three distinct areas. The scrollable left column of icons is the Tools panel. Select Settings in the Tools panel to open the Settings dialog to access items that require configuration.



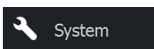
First time startup

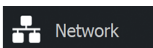
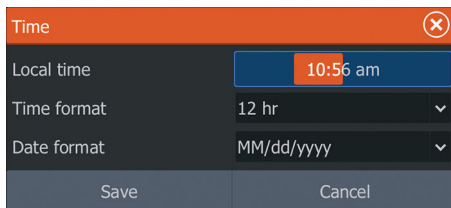
When the unit is started for the first time, or after a factory default, the unit displays a setup wizard. Respond to the setup wizard prompts to select some fundamental setup options.

You can perform further setup using the system settings option and later change settings made with the setup wizard.

Time and Date

Configure time settings to suit vessel location, along with time and date formats.





Network

Data source selection

→ **Note:** If NMEA 0183 is used, complete the NMEA 0183 setup prior to doing source selection. Refer to "*NMEA 0183 setup*" on page 48.

Data sources provide live data to the system.

The data may originate from modules internal to the unit (for example internal GPS or sonar), or external modules connected to the NMEA 2000 or via NMEA 0183 if available on the unit.

When a device is connected to more than one source providing the same data, the user can choose the preferred source. Before commencing with source selection make sure all external devices and the NMEA 2000 backbone are connected and are turned on.

Device name

Assigning a name is useful in systems using more than one device of the same type and size. When viewing data sources or the device list, the assigned name will append the default product name + virtual device function for easy identification.

Auto configure

Auto configure is not available on the ELITE-5Ti.

The Auto configure option will look for all sources connected to the device. If more than one source is available for each data type, selection will be made from an internal priority list. This option will be suitable for the majority of installations.

→ **Note:** Auto data source selection may already have been selected at first time startup, however it should be redone if any new devices have been added to the network since.

Data sources - manual source selection

Manual selection is generally only required where there is more than one source for the same data, and the **Auto configure** selected source is not the one desired. Pressing the menu key when the desired source is highlighted provides additional options:

Configure device

Configure device is not available on the ELITE-5Ti.

Additional device options can be configured from both the Data source menu or from the Device list. For further information, refer to "*Device list*" on page 35.

Scope

Scope is not available on the ELITE-5Ti.

The active data source under any given category, can be set to be Global or Local.

When a source is set as Global, it will be used by all displays on the network.

When a source is set as Local, it will only be used by the display that selected it as the source.

- **Note:** If changing a display from a Global source to a different Local source, change the Scope setting to Local *before* changing the selected source, otherwise all other displays will be changed over to the new source.
- **Note:** Local and Global data settings apply to the selected data source only. It is not possible to discretely set whether a data source is Global or Local if it is not the active source on the display being operated.

Reset Global/Local

Reset Global and Reset Local are not available on the ELITE-5Ti.

Selecting **Reset Global** runs an Auto data source selection, and overrides all previous manual source selections made on all networked devices.

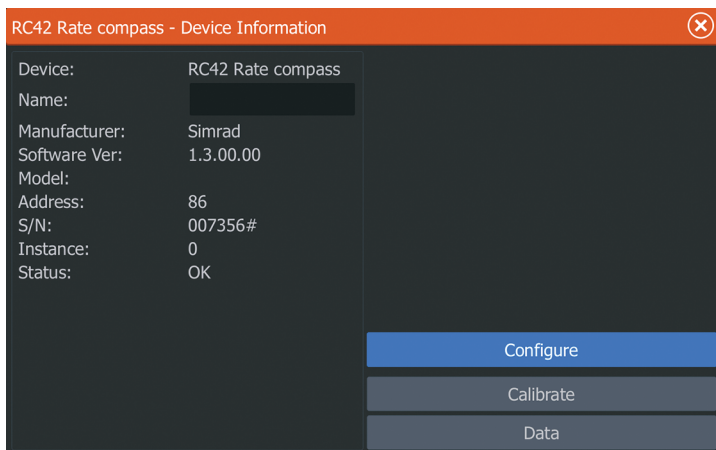
Selecting **Reset Local** reverts all data source selections on the unit being used to the Global source settings available from other networked units.

Device list

Device list is not available on the ELITE-5Ti.

The Device list shows the devices that provide data. This may include a module inside the unit, or any external NMEA 2000 device.

Selecting a device in this list will bring up additional details and actions:



All devices allow allocation of an instance number in the **Configure** option. Set unique instance numbers on any identical devices on the network to allow for the unit to distinguish between them. The **Data** option shows all data being output by the device. Some devices will show additional options specific to the device.

Some devices will show additional option(s) specific to the device - the RC42 illustrated above has a **Calibration** option, to allow easy setup of this device.

→ **Note:** Setting the instance number on a 3rd party product is typically not possible.

Diagnostics

Diagnostics is not available on the ELITE-5Ti.

The NMEA 2000 tab on the diagnostics page can provide information useful for identifying an issue with the network.

→ **Note:** The following information may not always indicate an issue that can be simply resolved with minor adjustment to network layout or connected devices and their activity on the network. However, Rx and Tx errors are most likely indicating issues with the physical network, which may be resolved by correcting termination, reducing backbone or drop lengths, or reducing the number of network nodes (devices).

Bus state

Simply indicates whether the bus is powered, but not necessarily connected to any data sources. However, if bus shows as **off**, but power is present along with an increasing error count, it is possible that termination or cable topology is incorrect.

Rx Overflows

The unit received too many messages for its buffer before the application could read them.

Rx Overruns

The unit contained too many messages for its buffer before the driver could read them.

Rx/Tx Errors

These two numbers increase when there are error messages, and decrease when messages are received successfully. These (unlike the other values) are not a cumulative count. Under normal operation these should be at 0. Values around 96 upwards indicate a heavily error prone network. If these numbers go too high for a given device, it will automatically drop off the bus.

Rx/Tx Messages

Shows actual traffic in and out of device.

Bus Load

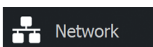
A high value here indicates network is near full capacity. Some devices automatically adjust rate of transmission, if network traffic is heavy.

Fast Packet Errors

Cumulative counter of any fast packet error. This could be a missed frame, or a frame out of sequence etc. NMEA 2000 PGNs are made of up to 32 frames. The entire message will be discarded when a frame is missed.

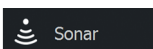
→ **Note:** Rx and Tx Errors often indicate an issue with the physical network, which may be resolved by correcting termination, reducing backbone or drop lengths, or reducing the number of network nodes (devices).

Damping



If data appears erratic or too sensitive, damping may be applied to make the information appear more stable. With damping set at MIN, the data is presented in raw form with no damping applied. This is available for heading, course over ground, speed over ground, apparent wind, true wind, boat speed, depth, and tide sourced from NMEA 2000.

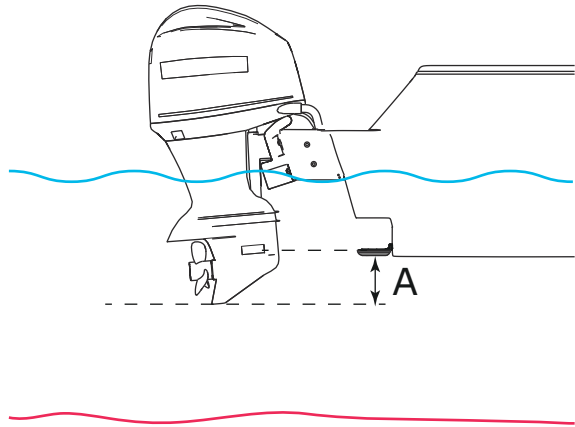
Sonar setup



The **Installation** page allows configuration of the internal sonar.

Keel offset

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



A Keel offset, for example: - 0.3 m (- 1 ft)

Before setting the keel offset, measure the distance from the transducer to the bottom of the motor - see illustration. If, for example, the distance is 0.3 m (1 ft), it will be input as (minus) - 0.3 m (-1 ft).

Water temperature calibration

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

Calibration range: -9.9° - $+9.9^{\circ}$. Default is 0° .

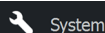
→ **Note:** Water temperature calibration only appears if the transducer is temperature capable. Check transducer type selection if this option should be available.

Transducer type

Transducer type is used for selecting the transducer model connected to the sonar module. The transducer selected will determine what frequencies the user can select during sonar operation. In some transducers with built-in temperature sensors, the temperature reading may be inaccurate or not available at all if the wrong transducer is selected. Transducer temperature sensors are one of two impedances - 5k or 10k. Where both options are

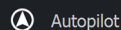
given for the same model transducer, refer to paperwork supplied with transducer to determine impedance.

StructureScan



This feature is automatically enabled when a TotalScan transducer is plugged in before the unit has been powered on.

Autopilot setup



Autopilot is not available on the ELITE-5Ti. Autopilot features will be enabled when a compatible MotorGuide trolling motor is connected. No special setup is required. See the operator manual for further details.

Fuel setup



This feature is not available on the ELITE-5Ti.

The fuel utility monitors a vessel's fuel consumption. This information is totaled to indicate trip and seasonal fuel usage, and is used to calculate fuel economy for display on instrument pages and the data bar.

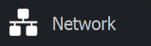
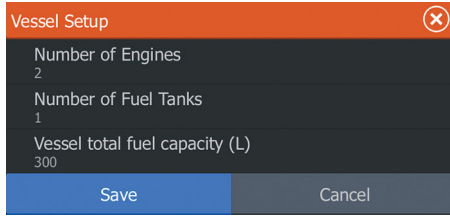
To use the utility, a Navico Fuel Flow sensor, or a NMEA 2000 engine adaptor cable/gateway with Navico Fuel Data Storage device must be fitted to the vessel. Neither the Navico Fuel Flow sensor, nor the Suzuki engine interface require the use of a separate Fuel Storage device. Refer to the engine manufacturer or dealer for information on whether or not your engine provides a data output, and what adaptor is available to connect to NMEA 2000.

Once the physical connection is made, ensure source selection is completed. Multiple engine installations using Fuel Flow sensors, or Fuel Data Storage devices, require setup of related engine location in the Device list. For general source selection information, refer to "*Data source selection*" on page 33.

Vessel setup

Vessel setup is not available on the ELITE-5Ti.

The Vessel setup dialog must be used to select the number of engines, the number of tanks and vessel's total fuel capacity across all tanks.



Network

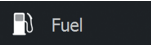
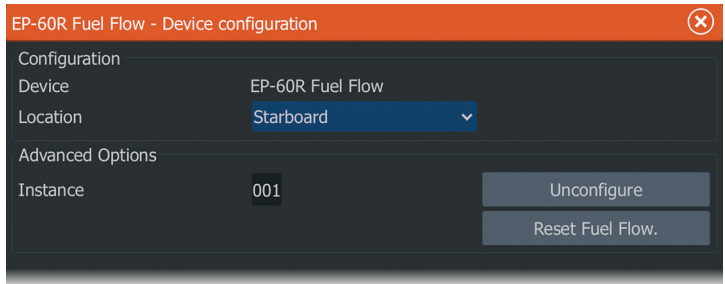
Fuel flow configuration

Fuel flow configuration is not available on the ELITE-5Ti.

After the number of engines is set, it is required to set which fuel flow sensor is connected to which engine. Under **Device list** on the Network page, view the Device Configuration dialog for each sensor, and set the **Location** to match the engine the device is connected to.

Unconfigure - defaults the device which clears all user settings.

Reset Fuel Flow - restores only the Fuel K-Value setting, if set in Calibrate. Only Navico devices can be reset.

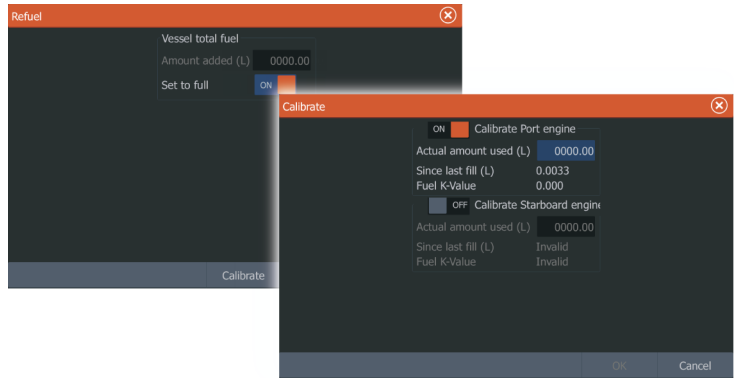


Fuel

Calibrate

Calibrating fuel flow is not available on the ELITE-5Ti.

Calibration may be required to accurately match measured flow with actual fuel flow. Access calibration from the **Refuel** dialog. Calibration is only possible on Navico's Fuel Flow sensor.



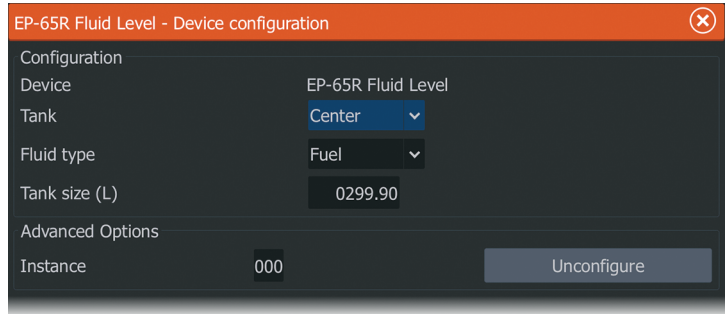
1. Start with a full tank and run the engine as it would normally be operated.
 2. After at least several liters (a few gallons) have been used, the tank should be fully refilled, and the **Set to full** option selected.
 3. Select the **Calibrate** option.
 4. Set the **actual amount used** based on amount of fuel added to the tank.
 5. Select **OK** to save settings. The **Fuel K-Value** should now show a new value.
- **Note:** To calibrate multiple engines repeat the steps above, one engine at a time. Alternatively, run all engines simultaneously, and divide the *Actual amount used* by the number of engines. This assumes reasonably even fuel consumption on all engines.
- **Note:** The **Calibrate** option is only available when **Set to full** is selected, and a Fuel Flow is connected and set up as a source.
- **Note:** A maximum of 8 engines is supported using Fuel Flow sensors.

Fuel Level

Fuel level configuration is not available on the ELITE-5Ti.

With the use of a Navico Fluid Level device connected to a suitable tank level sensor, it is possible to measure the amount of fuel remaining in any equipped tank. The number of tanks must be set in Vessel Setup dialog, initiated from the Fuel setting options page, to allow discrete tank assignment of the Fluid Level devices.

Select **Device list** on the Network page, and view the Device Configuration dialog for each sensor, and set the Tank location, Fluid type, and Tank size.



For setting up the Instrument bar or a gauge on the Instrument page with Fluid Level device data, refer to the Operator Manual.

- **Note:** A maximum of 5 tanks is supported using Fluid Level devices.
- **Note:** Tank data that is output by a compatible engine gateway can also be displayed, however tank configuration for such a data source is not possible from this unit.

Wireless setup

The unit includes built-in wireless functionality that lets you:

- Use a wireless device to remotely view (smartphone and tablet) and control the system (tablet only). Wireless devices use the GoFree app downloaded from their relevant application store.
- Access the GoFree Shop.
- Upload your logs to create custom maps at Insight Genesis.
- Download software updates
- Connect to third party applications

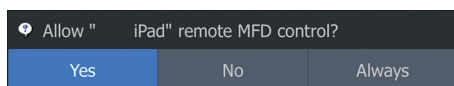
Connecting a tablet

Install the GoFree App on the tablet before following this procedure.

1. Set the internal wireless to **Access Point** mode. To do this, select the **Wireless devices** page in the Wireless settings

dialog and then select the Internal wireless. Next, select the **Mode** option and then select **Internal Access Point**.

2. Select the Internal Wireless device on the **Wireless devices** page to view its Network key.
3. Navigate to the wireless network connection page on the tablet, and find the unit or GoFree wireless **xxxx** network. If more than one is in range, review the **Wireless devices** page on the unit to confirm which wireless device is connected to the unit.
4. Enter the Network Key in the tablet to connect to the network.
5. Open the GoFree application - the unit should be automatically detected. The name displayed will be either the default, or that assigned in the Device Name setting. If the unit does not appear, follow the on screen instructions to manually find the device.
6. Select the graphic icon of the unit. The unit displays a prompt similar to the following:



7. Select **Yes** for one-time connection, or **Always** if device is to be remembered for regular connection. This setting can be changed later if required.

→ **Note:** The internal wireless module only supports GoFree connection to itself. Other units connected on the network are not visible.

Connecting a smartphone

Install the GoFree App on the smartphone before following this procedure.

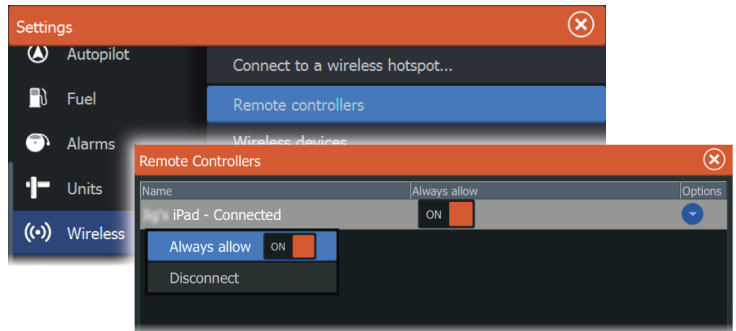
1. Set the internal wireless to **Access Point** mode. To do this, select the **Wireless devices** page in the Wireless settings dialog and then select the unit's Internal Wireless. Next, select the **Mode** option and then select **Internal Access Point**.
2. Select the Internal Wireless device on the **Wireless devices** page to view its Network Key.
3. Navigate to the wireless network connection page on the smartphone, and find the unit or GoFree wireless **xxxx** network. If more than one is in range, review the **Wireless devices** page from the unit's Wireless settings dialog to confirm which wireless device is connected to the unit.

4. Enter the Network Key in the smartphone to connect to the network.
5. Open the GoFree application on the smartphone, the unit should be automatically detected. The name displayed will be either the default, or that assigned in the Device Name setting. If the unit does not appear, follow the on screen instructions to manually find the device.

The MFD's display is shown on the smartphone. To change the MFD's display on the smartphone, use the MFD to change the display on the MFD. The display change on the MFD is reflected on the smartphone.

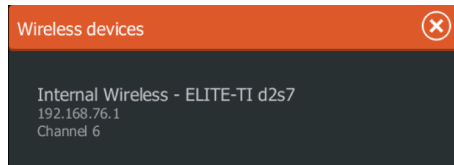
Remote controllers

When a wireless device is connected, it should appear in the **Remote controllers** list.

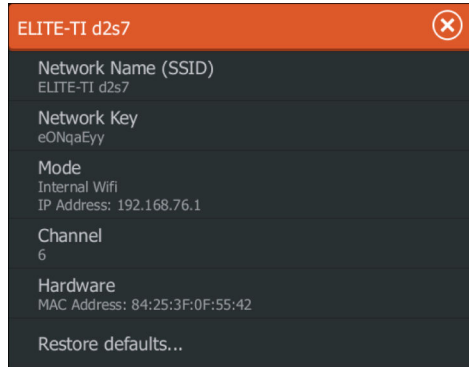


Selecting **Always allow** means the device can automatically connect without needing a password each time. This menu also allows disconnection of devices that no longer require access.

Wireless devices



This dialog shows the internal wireless, as well as its IP address and channel number. Select the Internal Wireless listed to view additional detail.



To view and change internal wireless detail values (Network name (SSID), Network key, or Channel) the internal wireless must be in **Access Point** (Internal Wifi) mode. To select a network (hotspot) to connect to, the internal wireless must be in **Client Mode**.

Mode

Displays if the internal wireless is set to **Access Point** (Internal Wifi) mode or **Client Mode**. Select it to change the wireless between **Access Point** mode and **Client Mode**.

If the internal wireless is set to **Access Point** (Internal Wifi) mode, smartphones and tablets can access the unit to view and control (tablet only) it. Also when set to **Access Point** (Internal Wifi) mode you can view and change the internal wireless details. **Client Mode** allows the unit internet access via a wireless hotspot.

Hardware

Provides MAC address details of the wireless.

Networks

Only visible if the internal wireless is in **Client Mode** when the device is selected. Shows a list of all networks (hotspots) available for connection. Select the name of the desired network to enter its network key and connect to it.

Network Name (SSID)

Displays the name of the internal wireless network.

Only visible if the internal wireless is set to **Access Point** (Internal Wifi) mode when the device is selected. You can select it and change the internal wireless network to any name you want for easy identification.

Network Key

Required by the smartphone or tablet to connect to the internal wireless network.

Only visible if the internal wireless is set to **Access Point** (Internal Wifi) mode when the device is selected. You can select it and change it to increase network security. The key must be at least 8 characters.

Channel

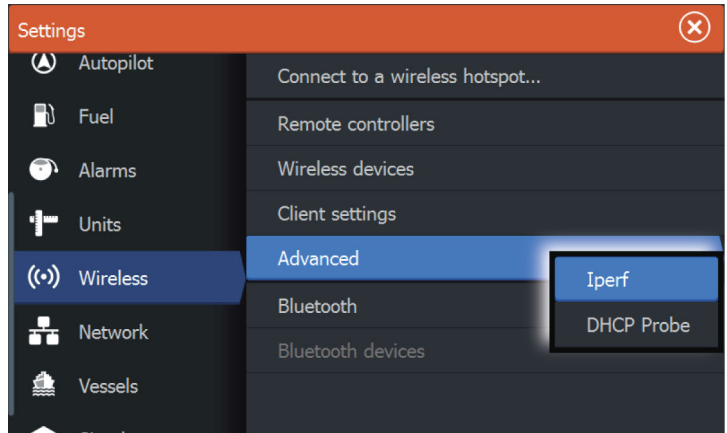
Only visible if the internal wireless is set to **Access Point** (Internal Wifi) mode when the device is selected. Select it to change the Channel setting to overcome potential interference to the internal wireless by another RF device transmitting in the same frequency band.

Restore defaults

Deletes all user made changes, and restores the wireless to factory settings.

Advanced

Tools are available within the software to assist in fault-finding and setting up the wireless network.



Iperf

Iperf is a commonly used network performance tool. It is provided for testing wireless network performance around the vessel so weak spots or problem areas can be identified. The application must be installed on and run from a tablet device.

The ELITE Ti must be running Iperf server before initiating the test from the tablet. On exiting the page, Iperf automatically stops running.

DHCP Probe

The wireless module contains a DHCP server that allocates IP addresses for all the MFDs, and Sonar in a network. If integrating with other devices, such as a 3G modem or satellite phone, other devices in the network may also be acting as DHCP servers. To make it easy to find all DHCP servers on a network, dhcp_probe may be run from the ELITE Ti. Only one DHCP device may be operational on the same network at a time. If a second device is found, turn off its DHCP feature if possible. Refer to the device's own instructions for further assistance.

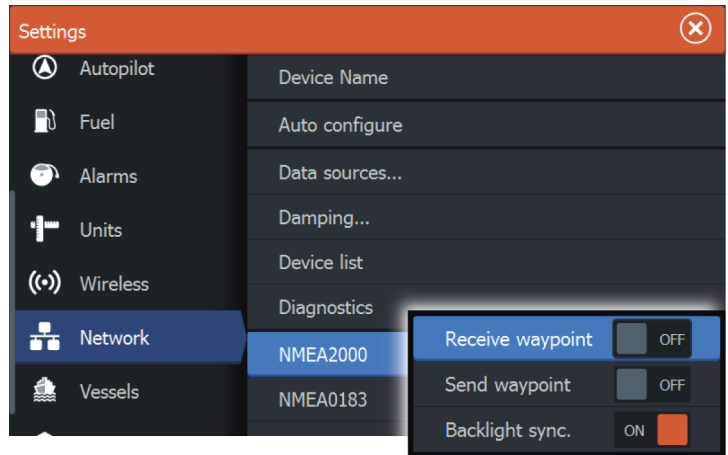
→ **Note:** Iperf and DHCP Probe are tools provided for diagnostic purposes by users familiar with network terminology and configuration. Navico is not the original developer of these tools, and cannot provide support related to their use.

Bluetooth wireless technology

The unit includes built-in Bluetooth wireless technology. To connect the unit to Bluetooth enabled devices you must pair them. For more information about Bluetooth and connecting devices, refer to the unit's Getting Started or Operator manual.

NMEA 2000 setup

NMEA 2000 networking is not available on the ELITE-5Ti.



Receive waypoint

Select this option to allow another device capable of creating and exporting waypoints via NMEA 2000 to transfer directly to this unit.

Send waypoint

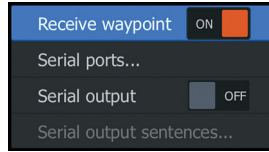
Select this option to allow this unit to send waypoints to another device via NMEA 2000.

NMEA 0183 setup

The NMEA 0183 port must be set to suit the speed of connected devices, and can be configured to output only the sentences required by listening devices.

Receive waypoint

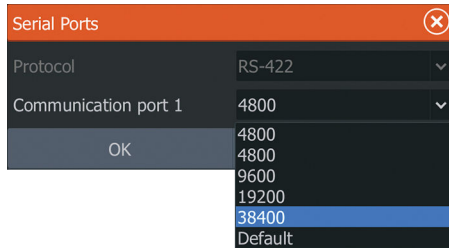
Select this option to allow a device capable of creating and exporting waypoints via NMEA 0183 to transfer directly to this unit.



Baud rate

This should be set to correspond with devices connected to the NMEA 0183 input and output. The input and output (Tx, Rx) use the same baud rate setting.

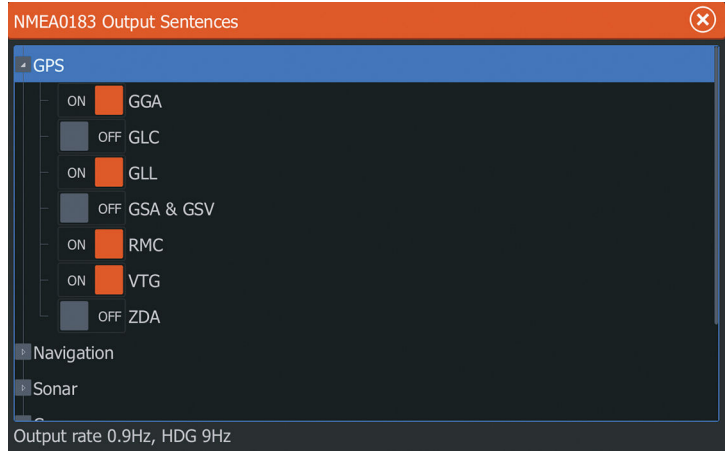
→ **Note:** AIS transponders typically operate at NMEA 0183-HS (high speed), and will require the baud rate to be set to 38,400.



Serial Output Sentences

This list allows control over which sentences need to be transmitted to other devices from the NMEA 0183 port. Due to the limited bandwidth of NMEA 0183 it is desirable to only enable the data that is required. The less sentences that are selected, the higher the output rate of the enabled sentences.

Commonly used sentences are enabled by default.



Touchscreen calibration

→ **Note:** Ensure the screen is clean and dry before doing the calibration. Do not touch the screen unless prompted to do so.

In some cases it may be required to re-calibrate the touch screen. To re-calibrate your touchscreen, do the following:

1. Turn the unit off
2. Press and hold the **Waypoint** key, and turn the unit on
3. Continue to press in the **Waypoint** key during power on, until the calibration utility screen comes up
4. Follow the instructions on the screen to perform the calibration.

When completed, the unit returns to the application screen.

Software updates and data backup

From time to time we release software updates to our existing products. Updates are created for a variety of reasons; to add or improve features, to add support for new external devices, or to fix software bugs.

Updates can be found on the website: www.lowrance.com

When the unit is connected to the internet, a pop-up can appear advising that a software update is available and encourages you to download the update.

The unit may be used to apply software updates to itself, and to supported network devices, with files read off a memory card inserted in the card reader.

Before initiating an update to the unit itself, be sure to back up any potentially valuable user data.

Software upgrades

The update file must be loaded to the root directory of the memory card.

The update may be initiated at boot up: insert the memory card into the card reader before turning the unit on, boot the unit, and follow the on-screen instructions.

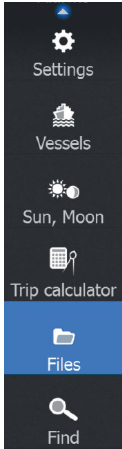
Alternatively, in the Files menu, locate the update file on the memory card inserted in the card reader and select **Upgrade**, followed by **This Display**. Accept the prompt to reboot the unit, and wait a few moments as the unit restarts. Do not remove the memory card or repower the unit until the process is completed (this typically takes no more than a couple of minutes).

NMEA 2000 device upgrades

NMEA 2000 is not available on the ELITE-5Ti.

The update file must be loaded to the root directory of a memory card inserted in the card reader.

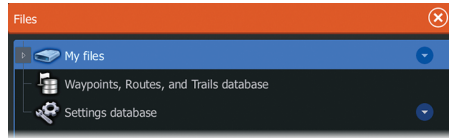
1. Select the Files toolbar option and select the update file under Memory card.
 2. Select the Upgrade option presented when the file is highlighted. A list should appear displaying any compatible devices the update file applies to. In most cases this will be a single device.
- **Note:** If no device is shown, check that the device to be updated has power, and run any outstanding updates for the unit first.
3. Select the device and initiate the upgrade. Do not interrupt the upgrade process.



Backing up and Importing user data

There are two files that can be backed up that relate to user changes made to the system:

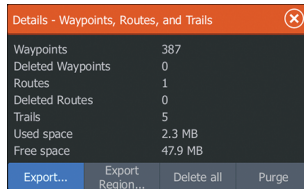
- Waypoints, Routes, and Trails database.
- Settings database (includes preferences such as unit settings and custom pages).



Insert a memory card into the unit's card reader as a storage location for backup data.

Waypoints, Routes, and Trails database backup

You can export all Waypoints, Routes, and Trails, or export only those contained within a specific region.



If Export Region is selected, the chart page will be displayed, centered on vessel location. Using the touch screen, adjust the red boundary box to outline the area to be exported. The export option offers different file formats to save as:

- **User data file version 5:** Use with current units (NSO evo2, NSS evo2, NSS, NSO, NSE, Zeus, Zeus Touch, HDS Gen2, HDS Gen2 Touch, HDS Gen3, GO XSE units, Vulcan units, and ELITE Ti units). Offers most detail.
- **User data file version 4:** Use with current units (NSO evo2, NSS evo2, NSS, NSO, NSE, Zeus, Zeus Touch, HDS Gen2, HDS Gen2 Touch, HDS Gen3, GO XSE units, Vulcan units, and ELITE Ti units).

- **User data file version 3 (with depth):** Use with legacy GPS chartplotters.
- **User data file version 2 (no depth):** Use with legacy GPS chartplotters.
- **GPX (GPS Exchange, no depth):** Use with some other manufacturers' GPS products, and PC applications.

After you select the file type, select Export and destination memory card. The receiving GPS/PC typically needs to be set to allow import of Waypoints.

The **Serial port** option outputs the waypoints over NMEA 0183. The receiving GPS/PC will typically need to be set to allow import of waypoints.

Settings database export

Select **Setting database** to export the Settings database and select the memory card destination.

Importing a database

Later, if the unit has been restored to factory defaults or user data is accidentally deleted, return to the files page, select the backed up file, and then **Import**. View file details for creation date.

7

Accessories

The most up-to-date accessories list is available at:
www.lowrance.com

NMEA 2000

NMEA 2000 networking is not available with the ELITE-5Ti.

Part Number	Description
000-0124-69	NMEA 2000 Starter kit
000-0119-88	NMEA 2000 2' (0.61M) Extension cable
000-0127-53	NMEA 2000 6' (1.82M) Extension cable
000-0119-86	NMEA 2000 15' (4.55M) Extension cable
000-0119-83	NMEA 2000 25' (7.58M) Extension cable
000-11517-001	Fuel flow sensor
000-11518-001	Fluid level sender
000-11519-001	Speed sensor
000-11520-001	Temperature sensor
000-11521-001	Thru-hull temperature sensor
000-11522-001	Fuel data manager
000-11523-001	Pressure sensor
000-11047-001	Point-1 high speed GPS antenna with built-in compass
000-10613-001	RC42 Rate compass
000-12607-001	Precision-9 compass

ELITE Ti accessories

Part number	Description
000-10027-001	Quick release mounting bracket kit for the ELITE-5Ti and ELITE-7Ti
000-11020-001	Mounting bracket kit for the ELITE-9Ti

Part number	Description
000-11021-001	Mounting bracket kit for the ELITE-12Ti
032-0353-02	Power cable (2 pin power cable)
000-0127-49	Power and NMEA 0183 Cable
000-12750-001	Sun cover for the ELITE-5Ti
000-12749-001	Sun cover for the ELITE-7Ti
000-13692-001	Sun cover for the ELITE-9Ti
000-13923-001	Sun cover for the ELITE-12Ti
000-12572-001	7-pin transducer to 9-pin adapter cable
000-12751-001	Blue and black corner detail clips

Sonar accessories

Part Number	Description
000-12568-001	TotalScan transducer
000-0106-72	Skimmer 83/200 kHz transducer*
000-0106-77	Skimmer 50/200 kHz transducer*
000-0106-74	Trolling motor transducer, 83/200 kHz*
000-0106-73	In-hull shoot-thru transducer, depth only*
000-0106-89	In-hull, shoot-thru transducer, depth and remote temperature*
000-12572-001	7-pin transducer to 9-pin adapter cable

* Require the 000-12572-001 7-pin transducer to 9-pin adapter cable

For additional transducer options, visit www.lowrance.com

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Supported data

NMEA 2000 compliant PGN List

→ **Note:** NMEA 2000 networking is not available with the ELITE-5Ti.

NMEA 2000 PGN (receive)

59392	ISO Acknowledgement
59904	ISO Request
60928	ISO Address Claim
61184	Parameter Request/Command
65285	Temperature with Instance
65289	Trim Tab Insect Configuration
65291	Backlight Control
65292	Clear Fluid Level Warnings
65293	LGC-2000 Configuration
65323	Data User Group Request
65325	Reprogram Status
65341	Autopilot Mode
65480	Autopilot Mode
126208	ISO Command Group Function
126992	System Time
126996	Product Info
127237	Heading/Track Control
127245	Rudder
127250	Vessel Heading
127251	Rate of Turn
127257	Attitude
127258	Magnetic Variation
127488	Engine Parameters, Rapid Update
127489	Engine Parameters, Dynamic

127493 Transmission Parameters, Dynamic
127503 AC input status
127504 AC Output Status
127505 Fluid Level
127506 DC Detailed Status
127507 Charger Status
127508 Battery Status
127509 Inverter Status
128259 Speed, Water referenced
128267 Water Depth
128275 Distance Log
129025 Position, Rapid Update
129026 COG & SOG, Rapid Update
129029 GNSS Position Data
129033 Time & Date
129038 AIS Class A Position Report
129039 AIS Class B Position Report
129040 AIS Class B Extended Position Report
129041 AIS aids to Navigation
129283 Cross Track Error
129284 Navigation Data
129539 GNSS DOPs
129540 AIS Class B Extended Position Report
129794 AIS aids to Navigation
129801 Cross Track Error
129283 Cross Track Error
129284 Navigation Data
129539 GNSS DOPs
129540 GNSS Sats in View
129794 AIS Class A Static and Voyage Related Data
129801 AIS Addressed Safety Related Message
129802 AIS Safety Related Broadcast Message

129808 DSC Call Information
129809 AIS Class B "CS" Static Data Report, Part A
129810 AIS Class B "CS" Static Data Report, Part B
130074 Route and WP Service - WP List - WP Name & Position
130306 Wind Data
130310 Environmental Parameters
130311 Environmental Parameters
130312 Temperature
130313 Humidity
130314 Actual Pressure
130576 Small Craft Status
130577 Direction Data
130840 Data User Group Configuration
130842 SimNet DSC Message
130845 Parameter Handle
130850 Event Command
130851 Event Reply
130817 Product Info
130820 Reprogram Status
130831 Suzuki Engine and Storage Device Config
130832 Fuel Used - High Resolution
130834 Engine and Tank Configuration
130835 Set Engine And Tank Configuration
130838 Fluid Level Warn
130839 Pressure Insect Configuration
130840 Data User Group Config
130842 AIS and VHF Message Transport
130843 Sonar Status – Frequency and DSP Voltage
130845 Weather and Fish Prediction and Barometric Pressure History
130850 Evinrude Engine Warnings

130851 Parameter (RC42 Compass and IS12 Wind Calibration and Configuration)

NMEA 2000 PGN (transmit)

61184 Parameter Request/Command
65287 Configure Temperature Insects
65289 Trim Tab Insect Calibration
65290 Paddle Wheel Speed Configuration
65291 Backlight Control
65292 Clear Fluid Level Warnings
65293 LGC-2000 Configuration
65323 Data User Group Request
126208 ISO Command Group Function
126992 System Time
126996 Product Info
127237 Heading/Track Control
127250 Vessel Heading
127258 Magnetic Variation
128259 Speed, Water referenced
128267 Water Depth
128275 Distance Log
129025 Position, Rapid Update
129026 COG & SOG, Rapid Update
129029 GNSS Position Data
129283 Cross Track Error
129284 Navigation Data
129285 Route/Waypoint Data
129539 GNSS DOPs
129540 GNSS Sats in View
130074 Route and WP Service - WP List - WP Name & Position
130306 Wind Data

- 130310 Environmental Parameters
- 130311 Environmental Parameters
- 130312 Temperature
- 130577 Direction Data
- 130840 Data User Group Configuration
- 130845 Parameter Handle
- 130850 Event Command
- 130818 Reprogram Data
- 130819 Request Reprogram
- 130828 Set Serial Number
- 130831 Suzuki Engine and Storage Device Config
- 130835 Set Engine And Tank Configuration
- 130836 Fluid Level Insect Configuration
- 130837 Fuel Flow Turbine Configuration
- 130839 Pressure Insect Configuration
- 130845 Weather and Fish Prediction and Barometric Pressure History
- 130850 Evinrude Engine Warnings
- 130851 Parameter (RC42 Compass and IS12 Wind Calibration and Configuration)

NMEA 0183 supported sentences

TX / RX - GPS

Receive	GGA	GLL	GSA	GSV	VTG	ZDA	
Transmit	GGA	GLL	GSA	GSV	VTG	ZDA	GLC

TX / RX - Navigation

Receive	RMC				
Transmit	AAM	APB	BOD	BWC	BWR

Receive					
Transmit	RMC	RMB	XTE	XDR	

TX / RX - Sonar

Receive	DBT	DPT	MTW	VLW	VHM
Transmit	DBT	DPT	MTW	VLW	VHM

TX / RX - Compass

Receive	HDG	HDT	HDM
Transmit	HDG		

TX / RX - Wind

Receive	MWV	MWD
Transmit	MWV	MWD

TX / RX - AIS / DSC

Receive	DSC	DSE	VDM
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→ **Note:** AIS sentences are not bridged to or from NMEA 2000.

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Technical specifications

→ **Note:** The most up-to-date specifications list is available at: www.lowrance.com

Mechanical/Environmental

Casing	PC/ABS
Operating temp	-15°C to +55°C (+5°F to +131°F)
Water ingress	IPX6 and 7
Weight (excluding mounting hardware)	ELITE-5Ti is .526 kg (1.16 lbs) ELITE-7Ti is .907 kg (2.0 lbs) ELITE-9Ti is 1.32 kg (2.9 lbs) ELITE-12Ti is 2.2 kg (4.9 lbs)
Display type	WVGA color TFT LCD
Display brightness	>1200 nits
Display resolution	480 x 800 (H x W)
Viewing angle in degrees (typical value at contrast ratio = 10)	L/R: 70, top: 50, bottom: 60
Dimensions (overall)	See dimensioned drawings

Electrical

Operating voltage	12 V DC (10 - 17 V DC min-max)
Power consumption	12 W (0.9 A at 13.8 V DC)
Low power standby mode	< 650 mA
Protection	reverse polarity and temporary over-voltage to 36 V
Processor	iMX61 single core
Conformity	CE, C-Tick

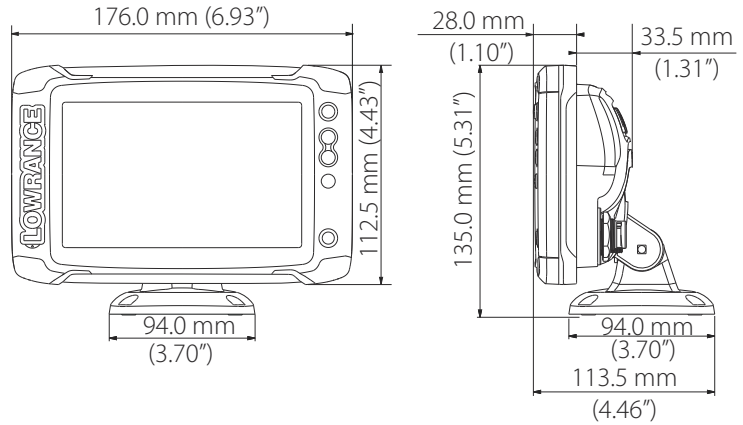
Interfaces

NMEA 2000 (compliant). ELITE-5Ti is not NMEA compliant.	1 port - Micro-C male. (Not available on the ELITE-5Ti.)
NMEA 0183 (compliant)	1 port - Power 12 V DC and Data - NMEA 0183
Sonar	1 port
Card reader	1 x microSD

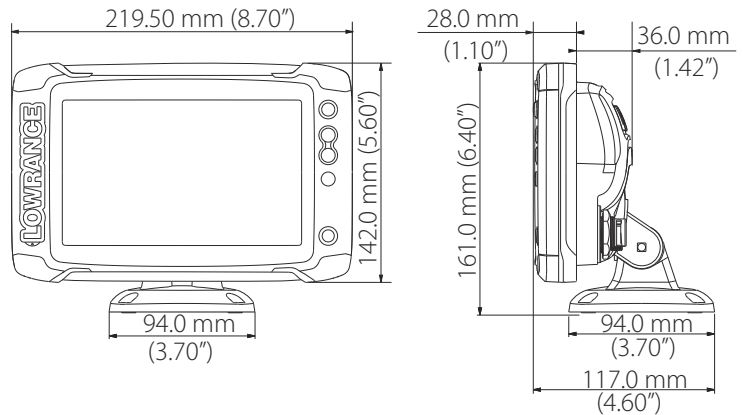
10

Dimensional drawings

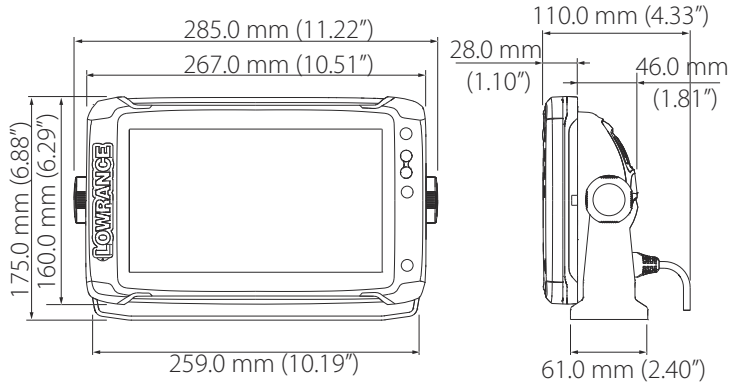
ELITE-5Ti Dimensional drawings



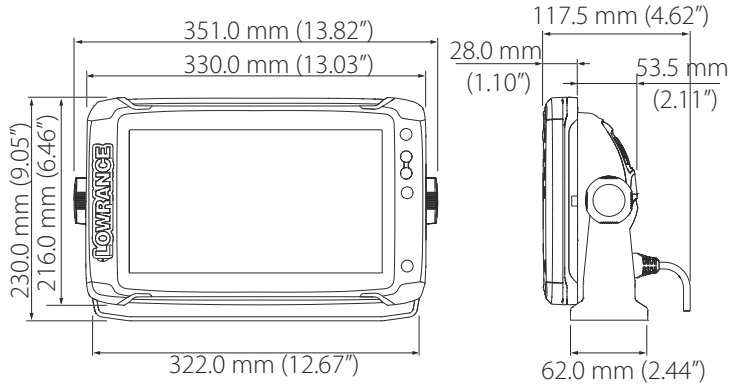
ELITE-7Ti Dimensional drawings



ELITE-9Ti Dimensional drawings



ELITE-12Ti Dimensional drawings



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