

**SIMRAD**<sup>®</sup>

# CRUISE

## Operator Manual

ENGLISH



# Preface

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## 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 maritime safety practices.

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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.

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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.

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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 unit or system:

## Compliance statements

### Europe

Navico declare under our sole responsibility that the product conforms with the requirements of:

- CE under RED 2014/53/EU

### ***Countries of intended use in the EU***

AT - Austria	LI - Liechtenstein
BE - Belgium	LT - Lithuania
BG - Bulgaria	LU - Luxembourg
CY - Cyprus	MT - Malta
CZ - Czech Republic	NL - Netherlands
DK - Denmark	NO - Norway
EE - Estonia	PL - Poland
FI - Finland	PT - Portugal
FR - France	RO - Romania
DE - Germany	SK - Slovak Republic
GR - Greece	SI - Slovenia
HU - Hungary	ES - Spain
IS - Iceland	SE - Sweden
IE - Ireland	CH - Switzerland
IT - Italy	TR - Turkey
LV - Latvia	UK - United Kingdom

## United States of America

**⚠ 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.

## Australia and New Zealand

Navico declare under our sole responsibility that the product conforms with the requirements of:

- level 2 devices of the Radiocommunications (Electromagnetic Compatibility) standard 2017

## About this manual

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

Images used in this manual might not exactly match the screen on your unit.

## Important text conventions

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 1.0. The manual is continually updated to match new software releases. The latest

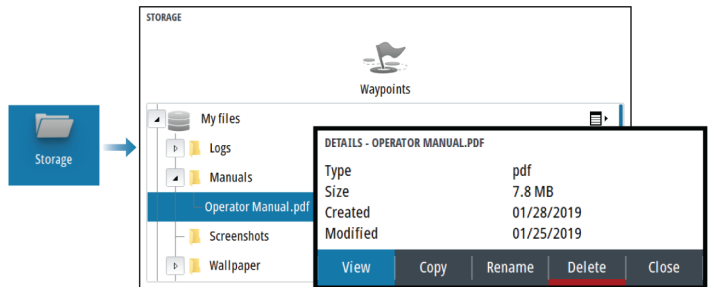
available manual version can be downloaded from the following website:

## Translated manuals

### 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.

The manuals can be read from a storage device connected to the unit or copied to the unit's internal memory.



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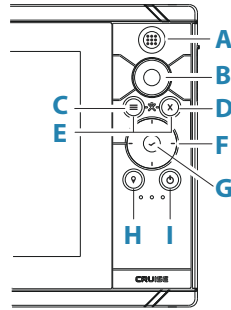


# 1

## Introduction

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### Front controls



**A Pages/Home key** - press to open the Home page

**B Rotary knob**

- Active page: turn to zoom
- Dialog and menu operation: turn to scroll, press to select an option

**C Menu key**

- Press to display the active panel's menu
- With a page displayed, press and hold to display the Settings dialog

**D Exit key** - press to exit a dialog, return to previous menu level, or clear the cursor from the panel

**E MOB** - press simultaneously the Menu and Exit keys to create a MOB waypoint at the vessel's position

**F Arrow keys**

- Active page: press to activate the cursor or to move the cursor
- Dialog and menu operation: press to navigate to different options and to adjust values
- Toggle the active screen in a split page

**G Enter key**

- Press to select an option or to save settings
- In a split page, press to activate the cursor

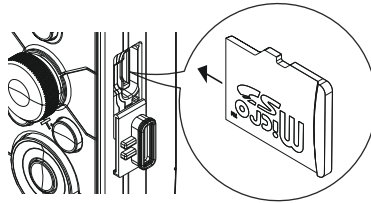
## H Waypoint key

- Press to place a waypoint at vessel position or at cursor position when cursor is active
- Press and hold to open the Plot dialog from where you can select options to add new or manage existing waypoints, routes and tracks

## I Power key

- Press and hold to turn the unit ON/OFF
- Press to display the system controls dialog
- Multiple short presses to toggle through predefined dimming levels

## Card reader



A memory card can be used for:

- Chart data
- Software updates
- Transfer of user data
- System backup

→ **Note:** Do not download, transfer or copy files to a chart card. Doing so can damage chart information on the chart card.

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

## Device registration

You are prompted to register your device during startup. You can also register by selecting the register option in the System settings dialog. Registration can be done:

- From a smart device with internet access
- Over the phone

# 2

## Basic operation

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### Turning the system on and off

The system is turned on by pressing the Power key.

Press and hold the Power key to turn the unit off.

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.

### First time startup

When the unit is started for the first time, or after a factory default, the unit displays a series of dialogs. Respond to the dialog prompts to make fundamental settings.

You can perform further setup and later change settings using the system settings dialogs.

### Standby mode

In Standby mode, 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

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

The display backlighting can also be adjusted from the System Controls dialog.

#### Night mode

The night mode can be activated from the System Controls dialog.

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

## System controls dialog

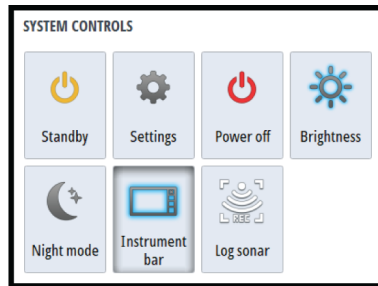
The System Controls dialog provides quick access to basic system settings.

The icons displayed on the dialog vary with operational mode and connected equipment.

For those functions that toggle on and off, a highlighted icon indicates the function is activated.

Display the dialog by:

- pressing the power key



## The Home page

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

To select a button, use the arrow keys or the rotary knob to highlight it and then press enter.



**A Status bar**

Displays status of the system.

**B Applications**

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

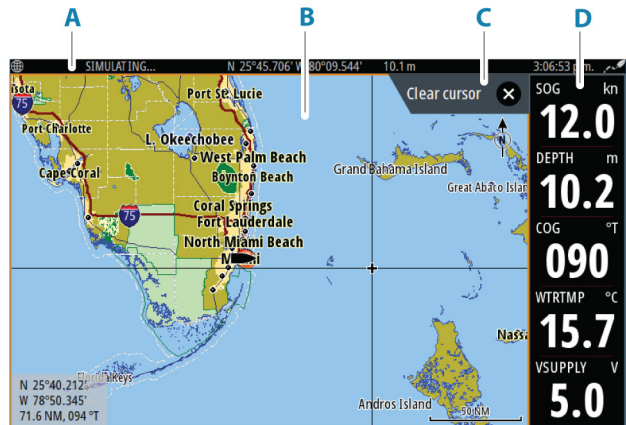
**C Predefined split pages**

Select a button to display 2 applications on the panel.

**D Toolbar**

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

## Application pages



**A** Status bar

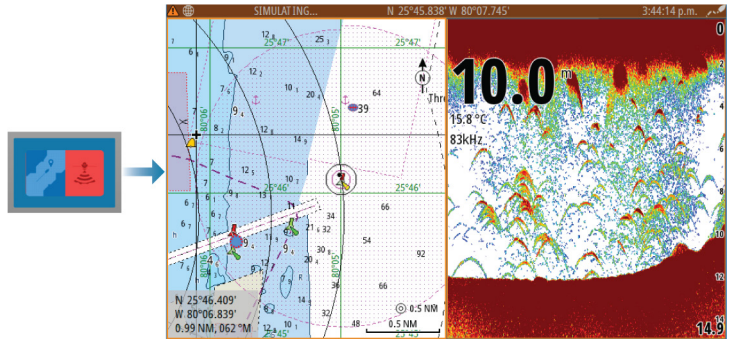
**B** Application panel

**C** Hint tab - shows what key can be pressed to perform the action

**D** Instrument bar

## Predefined split pages

A predefined split page shows more than one application page on a panel.



## Changing a split page orientation

You can change the split page orientation to a horizontal or vertical split.



## Activating a panel on the split page

Use the arrow keys to activate a panel on the split page.

When a panel is active on the split page, it has a yellow border. The menu and other controls apply to the active panel.

## Man Overboard waypoint

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

### Create a MOB

To create a Man Overboard (MOB) waypoint:

- Simultaneously press the Menu and Exit keys

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 can be created. 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

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

### Stop navigating to MOB

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



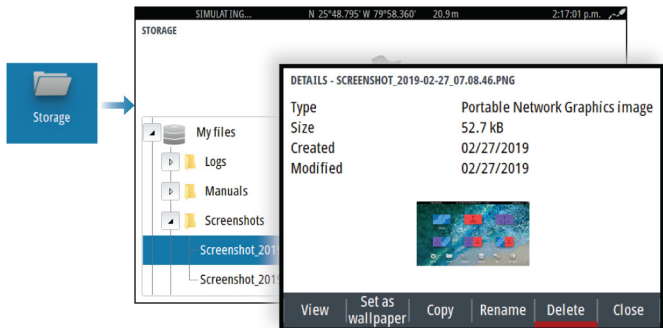
### Screen capture

To take a screen capture:

- Simultaneously press the pages key and the power key

### Accessing screen captures

You can access screen captures using the file manager.

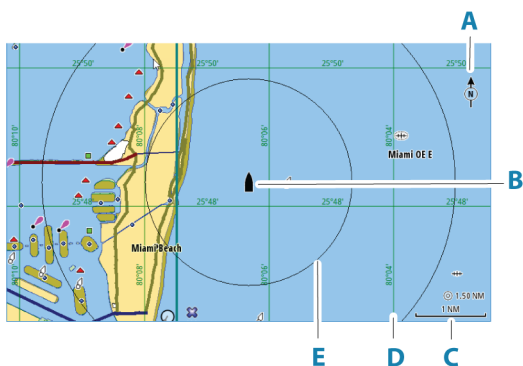




# 3

## Charts

### The Chart panel

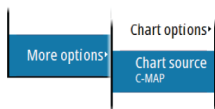


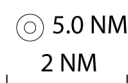
- A** North indicator
- B** Vessel
- C** Chart range scale
- D** Grid lines\*
- E** Range rings\*

\* Optional chart items. Optional chart items can be turned on/off individually from the chart settings dialog.

### Selecting chart source

Available chart sources are listed in the menu.





## Zooming the chart

The chart range scale and range rings interval (when turned on) are shown on the chart panel. You change the scale by zooming the chart in or out.

You zoom the chart by:

- Turning the rotary knob

## 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.

The vessel icon orientates itself using COG (Course over Ground).

## Panning the chart

You can move the chart in any direction by:

- Using the arrow keys to move the cursor to the edge of the chart panel in the desired direction

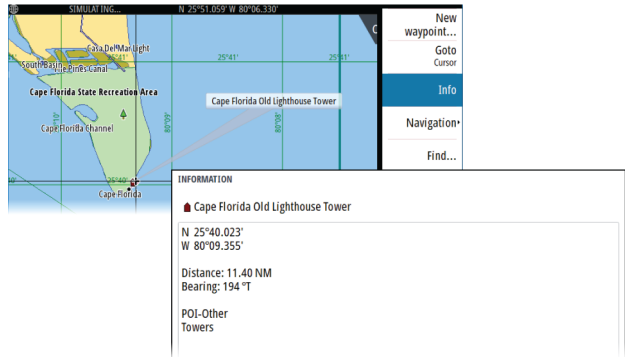
## Waypoints, Routes, and Tracks

You can position and manage waypoints, routes and tracks on the page. For more information, refer to "*Waypoints, routes, and tracks*" on page 40.

## 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 panel

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

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



### Activating the cursor

Press the enter key or arrow keys to activate the cursor at the vessel's position. Use the arrow keys to reposition the cursor.

### Removing the cursor

To remove the cursor and the cursor window from the panel:

- press the exit key

Removing the cursor centers the chart to the vessel position.

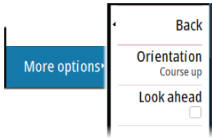
### Restoring the cursor

You can restore the cursor to its last position by:

- pressing the exit key

### Go to cursor

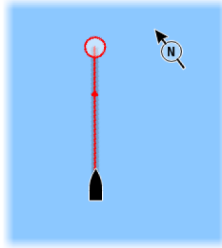
You can navigate to a selected position on the image by positioning the cursor on the panel, and then using the go to cursor menu option.



## Chart orientation

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

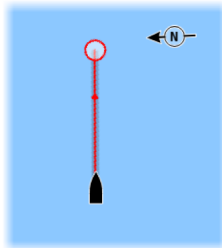
### Course up



The chart direction is depending on if navigating or not:

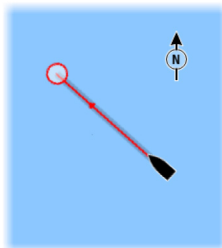
- when navigating: the desired course line is oriented up
- if not navigating: the direction the vessel is actually traveling (COG) is oriented up

### Heading up



Displays the chart with the vessel's heading directed upward. The COG from the GPS is used to provide orientation information.

### North up



Displays the chart with north upward.

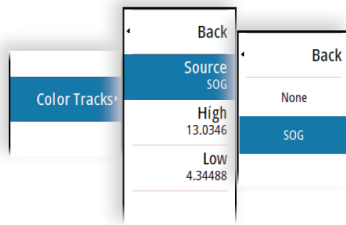
## Look ahead

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

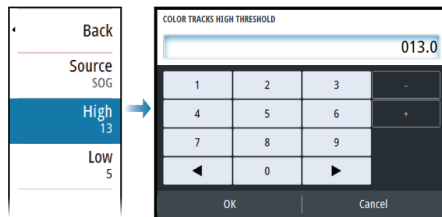
## Color tracks based on data

A track can be colored based on what source data and the high/low limits you set:

- You can specify the source (data type) to be colored. To turn off coloring, select source **None**.



- Select the high and low options to set high and low values.



The colors can be shades of green, yellow, and red. Green is for the high limit you set. Yellow is the value that is the average of the high and low. Red is for the low limit. If the value is between the high and the middle values, it appears as a greenish-yellow color. If the value is between the middle and the low, it appears as an orange color.

- **Note:** By default tracks are colored according to the color setting in the Edit Track dialog. Coloring tracks based on source data overrides the coloring specified in the Edit Track dialog.

## C-MAP charts

All possible menu options for 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 a C-MAP chart.

→ **Note:** A menu option is greyed out if the feature is not available on the chart displayed.

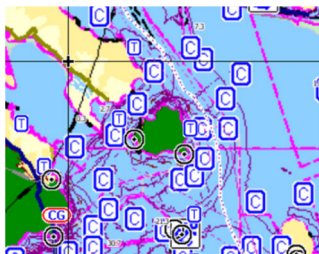
### C-MAP tides and currents

The system can display 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.

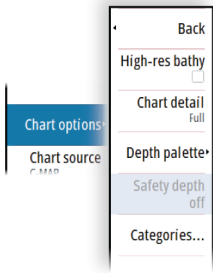


*Static Current and Tide icons*



*Dynamic Current icons*

## C-MAP specific chart options



### **Chart detail**

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

### **Depth palette**

Controls the Depth palette used on the map.

### **Depth filter**

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

### **Safety depth**

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

### **Chart categories**

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

The categories listed in the dialog are dependent on the charts used.

## **Navionics charts**

Some Navionics features require the most current data from Navionics. For those features, a message is displayed stating that the feature is unavailable if you do not have the appropriate Navionics charts or chart card inserted.

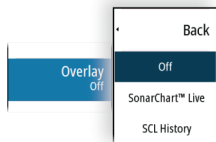
You can also get a message if you try to use a restricted feature when the Navionics chart card is not activated. To activate the card, contact Navionics.

## Chart overlay

You can add overlays on the chart panel.

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

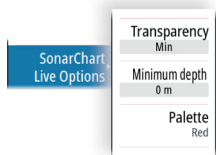
Information about the overlay menu options are described in more detail below or in their separate sections in this manual.



## SonarChart Live

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

When you select SonarChart Live overlay the menu expands to display SonarChart Live options.



### Transparency

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

### Minimum depth

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

### Palettes

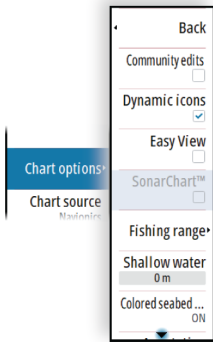
Used for selecting the image's color palette.

## SCL History

Select to display previously recorded data on the chart overlay.



## Navionics specific chart options



### Community edits

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

### SonarChart

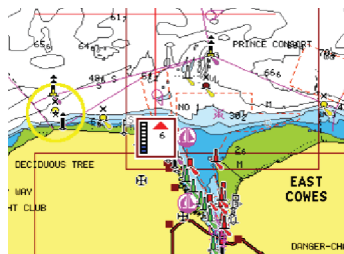
The system supports the Navionics SonarChart feature.

SonarChart displays a bathymetry map showing high resolution contour detail and standard navigational data.

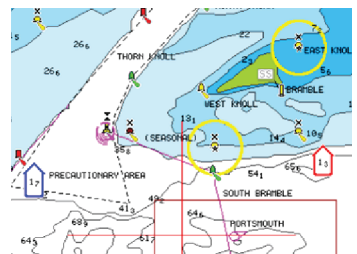
### Navionics Dynamic tides and current icons

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*

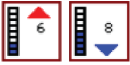
The following icons and symbology are used:

### 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**

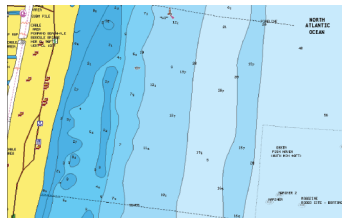
Magnifying feature that increases the size of chart items and text.

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

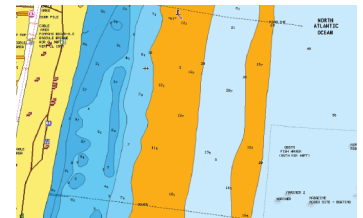
### **Fishing range**

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

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



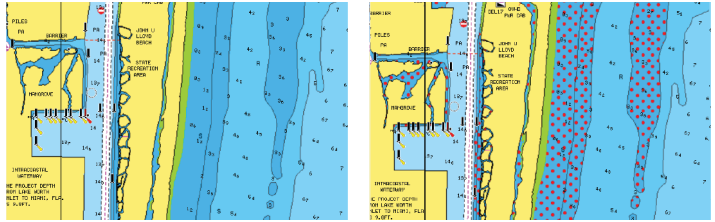
*No Depth highlight range*



*Depth highlight range: 6 m - 12 m*

### **Shallow water highlight**

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



*No shallow water highlighted*

*Shallow water highlight: 0 m - 3 m*

### **Presentation type**

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

### **Safety depth**

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

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

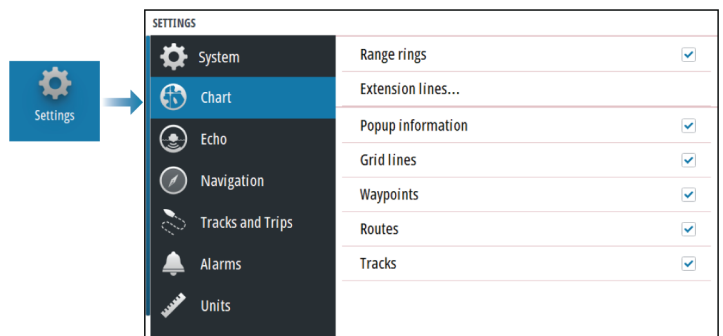
→ **Note:** The built in Navionics database features data down to 20 m, after which it is all white.

### **Chart details**

Provides you with different levels of geographical layer information.

## **Chart settings**

The options in the chart settings dialog depends on which chart source is selected in the system.



## Range rings

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

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

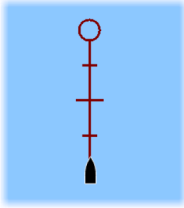
## Extension lines

### Course extension

Select to show or hide the course over ground (COG) extension line of your vessel. The COG is based on information from the GPS.

### Extension length

The length of the extension line is either set as a fixed distance or to indicate the distance the vessel moves in the selected time period.



## SonarChart Live tide correction

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

## Pop-up information

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

## Grid lines

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

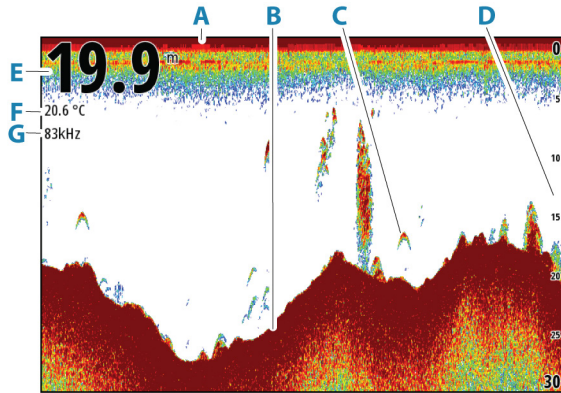
## Waypoints, Routes, and Tracks

Turns on/off displaying of these items on chart panels.

# 4

## Echosounder

### The image



- A** Surface
- B** Bottom
- C** Fish arches
- D** Range scale
- E** Depth
- F** Temperature
- G** Frequency

### Zooming the image

You can zoom the image by:

- turning the rotary knob

#### About zooming

The zoom level is shown on the image.

If the cursor is active, the system zooms in where the cursor is positioned.

kHz / 4x

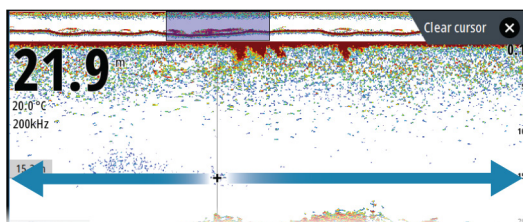
## Viewing history

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

You can view history by panning the image.

Use the arrow keys to pan the image.

To resume normal scrolling, press the exit key.



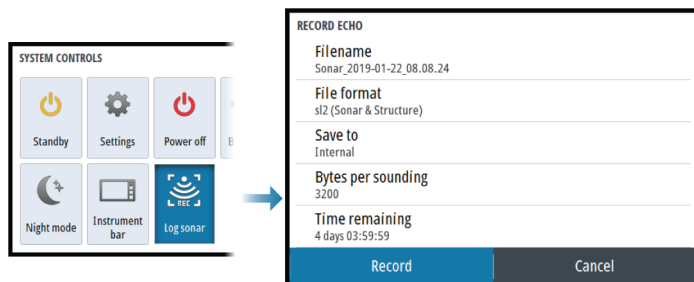
## Recording log data

### Start recording log data

You can start recording log data and save the file internally in the unit, or save it onto a storage device connected to the unit.

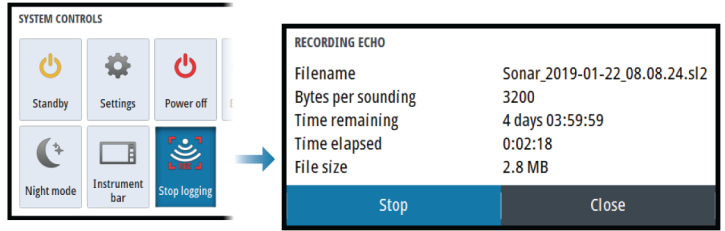
When the data is being recorded, there is a flashing red symbol in the top left corner and a message appears periodically at the bottom of the screen.

Specify recording settings in the recording dialog.



### Stop recording log data

Use the stop logging option to stop recording log data.

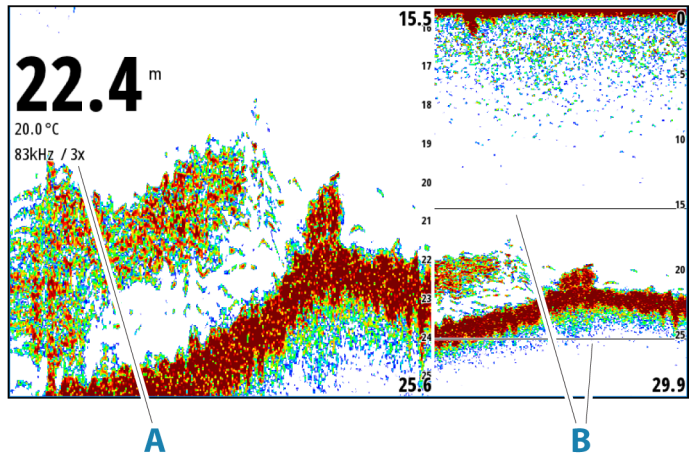
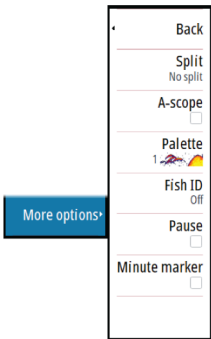


## Setting up the echosounder image

### More options

#### Split screens

#### Zoom



- A** Zoom level
- B** 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. To change the zoom level, use:

- the rotary knob

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.

To move the zoom bars up/down on the image and view different depths of the water column:

- use the up/down arrow keys

### **Bottom lock**

The bottom lock mode is useful when you want to view targets 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.

### **Amplitude scope**

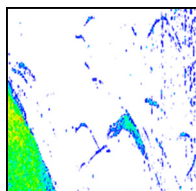
The amplitude scope is a display of an echo sounding on the panel. The strength of the actual echoes are indicated by both width and color intensity.

### **Palettes**

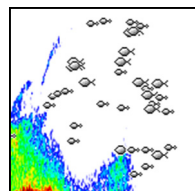
Used for selecting the image's color palette.

### **Fish ID**

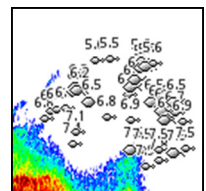
You can select how you want the fish targets to appear on the screen. You can also select if you want to be notified by a beep when a fish ID appears on the panel.



*Traditional fish arches*



*Fish symbols*



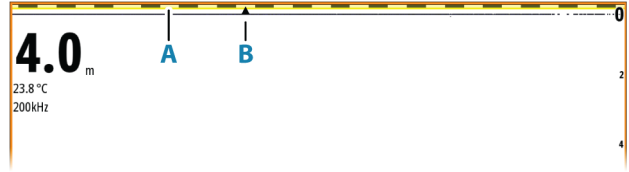
*Fish symbols and depth indication*

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



### Minute marker

Determines if the minute marker line (**A**) is shown on the image. Each black and each white stripe in the line represents 1 minute. If there is a discontinuity in the signal, this is indicated with a triangle (**B**).



### Pause

Pauses the image, allowing you to examine the image in detail. The pause function stops the echosounder from pinging. The system is not collecting data when paused in this manner.

## Customizing the image settings

The unit comes with different predefined customization modes, used to control the image settings.

### Changing mode

Select the mode button to toggle between modes.



### Auto mode

By default the unit is set to Auto mode. In this mode most settings are automated.

### Custom mode

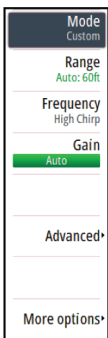
In custom mode the menu expands to show settings that can be changed by the user.

It is recommended that only experienced sonar users use the customize settings to further customize the image.

### Range

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

→ **Note:** Setting a deep range in shallow water may cause the system to lose track of the depth.



### Preset range levels

Select a preset range level manually from the menu.

### Auto range

In auto range, the system automatically displays the whole range from the water surface to the bottom.

Auto is the preferred setting for fish finding.

Select the range option and then the auto option in the menu.

### Custom range

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

Set a custom range by selecting the range menu option and then the custom option.

→ **Note:** Setting a custom range puts the system in manual range mode.

### Frequencies

200 kHz, 83 kHz, Medium CHIRP and High CHIRP frequencies are supported. 200 kHz and High CHIRP provide the sharpest target differentiation. While 83 kHz and Medium CHIRP can be used in deeper waters, or for expanded range capabilities.

### Gain

The gain controls the sensitivity. The more you increase the gain, the more details are shown on the image. However, a higher gain setting may introduce more background clutter. If the gain is set too low, weak echoes might not be displayed.

A manual and an automatic gain mode are available. By default, the gain is set to Auto.

Adjust the gain manually by:

- selecting the slide bar in the gain menu option and then use the rotary knob or arrow keys

### Fine tuning automatic settings

Some settings include an automatic mode.

To achieve the best possible result in auto mode, the value can be manually adjusted to fine tune the settings.

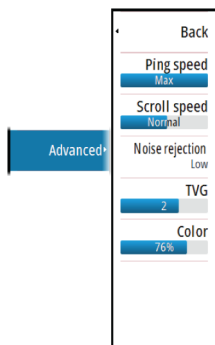
The indication will then change from **AUTO** to **A ± NN**, indicating that the automatic setting is manually adjusted.

To fine tune the automatic setting, turn on the automatic option and:

- select the slide bar and use the rotary knob or arrow keys

### Advanced options

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



#### 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.

#### Scroll speed

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

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

#### Noise rejection

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

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

#### TVG

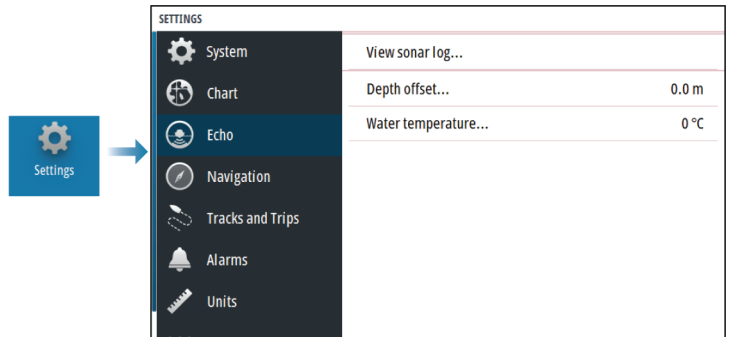
Wave action and boat wakes can cause onscreen clutter near the surface. The TVG (Time Variable Gain) option reduces surface clutter by decreasing the sensitivity of the receiver near the surface.

#### Color

Strong and weak echo signals have different colors to indicate the different signal strengths. The colors used depend on which palette you select.

The more you increase the color setting, the more echoes are displayed in the color at the strong return end of the scale.

## Echosounder settings



### View Echosounder log

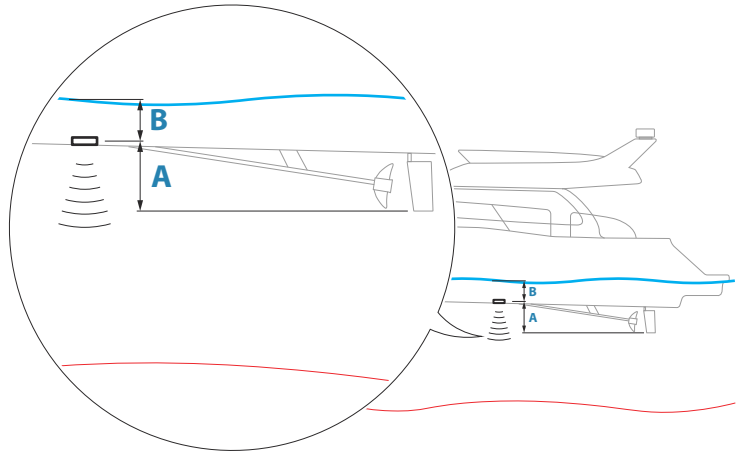
Used to view sonar recordings.

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

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

### Depth offset

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



- To show the depth from the lowest point of the vessel to the bottom, set the offset equal to the vertical distance between the transducer and the lowest part of the vessel, **A** (negative value).
- To show the depth from the water surface to the bottom, set the offset equal to the vertical distance between the transducer and the water surface, **B** (positive value)
- For depth below transducer, set the offset to 0.

### **Water temperature calibration**

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

Calibration range:  $-9.9^{\circ}$  -  $+9.9^{\circ}$ . Default is  $0^{\circ}$ .

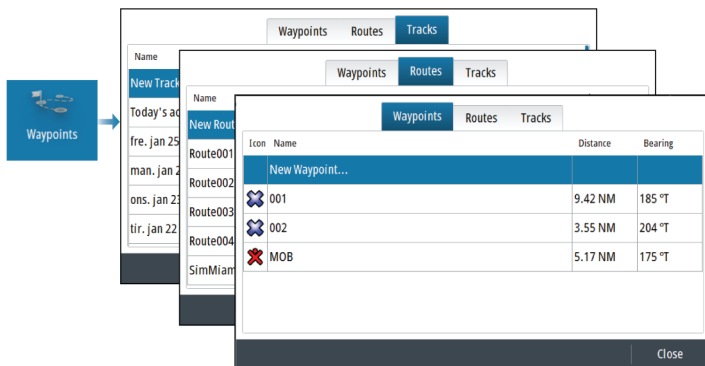
- **Note:** Water temperature calibration only appears if the transducer is temperature capable.

# 5

## Waypoints, routes, and tracks

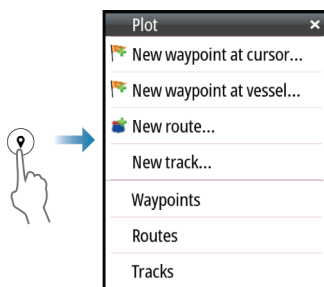
### Waypoints, Routes, and Tracks dialogs

These dialogs give access to advanced edit functions and settings for these items.



### The Plot dialog

Press and hold the waypoint key to open the Plot dialog. Select an option to add new or manage existing waypoints, routes or tracks.



### Waypoints

#### About waypoints

A waypoint is a user generated mark positioned on the:

- chart
- echosounder image

- navigation panel

Each waypoint has an exact position with latitude and longitude coordinates.

A waypoint positioned on the echosounder 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**

A waypoint is saved at the cursor position if active or at the vessel's position if the cursor is not active on the panel. To save a waypoint:

- Use the new waypoint option in the menu
- Press the rotary knob
- Press the Waypoint key
  - Short press the waypoint key to quickly save a waypoint.
  - Long press the waypoint key to open the Plot dialog.

## **Moving a waypoint**

A waypoint can be moved from the position if active and if the move option from the waypoint menu is selected.

To move a waypoint to a new position:

- Use the arrow keys

To place the waypoint on the new position:

- Select the finish moving option from the menu
- Press the rotary knob
- Press the enter key

## **Edit a waypoint**

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

The dialog is activated by selecting the waypoint, and then:

- Selecting the waypoint's pop-up
- Pressing the enter key
- Pressing the rotary knob
- Selecting edit from the waypoint menu.

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.

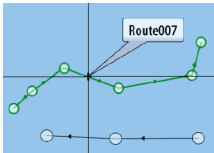
You can delete MOB waypoints the same way.

## Routes

### About 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.

### Creating routes using existing waypoints

A new route can be created by combining existing waypoints from the Routes dialog. The dialog is activated by using the Waypoints tool on the Home page and then selecting the Routes tab.

### Creating a route based on a trip

You can create a route based on a historical trip. Select a trip in the TripIntel history dialog and then the create route option.

### Converting tracks to routes

You can convert a track to a route from the edit track dialog. The dialog is activated by activating the track, and then:

- Selecting the track's pop-up
- Pressing the rotary knob



- Selecting the track in the menu

The edit track dialog can also be accessed by selecting the waypoints tool on the home page.

## **Automatic routing**

The feature automatically suggests routepoints between the first and last routepoint of a route, or between selected routepoints in a complex route.

The new routepoint position suggestions are based on information in the map and on your boat's size. Use the boat settings dialog to enter boat information, refer to "*System settings*" on page 61.

## ***C-MAP Easy Routing***

The system includes support for C-MAP Easy Routing if compatible cartography with the feature is available.

When the automatic routing is completed the route appears in preview mode, and the legs are color coded:

- green - safe areas
- yellow – dangerous areas
- red – unsafe areas

## ***Using automatic routing***

- 1.** Position at least two routepoints on a new route, or open an existing route for editing.
- 2.** Select the automatic routing menu option, followed by:
  - Entire Route - if you want the system to add new routepoints between the first and the last routepoint of the open route.
  - Selection - if you want to manually select the routepoints that define the limits for the autorouting, then select the relevant routepoints. Selected routepoints are colored red. Only two routepoints can be selected, and the system discards any routepoints between your selected start and end points.
- 3.** Move any routepoints if required when the route is in preview mode.
- 4.** Repeat step 2 (selection) and step 3 if you want the system to automatically position routepoints for other parts of the route.
- 5.** Select the save option to complete the automatic routing and save the route.

## Examples

- **Entire route** - option used for automatic routing the complete route.



*First and last route point*



*Result after automatic routing*

- **Selection** - option used for automatic routing part of a route.



*Two route points selected*



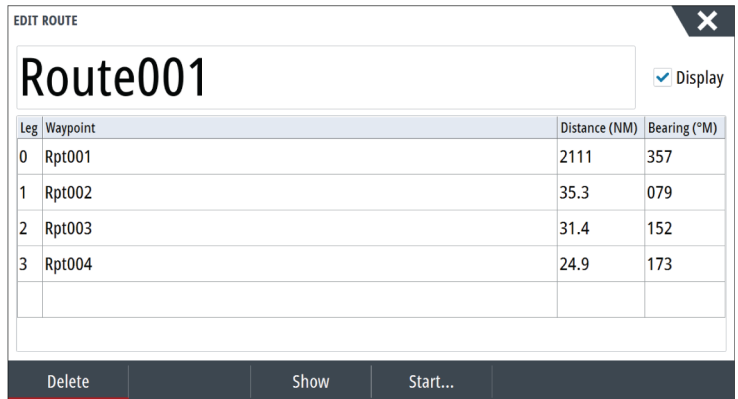
*Result after automatic routing*

## The edit route dialog

You can add and remove route points, and change route properties using the Edit Route dialog. This dialog is activated by selecting an active route's pop-up or from the menu by selecting the route then the details option.

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

Select Display to show the route on the chart.

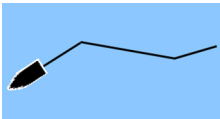


## Delete a route

You can delete a route by selecting the Delete menu option when the route is activated.

You can also delete routes from the edit routes dialog. Refer to *"The edit route dialog"* on page 44.

## Tracks



### About tracks

Tracks are a graphical presentation of the historical path of the vessel. They allow for retracing where your boat has travelled. Tracks 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 tracks 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 Tracks dialog.

### Creating a new track

You can start a new track from the Tracks dialog. The dialog is activated:

- by using the Waypoints tool on the Home page and selecting the Tracks tab
- by selecting the New track or Tracks option on the Plot dialog.

## Track settings

Tracks 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 track points based on time settings, distance, or by letting the system position a waypoint automatically when a course change is registered.

→ **Note:** The Tracks option must also be turned on in the Tracks dialog to be visible on panels.

# 6

## Navigating

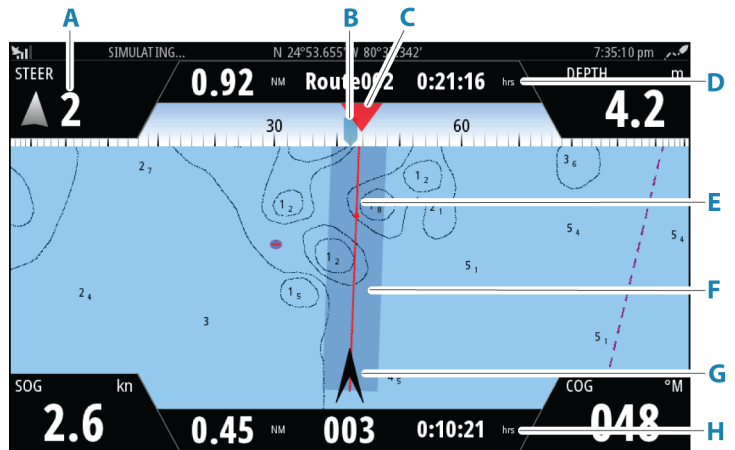
### About navigation

The navigation function provides current position and navigation information on a chart or position page.

### Navigation panels

#### The Nav panel

The Nav panel is activated from the Home page, either as a full page panel or as part of a split page.



- A Data fields**
- B Vessel heading**
- C Bearing to next routepoint**
- D Route information**

Indicates the distance of the route, the route name, and the estimated time to reach the end of the route.

## E 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 lat/lon position), the bearing line shows the intended course from the point at which navigation was started towards the waypoint.

## F XTE limit

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. Refer to "*XTE limit*" on page 51.

## G Vessel symbol

Indicates boat position and heading.

## H Routepoint information

Indicates the distance to the routepoint, the routepoint name, and the estimated time to reach the routepoint.

## Position panels

You can switch between displaying the Navigation panel or the Position panel. The Position panel is activated from the menu.

By default, there is one position panel available showing GPS position.

If Loran is enabled, there are two position panels. This is indicated with arrow symbols on left and right side of the panel.

You toggle between the panels by selecting the left or right arrow symbols, or by using the arrow keys.



*GPS position info*



*Loran position info*

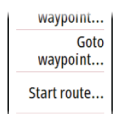
## Edit data fields

To change the data fields displayed on the Navigation panels:

1. Activate the menu
2. Select the edit option from the menu
3. Activate the field you want to edit
4. Select the information type
5. Save your changes.

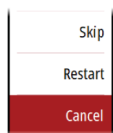
## Use menu options:

You can use menu options to:



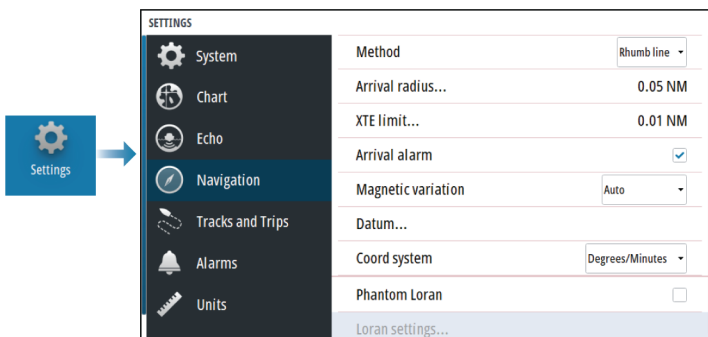
- navigate to a waypoint
- navigate a route

While navigating, the menu expands to provide options to:



- skip waypoints when navigating a route
- restart navigating to a waypoint or a route
- cancel navigating to a waypoint or a route

## Navigation settings



## Navigation method

Different methods are available for calculating the distance and bearing between any two geographical points.

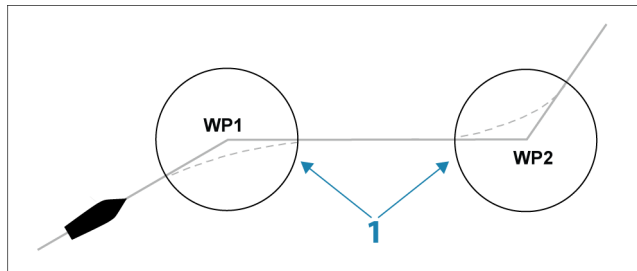
The Great circle route is the shortest path between two points. However, if you are to travel along such a route, it would be difficult to steer manually as the heading would constantly be changing (except in the case of due north, south, or along the equator).

Rhumb lines are tracks of constant bearing. It is possible to travel between two locations using Rhumb line computation, but the distance would usually be greater than if Great circle is used.

## Arrival radius

Sets an invisible circle around the destination waypoint. The vessel is considered arrived at the waypoint when it is within this radius.

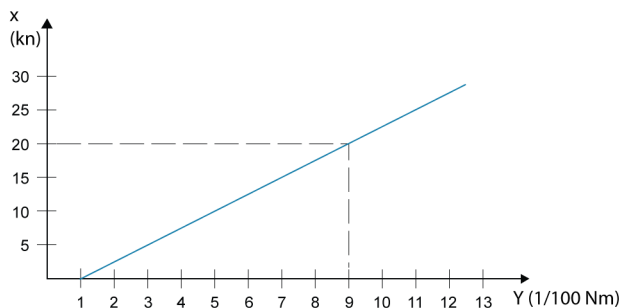
When you are navigating a route, the arrival radius defines the point at which a turn is initiated.



The arrival circle (**1**) should be adjusted according to boat speed. The higher the speed, the wider the circle.

The figure below may be used to select the appropriate waypoint circle when creating the route.





→ **Note:** The distance between any waypoints in a route must not be smaller than the radius of the waypoint arrival circle.

### **XTE limit**

Defines how far the vessel can deviate from the selected route. If the vessel goes beyond this limit, an alarm is activated.

### **Arrival alarm**

When the arrival alarm is enabled, an alarm is activated when the vessel reaches the waypoint or when it is within the specified arrival radius.

### **Magnetic variation**

Defines how magnetic variation is handled by the system.

- Auto: Receives variation data from a network source
- Manual: Used for manually entering a value for the magnetic variation

### **Datum**

This system uses the WGS datum format, which is a standard for use in cartography and satellite navigation (including GPS).

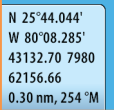
You can change the datum format to match other systems.

### **Coordinate system**

Used to set the geographic coordinate system used on your system.

## Phantom Loran

Enables use of Phantom Loran positioning system.



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

### 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.

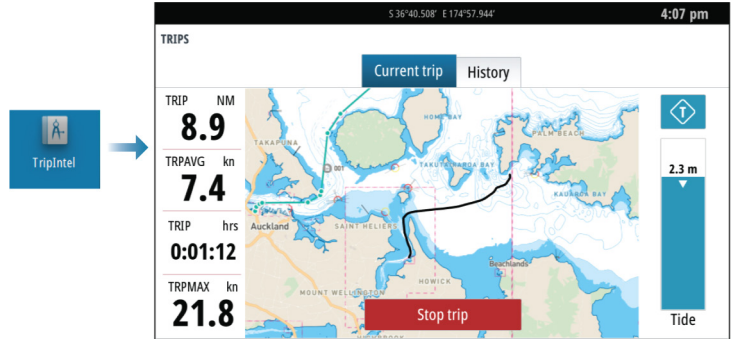
For more information refer to your Loran system documentation.

# 7

## TripIntel

### About TripIntel

TripIntel lets you store and recall information on trips. You can use the information to make informed decisions prior to commencing a trip, or when a trip is underway.



### Automatic trip recording

There is an automatic trip detection feature. When you start navigating you are prompted to start recording the trip if no trip is currently underway and your speed has been more than 2 knots for 20 seconds. You will be prompted to continue a trip or start a new trip if the trip was not explicitly saved before a power off.

You can manually start the recording later from the TripIntel page.

You can turn off the automatic trip detection feature from the Tracks and Trip settings dialog.

### Start and stop trip recordings

If you have selected to not start recording a trip from the automatic trip detection prompt, you can manually start a recording from the TripIntel page.

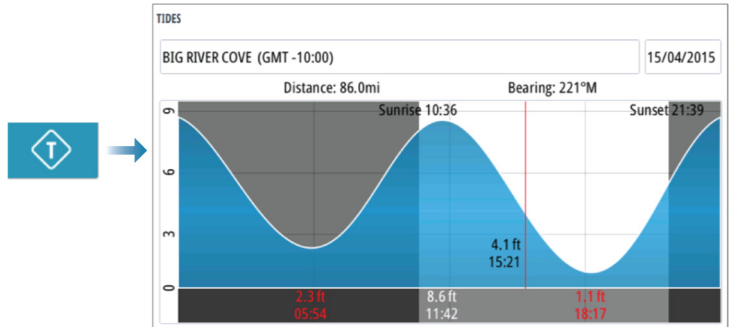
The **Start** and **Stop** trip options let you specify a trip recording. You can use them to segment a single passage into multiple trips providing a finer level of control of the information that is logged for a journey.

## Tide gauge

The Tide gauge on the TripIntel page shows the tide height at the selected tide station.

## Tide graphs and stations

Tide stations on chart cards provide tide information displayed in TripIntel.



## View trip recordings

Recorded trips are listed in the history tab on the TripIntel page. To view detailed trip information select a trip in the list.

The figure is a screenshot of the TripIntel 'History' tab. It shows a list of recorded trips with columns for date, duration, and distance. The 'Current trip' tab is selected.

TRIP HISTORY		
fre. jan 11 2019, 1:20 p.m.	37m 45s	11.37 NM
Tibbs Beach-Coxs Bay	45m 10s	14.10 NM
View Bay-Shelly Bay	1h 14m	20.00 NM

## Change trip recording names

Trips are given generic names when they are created. You can change the trip name to a more meaningful one by selecting it on the History list and then select the name in the Trip History details dialog.

## **Adjust total distance**

Select the Adjust total distance button to change the Total distance. Use this option if you have not recorded a trip or part of a trip that you have taken and want to include the distance in the Total distance statistic.

# 8

## Simulator

---

### Retail mode

In this mode a retail demonstration for the selected region is shown. If you operate the unit when retail mode is running, the demonstration pauses.

After a time-out period, retail mode resumes.

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

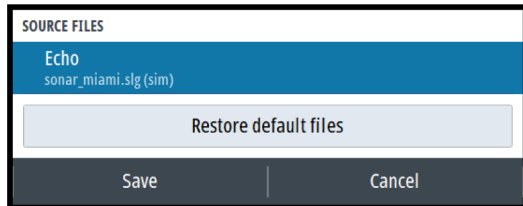
### Simulator mode

The simulate option lets you operate the unit without being connected to sensors or other devices.

The status bar indicates if the simulator is toggled on.

### Simulator source files

You can select which data files that are used by the simulator. It can be either pre-recorded data files included in your device, your own recorded log files, or log files on a mass storage device connected to the unit.



### Advanced simulator settings

The advanced simulator settings allows for manually controlling the simulator.

ADVANCED SIMULATOR SETTINGS

GPS source

Simulated course (default)

Speed (kn)

2

Course (°T)

0

Route

SimMiami

Set start position

Save

Cancel

# 9

## Alarms

---

### About the alarm system

The system continuously checks for dangerous situations and system faults while the system is running.

### 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 alarm
Orange	Important alarm
Yellow	Standard alarm
Blue	Warning
Green	Lite warning

### Alarm indication

An alarm situation is indicated with:

- an alarm pop up message
- an alarm icon in the status bar, and with the status bar pulsing with the color of the alarm

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

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

If more than one alarm is active at the same time, the alarm pop-up can display 3 alarms. The alarms are listed in the order they occur with the last activated alarm at the top. The remaining alarms are available in the alarms dialog.



### Acknowledging a message

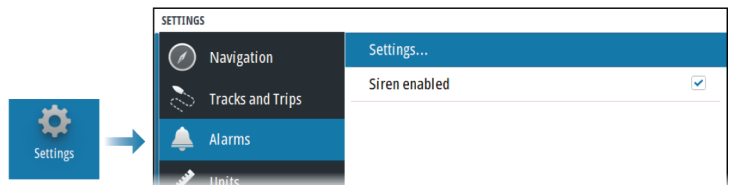
The alarm dialog options for acknowledging a message vary depending on the alarm:



- Close  
Sets the alarm state to acknowledged. 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 alarm settings dialog.

There is no time-out on a message or the siren. They remain active until they are acknowledged or until the reason for the message is rectified.

## The alarms dialog



### Siren enabled

Enables/disables the siren.

## Alarms

ALARMS		
	Active	History
No GPS fix	<input checked="" type="checkbox"/>	
Shallow water	<input checked="" type="checkbox"/>	4.9 (m)
Deep water	<input checked="" type="checkbox"/>	35.5 (m)
Water temp rate	<input checked="" type="checkbox"/>	5 (°C/min)
Anchor	<input checked="" type="checkbox"/>	50 (m)
Low boat speed	<input checked="" type="checkbox"/>	5 (kn)

### Settings

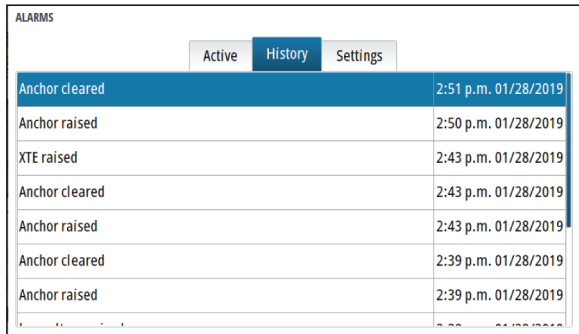
List of all available alarm options in the system, with current settings.

From this list you can activate, deactivate and change alarm limits.

## Active alarms

Lists all active alarms with details. Alarms remain active until the alarm is acknowledged or the reason for the alarm is removed.

## Alarms history



ALARMS		
Active	History	Settings
Anchor cleared		2:51 p.m. 01/28/2019
Anchor raised		2:50 p.m. 01/28/2019
XTE raised		2:43 p.m. 01/28/2019
Anchor cleared		2:43 p.m. 01/28/2019
Anchor raised		2:43 p.m. 01/28/2019
Anchor cleared		2:39 p.m. 01/28/2019
Anchor raised		2:39 p.m. 01/28/2019

The Alarm history dialog stores alarm messages until they are manually cleared.

To show alarm details or to clear all alarms:

- Press the menu key and select the desired action
- Press the rotary knob and select the desired action

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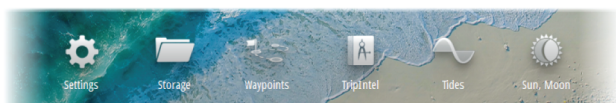
## Tools and settings

This chapter includes description for tools and for settings that are not specific to any application panel.

For application settings, refer to the relevant chapter for the application.

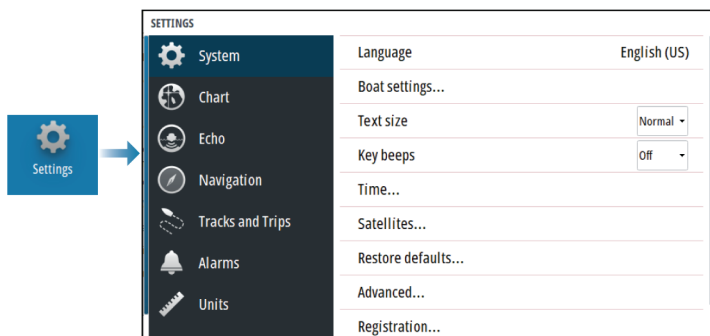
Tools and settings are available from the Home page.

### The toolbar



### Settings

#### System settings



#### Language

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

#### Boat settings

Used to specify the physical attributes of the boat.

#### 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.

### Time

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

### 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

Used for configuration of advanced settings and how your system displays various user interface information.

### Registration

Guidance for online registration of the device.

### About

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

The Support option accesses the built-in service assistant, refer to "*Service report*" on page 65.

### Storage

Access to the file management system. Use to browse and manage the contents of the unit's internal memory and storage devices connected to the unit.

## **Waypoints**

Lists waypoints, routes, and tracks. Refer to "*Waypoints, routes, and tracks*" on page 40.

## **TripIntel**

TripIntel lets you store and recall information on trips. Refer to "*TripIntel*" on page 53.

## **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.

## **Sun, Moon**

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

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## Maintenance

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### Preventive maintenance

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

### Cleaning the display unit

To clean the screen:

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

To clean the housing:

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

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

Do not:

- use a jet or high pressure wash

### Cleaning the media port door

Clean the media port door regularly to avoid salt crystallization on the surface, causing water to leak into the card slot.

### Checking the connectors

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

## Service report

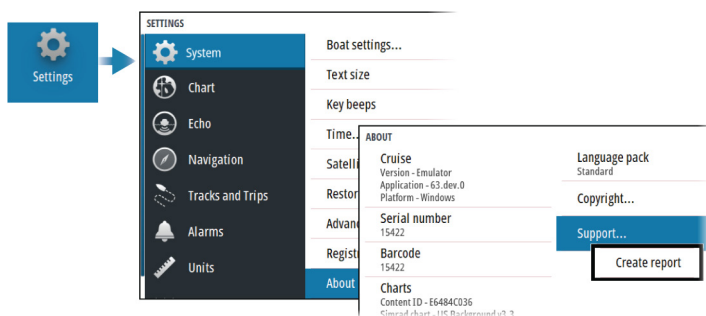
The system has a built-in service assistant that creates a report about the unit. The service report is used to assist in technical support enquiries.

The report includes the software version, serial number, and information from the settings file.

If you call technical support before creating the report, you can enter an incident number to assist with tracking. You can attach screenshots and log files to the report.

→ **Note:** There is a 20MB limit for the report attachments.

The report can be saved to a storage device and emailed to support.

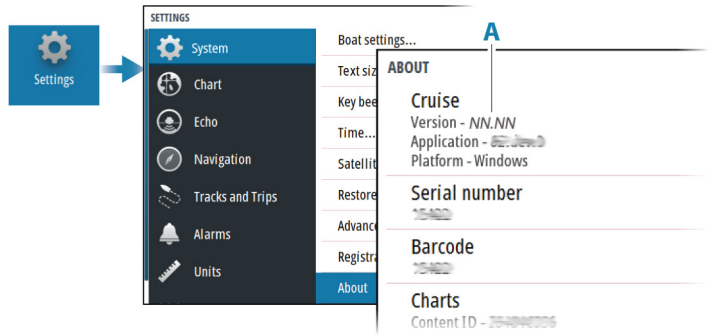


## Software updates

Before initiating an update to the unit, be sure to back up any potentially valuable user data. Refer to *"Backup and restore of system data"* on page 66.

### Installed software and sw updates

The about dialog shows the software version currently installed on this unit (A).



## Update software

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

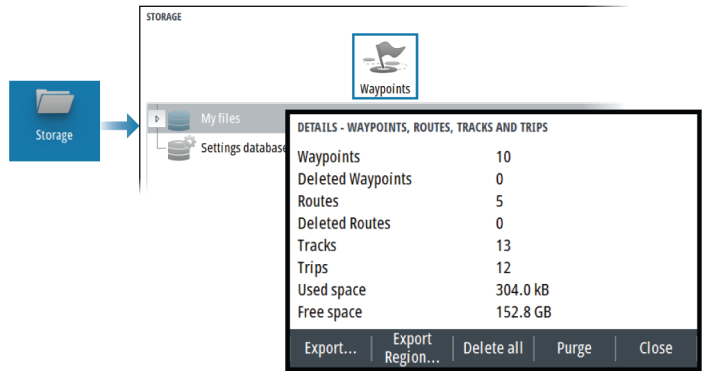
## Backup and restore of system data

The system includes a backup and restore function, making it possible to back-up and restore user settings.

- **Note:** It is strongly recommended to make a backup when the system is installed and configured.



# Waypoints



The waypoints option in the storage dialog allows for managing user data.

## **Export format**

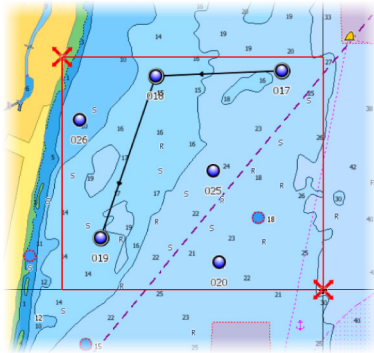
The following formats are available for export:

- **User Data File version 6**  
Used to export waypoints, routes and colored tracks/trails.
- **User Data File version 5**  
Used to 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**  
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
- **User data file version 2 (no depth)**  
Can be used when transferring user data from one system to a legacy product
- **GPX (GPS Exchange, no depth)**  
This is the format most used on the web that shares among most GPS systems. Use this format if you are taking data to a competitor's unit.

### **Export region**

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

1. Select the export region option
2. Use the arrow keys to move the cursor to one of the boundary corners and press the enter key. Use the arrow keys to move the boundary corner to define the desired region and press enter to set the corner. Continue to select, move and set boundary corners until the region area is defined.



3. Select the export option from the menu
4. Select the appropriate file format
5. Select the export option to export to the memory card

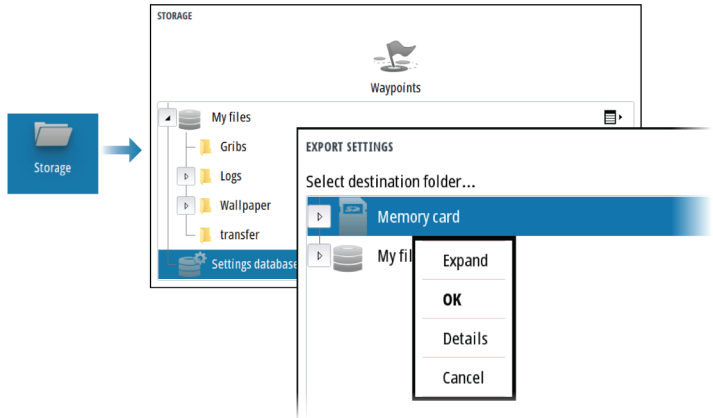
### **Purging user data**

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

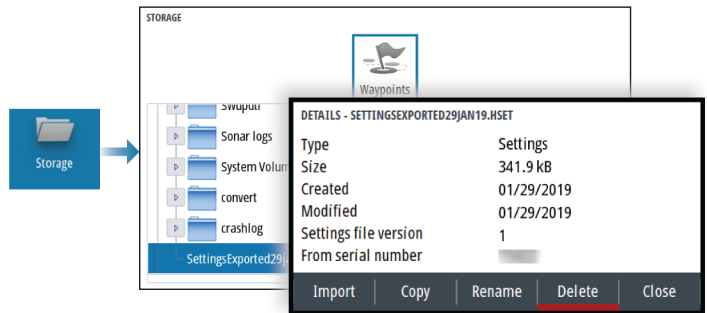
→ **Note:** When user data is deleted and/or purged from the memory, it cannot be recovered.

### **Exporting the settings database**

Use the settings database option in the storage dialog to export your user settings.



## Import system settings



- 1 Connect a storage device to the unit
- 2 Browse the memory and select the desired backup file to start the import

**⚠ Warning:** Importing system settings overwrites all existing system settings.