

FURUNO

***GPS/WAAS COLOR
CHART PLOTTER
with FISH FINDER***

Model **GP-1871F**
GP-1971F



FURUNO ELECTRIC CO., LTD.

OPERATOR'S MANUAL

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FOREWORD

A Word to the Owner

Congratulations on your choice of the FURUNO GP-1871F, GP-1971F GPS/WAAS Chart Plotter with Fish Finder. We are confident you will see why the FURUNO name has become synonymous with quality and reliability.

Since 1948, FURUNO Electric Company has enjoyed an enviable reputation for innovative and dependable marine electronics equipment. This dedication to excellence is furthered by our extensive global network of agents and dealers.

This equipment is designed and constructed to meet the rigorous demands of the marine environment. However, no machine can perform its intended function unless operated and maintained properly. Please carefully read and follow the recommended procedures for operation and maintenance.

We would appreciate hearing from you, the end user, about whether we are achieving our purposes.

Thank you for considering and purchasing FURUNO equipment.

About the eGuide

- The eGuide provides abbreviated operating procedures for the GP1871F/GP-1971F. Text appears at the center of the screen. The table of contents appears on the left panel. The back button (“<”) at the top left corner goes to the previously viewed screen.
- The names of menu items and on-screen indications appear in brackets. For example, the “Set-tings menu” is shown as “[Settings] menu”.
- The words “tap” and “select” are interchangeable.
- In some procedures, the step-by-step format is replaced with only the necessary actions, separated by an arrow.
For example, the procedure to access the [General] settings of the radar is written as “Tap [Home] => [Settings] => [Radar] => [General]”. This means, do the following four steps:
 1. Tap the [Home] button to show the [Home] screen.
 2. Tap [Settings] to open the [Settings] menu.
 3. Tap [Radar] to open the radar settings menu.
 4. Tap [General] to open the [General] radar settings menu.
- Colors and settings shown in this manual are based on factory default settings.

Program version numbers

- eGuide version number: OME-44980-**
- Software version number: 1950193-3.*.*R

“***” indicates minor version number.

1. SYSTEM INTRODUCTION

1.1 How to Turn the Power On/Off

Note: Make sure to close the microSD card slot cover for waterproofing.

The power button is located on the lower-left side of the outer edge of the screen. Press and hold the button to turn the power on. A short “beep” sound is released to indicate that the power is on, then the start-up procedure begins. The splash screen appears, followed by a message regarding chart usage. Tap the [OK] button to continue.

The last used screen is now displayed (for first time users, the Plotter screen is displayed) and the [Quick Guide on Startup] pop up appears. Tap [Yes] to view the quick guide, [Not now] to view the quick guide at a later time. To hide the quick guide at start-up, tap the toggle box at the bottom-left of the pop up to show [OFF].

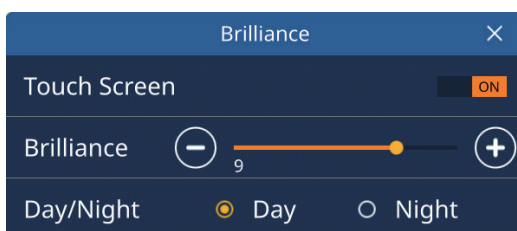
To turn the power off, press and hold the power button. A pop up window with a countdown timer appears and a three second countdown begins. Keep the power button pressed until the countdown ends.

Note: If one of the following error messages appears when you start the system, consult your local dealer to purchase updated charts. Your current charts are old and should be updated.

- "OBSOLETE CHART"
- "BASE SEGMENT FOUND WARNING"
- "MAX SEGMENT FOUND WARNING"

1.2 Brilliance/Color Adjustments

Press the power switch at the left-side of the display unit. The [Brilliance] pop up window appears.



To adjust the screen brilliance, do one of the following:

- Press the power key several times;
- Drag the slide-bar at [Brilliance], in the pop up window;
- Tap the [+] or [-] icon at [Brilliance], in the pop up window

To change the color palette in use, tap [Day] or [Night] as appropriate.

To close the pop up window, tap the cross at the top-right of the pop up window.

1.3 How to Lock the Screen

You can lock the on-screen icons/buttons to prevent accidental operation.

To lock the icons/buttons, press the power switch to show the [Brilliance] pop up window, then tap the toggle box at [Touch Screen] to show [OFF]. The touch screen is now locked and all screen-based operations are disabled. Further, the “locked” icon appears on the [Home] icon, as shown in the figure below.

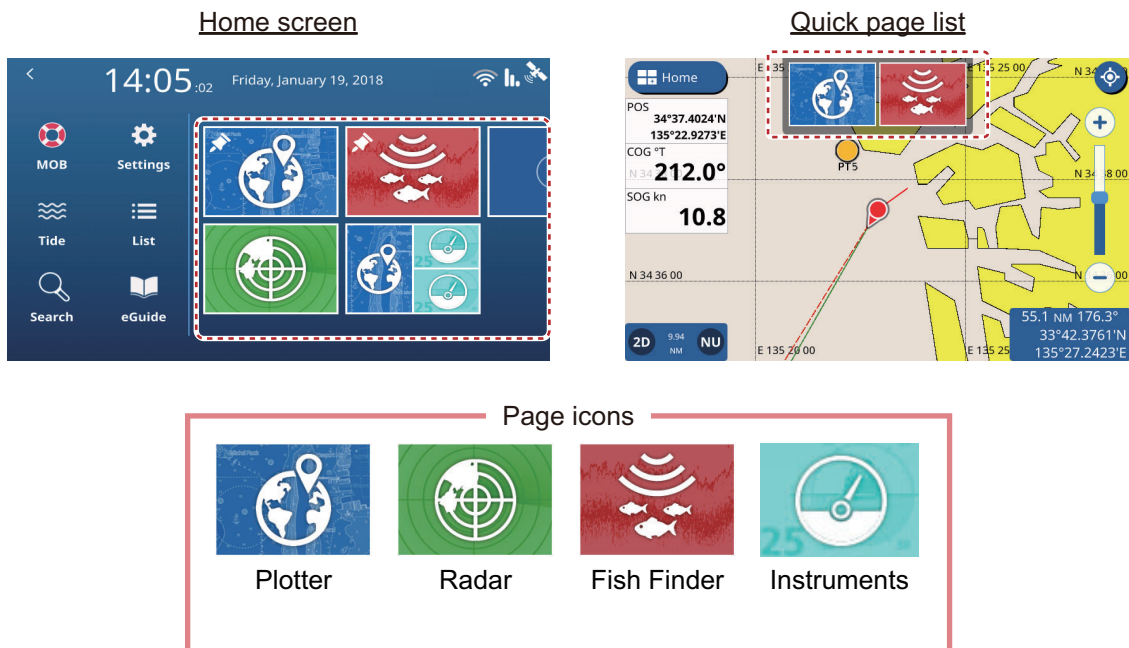


To unlock the screen, press the power switch again.

1.4 Home Screen and Displays

1.4.1 How to select a display

You can select a page to view from the [Home] screen or from the [Quick Page] list.



From the [Home] screen

Tap the [Home] icon to show the [Home] screen, then tap the icon for the page you want view. If the icon you want is not visible, drag the screen to the left.

From the [Quick Page] list

To show the [Quick Page] list, swipe the upper-edge of the screen downwards. The [Quick Page] list appears. Tap the page you want to view, or drag the list left or right to show listed pages which are not visible.

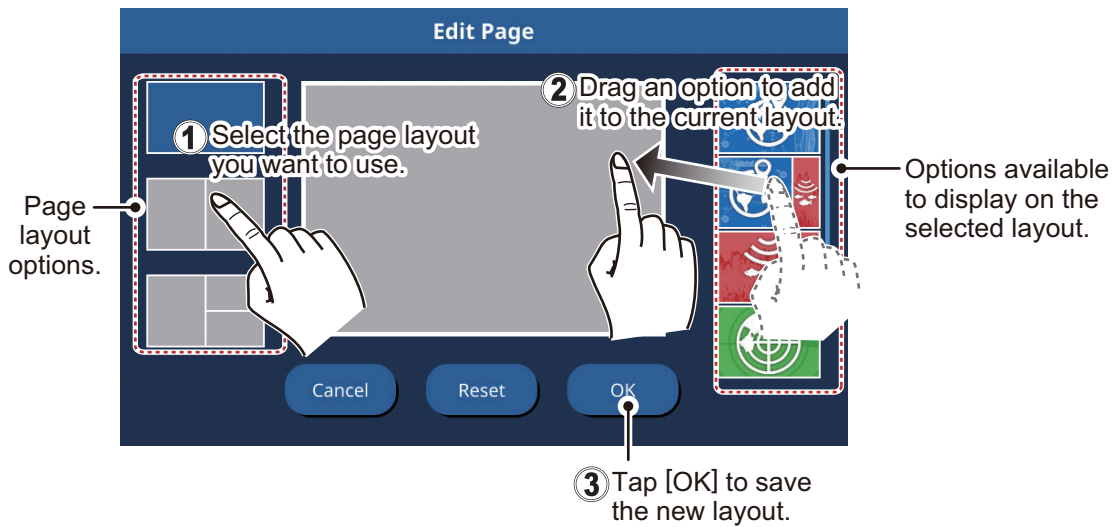
1.4.2 How to add pages

You can store up to 10 customized pages in the [Home] screen. You can divide each page in up to three separate segments. Depending on connected equipment and the number of segments selected, the following layouts are available:

- **Full screen (Single section, undivided):** Plotter, Fish Finder, Plotter + Fish Finder (right-side quarter of the screen), Radar;
- **Two sections:** Plotter, Fish Finder, Radar;
- **Three sections:** Left-side of the screen (Plotter, Fish Finder, Radar), Right-side top or bottom quarter screen (Plotter, Fish Finder, Radar, Instruments).

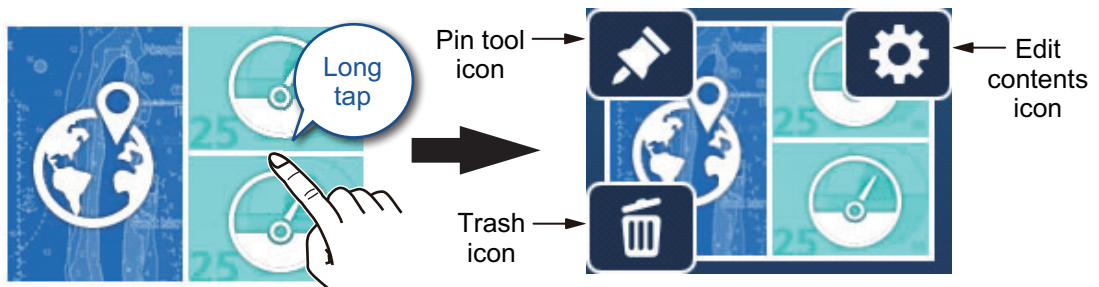
Follow the procedure below to customize a home screen.

1. Tap the [Home] icon to show the [Home] screen.
2. Tap the [+] icon to show the [Edit Page] screen.
If the [+] icon is not visible, drag the page list to show the icon.
Note: If there are 10 pages already registered, the [+] icon is grayed out and cannot be selected. In this case, see section 1.4.3 for how to remove pages.
3. Referring to the figure below, set up the page.



1.4.3 How to edit and delete pages

You can edit and delete pages from the [Home] screen. Long-tap the icon for the page you wish to edit or delete, then tap the appropriate icon (see figure below).



Pin tool icon: Tap to save the selected page in the [Quick Page] list.

Edit contents icon: Tap to customize the page contents. (See section 1.4.2.)

Trash icon: Tap to delete the selected page.

Note: The full-screen plotter page (single-section) is not editable.

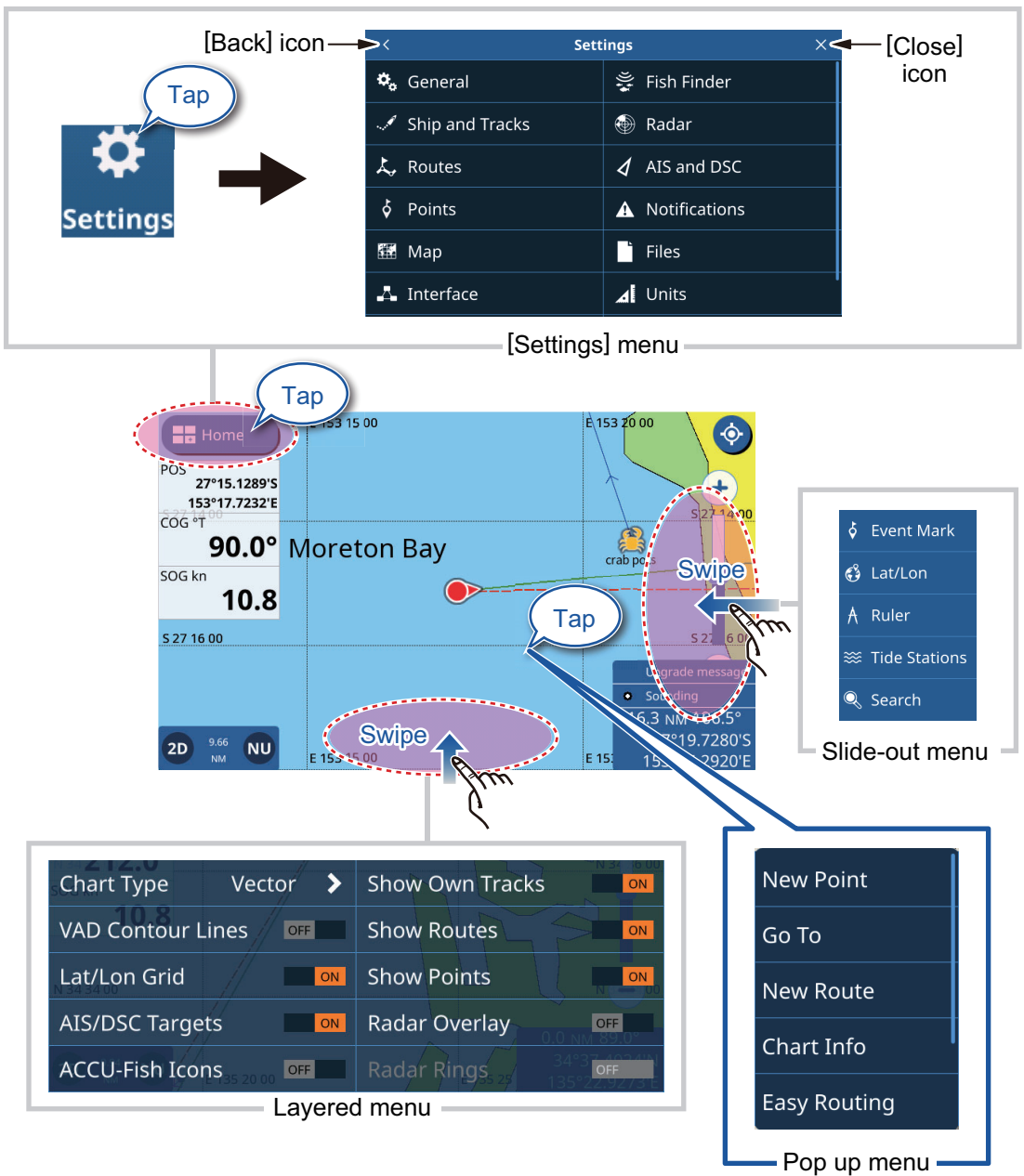
1. SYSTEM INTRODUCTION

1.4.4 How to switch screen operation in multi-section layouts

When the screen is divided into two or more sections, you can operate most screens individually by switching the active screen. To switch active screens, tap the screen you wish to operate. The active screen is indicated with an orange-colored highlight around the screen edges.

1.5 Menu Overview

This equipment has four types of menus: slide-out menu, layered menu, pop up menu and the [Settings] menu. The following example shows the plotter screen and related menus.



Note: A full menu tree is included at the back of the installation manual, for reference.

1.5.1 Slide-out menu

Swipe the right edge of the screen leftwards to show the slide-out menu. The slide-out menu contains operations and functions for the currently displayed screen are shown in the slide-out menu. Simply tap the required item in the slide-out menu to use that function or operation. Items which are not available for selection from the slide-out menu appear in gray color.

If there is no operation detected within seven seconds, the menu automatically closes.

1.5.2 Layered menu

Swipe the bottom edge of the screen upwards to show the layered menu. The layered menu contains display settings for icons and indications; for example, you can show, or hide, AIS/DSC targets from the layered menu.

Items which appear with the [ON]/[OFF] toggle can be adjusted with a tap.

Items which appear with a [>] have further options available; tap the [>] to show the sub-menu. Items which are not available appear in gray color.

Note: Layered menus are available for all pages. For pages with more than one section, tap the page you want the layered menu for, then show the layered menu.

To close the layered menu, tap anywhere on the display other than the layered menu, or swipe the layered menu downwards.

If there is no operation detected within seven seconds, the menu automatically closes.

1.5.3 Pop up menu

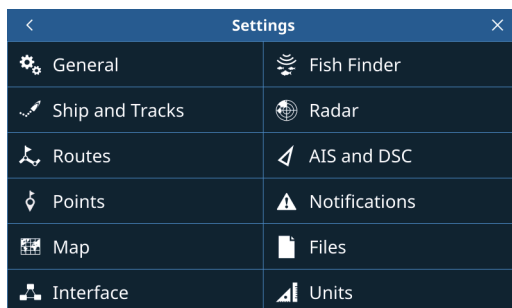
Pop up menus are context-based menus and contain settings or functions for a tapped item. You can tap the screen, or a displayed item (such as a point) to show the pop up menu. Tap the desired setting or function in the pop up menu. Pop up menu items which are not available appear in gray color.

If there is no operation detected within seven seconds, the menu automatically closes.

1.5.4 Settings menu

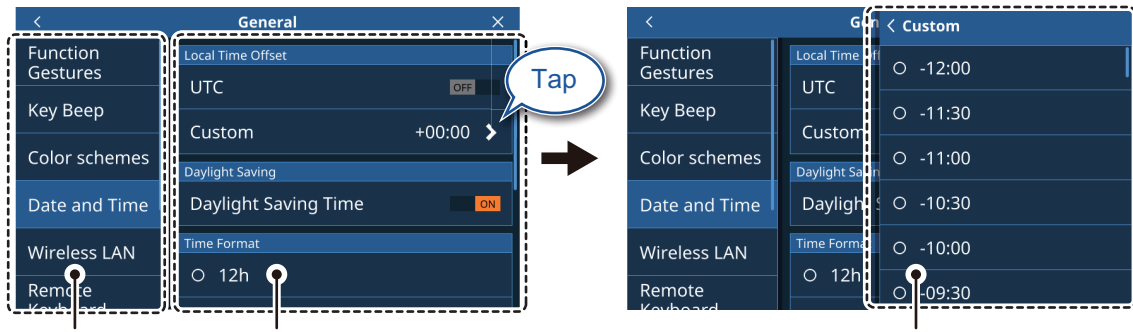
The Settings menu contains customizing options for this equipment. To access the [Settings] menu, follow the procedure below.

1. Tap the [Home] icon to show the [Home] screen.
2. Tap [Settings]. The [Settings] menu appears.



1. SYSTEM INTRODUCTION

3. Tap the menu you want to access. Drag the menu to show menu items which do not appear on-screen.



Top layer of the menu

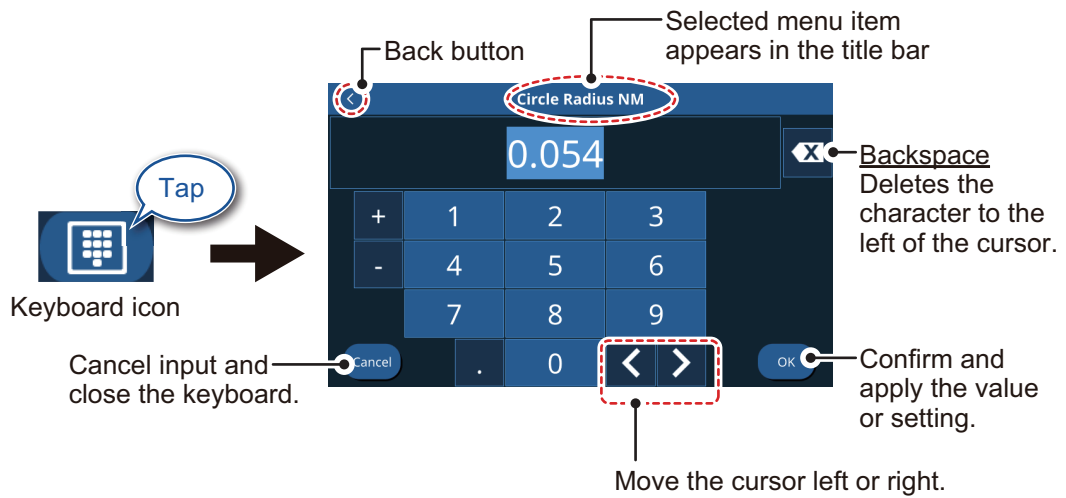
Menu items for the selected top layer menu appear here.

Menu options for sub-menu items appear in an overlaid window.

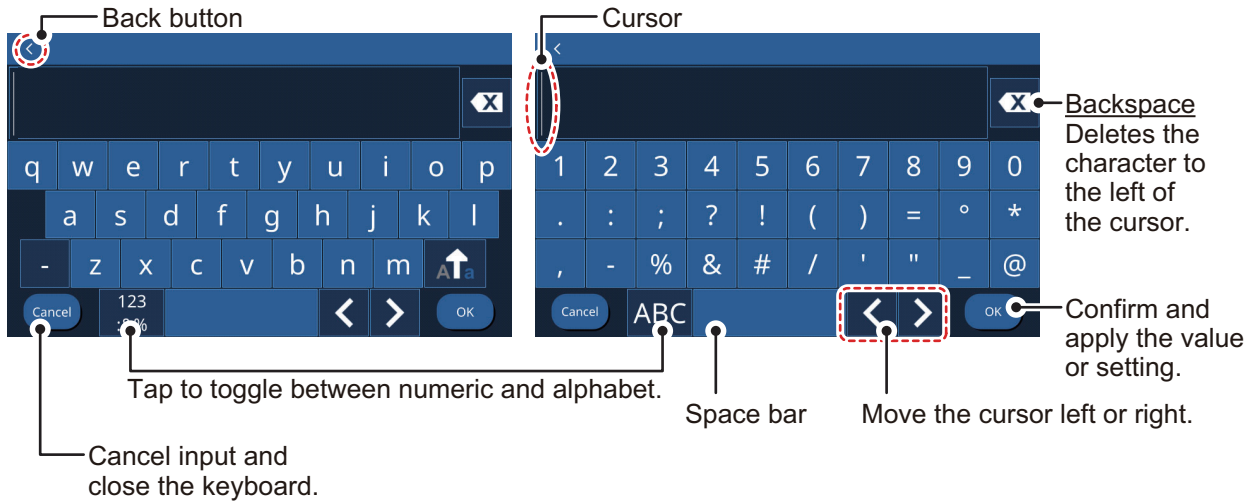
4. Tap the menu item you want to set; the available settings and options appear in the right-side of the screen. Tap the [>] icon to show sub-menu items.
5. Depending on the menu item selected, do one of the following:

- **[ON]/[OFF] toggle boxes:** Select [ON] to activate the function or feature, select [OFF] to deactivate the function or feature.
- **Settings and options:** Tap the desired setting or option. The current selection is indicated by a filled circle to the left of the setting or option.
- **Slide-bar or keyboard icon:** Drag the slider (solid circle) on the slider-bar to set a value. For the software keyboard (appears after you tap the keyboard icon), tap the keyboard to input a value or character, then tap [OK].

Numeric keyboard



Alphanumeric keyboard



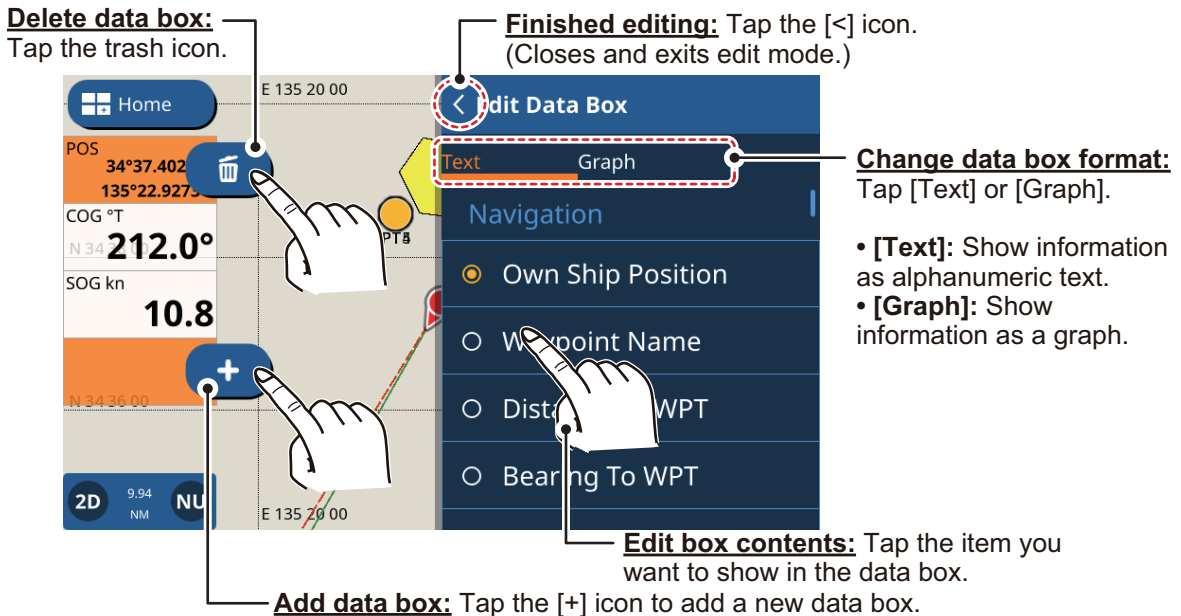
6. Tap the [x] icon at the top-right corner of the menu to close the menu.

1.6 Data Area (Data Boxes)

The data boxes show various navigational data on the left side of the screen. Up to five data boxes can be displayed and the layout, type of data and location of the box can be customized. The data available for display depends on your system and sensor configuration.

To show the data boxes, swipe the left side of the screen rightwards. To hide the data boxes, swipe the boxes leftwards.

To edit the contents of a data box, long-tap the data box. You can now edit, delete or add data boxes. See the figure below for an example.



1.7 Countdown Beeps

When you turn the system off, the count-down timer is accompanied by a beep for each second in the count-down. You can enable/disable the beep to suit your requirements.

1. Tap the [Home] icon to show the [Home] screen, then tap [Settings] => [General] => [Key Beep].
2. Tap the toggle box to the right of [Key Beep] to show [OFF]. Key beeps are now disabled. To enable key beeps, tap the toggle box to show [ON].
3. Tap the [x] icon at the top-right corner of the menu to close the menu.

1.8 Function Gestures Setup

The “Function Gesture” is a two-finger tap function that works as a shortcut for regularly used operations.

1. Tap the [Home] icon to show the [Home] screen, then tap [Settings] => [General] => [Function Gestures].
2. Tap the setting at [Two Finger Tap] or [Two Finger Double Tap], as appropriate.
3. Tap the function you want to set as a shortcut.
4. Tap the [x] icon at the top-right corner of the menu to close the menu.

1.9 Man Overboard (MOB)

The MOB mark denotes man overboard position. Enter the mark when someone falls overboard, to automatically create a route to the man overboard position. Only one mark can be displayed. The MOB mark appears on both the Plotter and Radar pages.

1.9.1 How to mark MOB position

From the [Home] screen, tap the MOB icon at the top-left of the screen. The plotter display appears if you are using a different screen. The MOB mark is put at the latitude and longitude position of your boat at the moment the key is pressed and a new route is started with the MOB set as the destination. The range and bearing to the MOB appears at the bottom-right corner of the screen with a red background.



MOB indication on the screen

1.9.2 How to erase an MOB mark

Tap the range/bearing indication at the bottom-right of the screen to show the pop up window. Tap [Cancel MOB]. A confirmation message appears. Tap [Yes] or [No] as appropriate.

1.10 Wireless LAN Setup

You can use the wireless LAN to update information and software.

Notice regarding use of wireless LAN

- The wireless LAN function is available only in the countries which have acquired radio wave certification. Turn this function off in countries which do not have radio wave certification. Ocean-going vessels that have radio wave certification can use the wireless LAN function in any country that has acquired radio wave certification. Vessels with radio wave certification that enter a country that does not have radio wave certification may use the wireless LAN function only onboard the vessel. Available countries (as of March, 2018): USA, Canada, New Zealand, Australia, Japan, and all countries of the EU.
 - The communication rate and effective range for the wireless LAN can be affected by electromagnetic waves, interfering objects, or access point location.
 - We strongly recommend using a wireless LAN with encrypted connection. Otherwise unauthorized access by a third party can occur, which can cause loss of data or system crash.
 - We recommend changing the initial password when using a local wireless network.
1. Tap the [Home] icon to show the [Home] screen, then tap [Settings] => [General] => [Wireless LAN].
 2. Tap the toggle box inside the [Wireless LAN Connection] section to show [ON]. The system checks for available wireless networks and shows them in the [Networks] list.
 3. Tap the network you wish to connect to. The password input screen appears.
 4. Input the network password, then tap [OK]. If the password is correct, the system connects to the selected network.
 5. Tap the [x] icon at the top-right corner of the menu to close the menu.

1.11 Simulation Mode

You can use the simulation mode to familiarize yourself with the system and operations. For safety, simulation mode should only be used when the boat is moored.

1. Tap the [Home] icon to show the [Home] screen, then tap [Settings] => [General] => [Simulation]. The simulation settings appear on the right-hand side of the screen.
2. Tap the toggle box at [Simulation] to show [ON]; simulation mode is now active.
3. Tap [Mode], then select the required simulation mode. For the purpose of this procedure, select [Simulation].
 - [Internal Slide Show]: Used for promotional purposes.

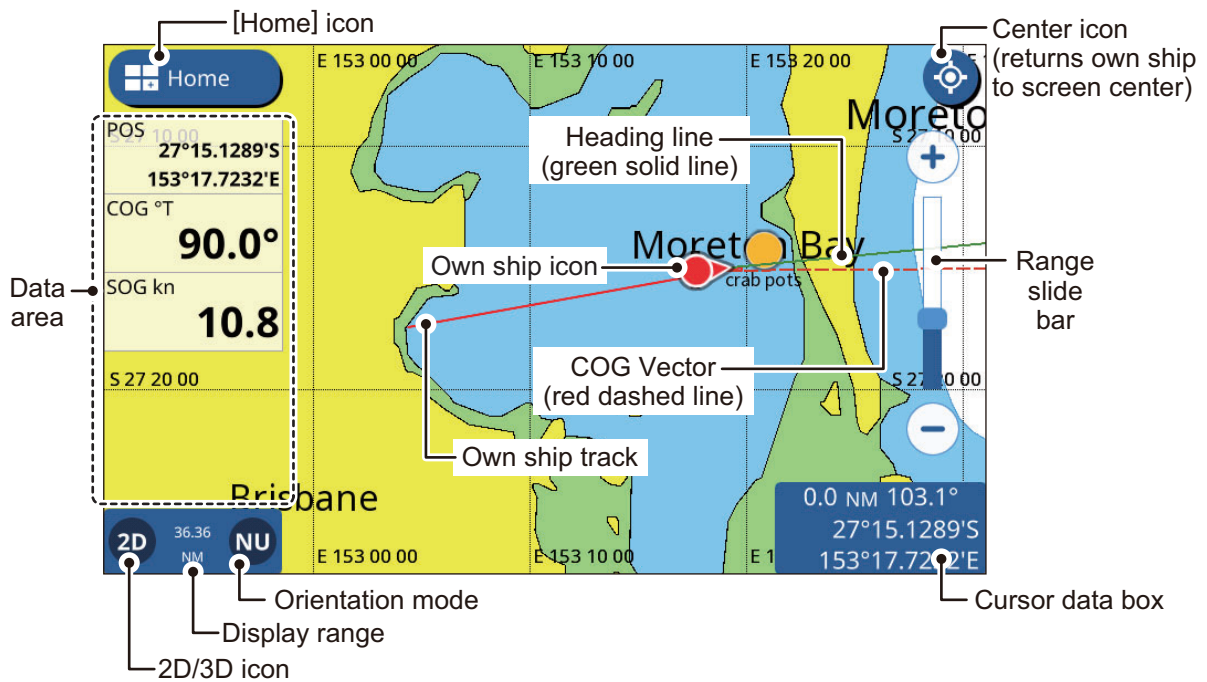
1. SYSTEM INTRODUCTION

- [Slide Show From SD]: Displays images (photos) stored on the inserted SD card as a slide show.
 - [Simulation]: Activates the simulation mode and allows you set parameters for the simulation.
4. Tap the [<] icon at the top-left of the selection window to go back to the [Simulation] menu.
 5. If you selected [Internal Slide Show] or [Slide Show From SD], the slide show starts. **To stop the slide show**, tap anywhere on the screen, then tap [Yes] in the pop up window, then proceed to step 9.
If you selected [Simulation], proceed to step 6.
 6. In the [Parameters] section, set the [Course] and [Speed] for the simulation. To set these items, either drag the slider bar or tap the keyboard icon to manually enter a value.
 7. To set [Date] and [Time], tap the item in the menu to show the software keyboard. Enter the desired date/time for the simulation, then tap the [<] icon to go back to the simulation settings.
 8. At [Fish Finder], tap the desired setting for the simulation, then tap the [<] icon to go back to the simulation settings.
 - [Off]: no fish finder data is simulated.
 - [Chirp Demo]: Show the CHIRP simulation.
 - [RezBoost Demo]: Show the RezBoost simulation.
- Note:** The fish finder simulation operates separately from other settings in the [Simulation] menu. To disable the fish finder simulation, change the above setting to [Off].
9. Tap the [×] icon at the top-right corner of the menu to close the menu.

2. PLOTTER

2.1 Plotter Overview

The Plotter page can be displayed in full-screen, or with the Radar, Fish Finder or Instruments pages.



Note: When the unit for Depth (see section 11.2) is set to pb or HR, the following changes are also applied to the displayed depth values.

- The depth value shown in the data area and on the fish finder screen appears in pb/HR.
- The depth values shown on the chart appears in m (meters).
- The depth values for Underwater Objects/Display Limit filters are changed to pb/HR, however the chart-displayed values remain in m (meters).

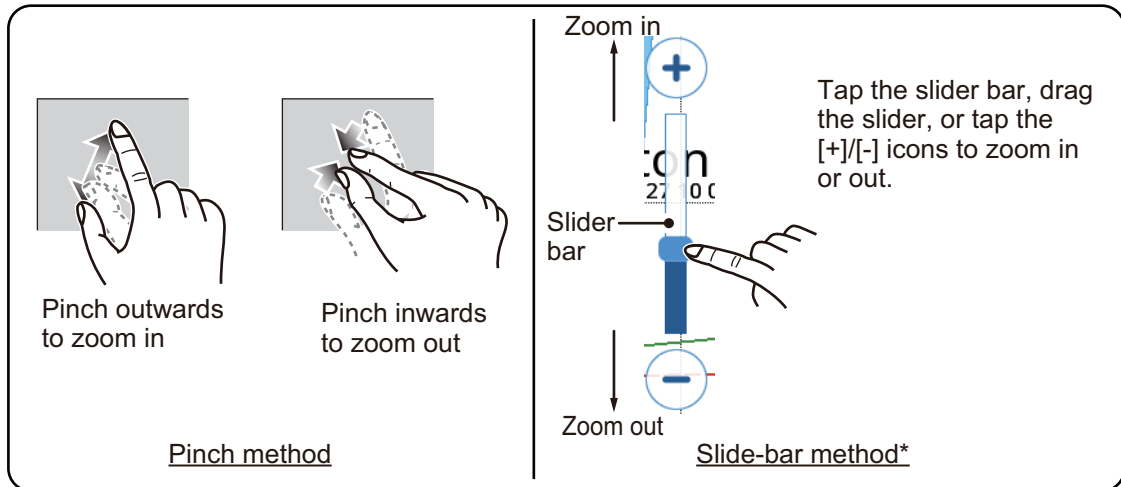
2.2 How to Select a Chart Type

You can select one of four chart types for your plotter page. The available chart types are [Vector], [Shaded Relief], [Satellite] and [Raster Chart].

1. Swipe the bottom of the plotter page upwards to show the layered menu.
2. Tap [Chart Type] to show the chart types.
3. Tap the chart type you want to use.
4. Tap the [<] icon at the top-left of the chart type list.
5. Swipe the layered menu downwards to close the menu.

2.3 Changing the Display Range

There are two methods you can use to increase or decrease the display range. You can use the range slider and buttons, or use the pinch motion on the touch screen.



*: If the slide-bar is not displayed, tap [Home] => [Settings] => [Radar] => [General], then tap the toggle box at [Show Range Slider] to show [ON].

2.4 Orientation Modes

You can display charts with North Up, Head Up or Course Up orientation. To change the orientation, tap the mode indication at the bottom-left of the screen.

Head Up: Charts are oriented with the heading at the top of screen. The own ship icon also points in the heading direction, while charts move/rotate in relation to the heading.

Course Up: Charts are oriented with the course (destination) at the top of the screen. This mode is useful when navigating a short voyage.

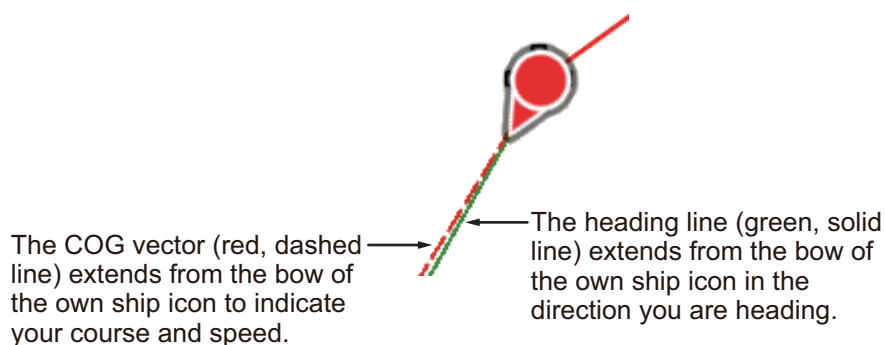
North Up: Charts are oriented with North at the top of the screen and the own ship icon moves/rotates in relation to the current heading and course. This mode is useful for long voyages.

2.5 How to Move the Charts

You can move the charts to place points and view other areas which are not shown on-screen. Drag the chart to show the area you want to view or place a point in.

2.6 Own Ship Icon Display Settings

The own ship icon shows where your ship is currently. Generally, the icon mirrors the actual movements (turns) of the ship.



The COG vector (red, dashed line) extends from the bow of the own ship icon to indicate your course and speed.

The heading line (green, solid line) extends from the bow of the own ship icon in the direction you are heading.

Settings for the own ship icon display are located in the [Ship and Tracks] menu. Some settings can also be accessed from the pop up menu when you tap the own ship icon.

2.6.1 COG vector settings

From the pop up menu

Tap the own ship icon to show the pop up menu, then tap the [COG Vector] toggle box. To show COG vector line, set to [ON], to hide the COG vector line, set to [OFF].

From the [Ship and Tracks] menu

1. From the Home screen, tap [Settings] => [Ship and Tracks] => [Ship].
2. Tap the toggle box at [Show COG Line] to show [ON].
3. Tap [Time]. The time options for vector display appear.
4. Select the desired time setting for vector display. A longer time gives a longer vector line and [Infinite] gives a line that extends to the edge of the screen.
5. Tap the [<] icon at the top-left of the time options.
6. At [Thickness], select the thickness for the COG vector line.
7. Tap the [x] icon at the top-right of the menu to close the menu.

2.6.2 How to show/hide the heading line

From the pop up menu

Tap the own ship icon to show the pop up menu, then tap the [Heading Line] toggle box. To show the heading line, set to [ON], to hide the heading line, set to [OFF].

From the [Ship and Tracks] menu

1. From the Home screen, tap [Settings] => [Ship and Tracks] => [Ship].
2. Tap the toggle box at [Show Heading Line] to show [ON] (heading line is shown), or [OFF] (hide heading line).
3. Tap the [x] icon at the top-right of the menu to close the menu.

2.6.3 How to change the own ship icon

You can select one of four types and two sizes of icons for the own ship icon.

1. From the Home screen, tap [Settings] => [Ship and Tracks] => [Ship].
2. At [Own Ship Icon] tap the icon type you want to use.
3. At [Ownship Icon Size] tap the icon size you want to use.

2. PLOTTER

4. Tap the [x] icon at the top-right of the menu to close the menu.

2.6.4 How to offset the own ship icon

You can offset the default "center" location for the own ship icon. When you tap the [Center] icon (top-right corner of the screen), the ship and chart are moved to the center of the screen. When offset, the ship icon is located in the lower section of the screen.

1. From the Home screen, tap [Settings] => [Ship and Tracks] => [Ship].
2. Tap the toggle box at [Own Ship Offset] to show [ON], or [OFF] as required.
3. Tap the [x] icon at the top-right of the menu to close the menu.

2.6.5 How to restore factory defaults

You can restore the settings for the [Ship and Tracks] menu to their factory defaults.

1. From the Home screen, tap [Settings] => [Ship and Tracks].
2. Tap [Restore Defaults] => [Restore Default Settings]. A confirmation message appears.
3. Tap [Yes] to restore the factory default settings, or tap [No] to keep the current settings.

2.7 Cursor Data

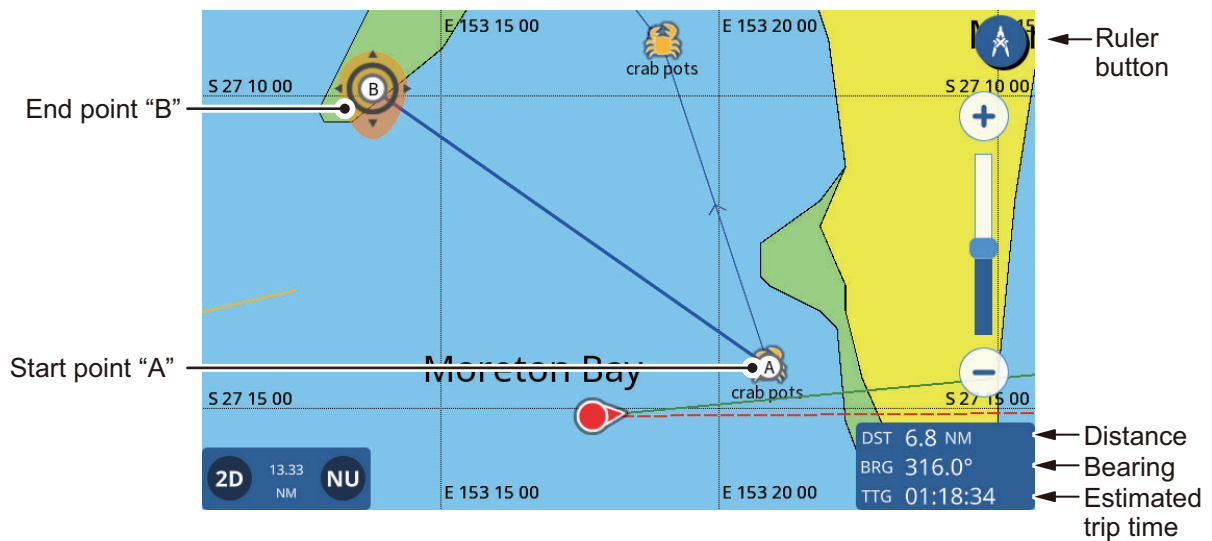
You can tap a chart object to place the cursor on the object. Information for the cursor location (latitude, longitude, bearing and distance from own ship) appears in the cursor data box, at the bottom-right of the screen.

2.8 Point to Point Measurements

You can use the [Ruler] function from the slide-out menu to measure the bearing, range and estimated trip time between two points on the chart.

1. Tap the location on the chart you want to measure from. The cursor appears at the start location.
2. Swipe the right-hand edge of the screen leftwards to show the slide-out menu.
3. Tap [Ruler]. The "start" point (cursor location) changes to a circled "A".
4. Tap the location you want to measure to.
A second, movable point "B" appears. the bearing, range and estimated trip time from point "A" to point "B" appears at the bottom-right corner of the screen. The

estimated trip time is based on the speed entered at [Route Planning Speed] in the [Settings] => [Routes] menu => [Routes] tab.



- To move the end point "B", drag the icon to the new location.
Note: You can relocate the first point "A". Long-tap the point to activate the editing mode, then drag the point to the new location.
- When measurements are completed, tap the [Ruler] icon at the top-right corner of the screen to return to normal operations.

2.9 Chart Display Angle

You can view your charts in either "birds-eye-view" (2D), or at a user-defined angle (PS or 3D).

Note: If your chart card has 3D imagery, the "PS" indication is replaced with "3D".

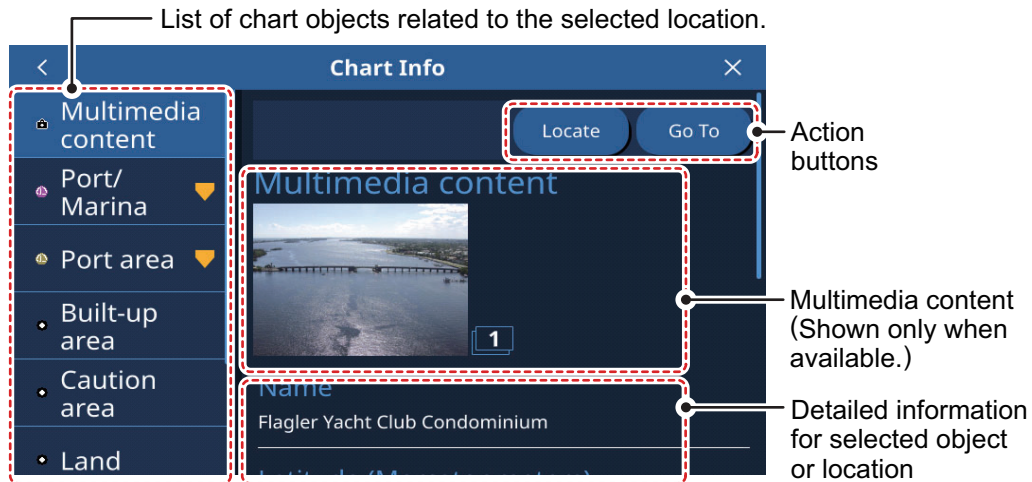
To switch between the 2D chart and PS/3D chart, drag the chart upwards with two fingers. You can also press the 2D/3D icon at the bottom-left corner of the screen.

To change the viewing angle in either PS or 3D, swipe the chart left or right with two fingers.

2.10 C-MAP Chart Information

If your chart card is a C-MAP chart card, you can view detailed chart information.

To show the chart information, tap the location you want information for, then tap Chart Info in the pop up window.



The related chart objects listed, available actions, photos and detailed information vary depending on the location selected. The following list shows the actions which may be available.

- [Locate]: Locates the selected object on the chart and places the object at the center of the screen.
- [Go To]: Sets the selected object as the destination and starts a new route.
- [Graph]: Show the tide graph for the selected area.
- [Edit]: Edit the information for the selected item.

Multimedia content: Depending on the chart object you select, an image (or several images) of the area/location may appear. When multiple images are available, you can tap the image to view a slide-show of the images. Multiple images are numbered at the bottom-right of each image.

2.11 Radar Overlay

The radar overlay has the radar echo image overlaid on the plotter display (requires connection to a radar sensor and heading sensor). To activate the radar overlay feature, swipe the bottom of the plotter screen upwards to show the layered menu, then tap the [Radar Overlay] toggle box to show [ON]. To deactivate the overlay feature, tap the [Radar Overlay] toggle box to show [OFF].

2.12 NAVpilot Operations

When a NAVpilot-700/300 series autopilot is connected to the GP-1x71F, you can operate the following autopilot features from the GP-1x71F.

- Show the NAVpilot instruments display on the GP-1x71F. See section 9.3.
- Change the operation mode for the autopilot (Auto or NAV).

2.12.1 How to show the autopilot's course and destination on-screen

When an autopilot is connected to the GP-1x71F, you can show the autopilot's course and destination on the plotter screen.

How to show the autopilot's course from the [Settings] menu

1. From the [Home] screen, tap [Settings] => [Ship and Tracks] => [Ship].
2. Tap the toggle box at [NAVpilot Course] to show [ON].
3. Tap the [x] at the top-right of the menu to close the menu.

How to show the autopilot's destination from the pop up menu

Tap the own ship icon to show the pop up menu, then tap the toggle box at [NAVpilot Course] to show [ON].

2.12.2 How to use the autopilot for navigation

You can set the autopilot as a method for navigation in the menu. From the [Home] screen, tap [Settings] => [Initial Setup] => [Autopilot], then tap the toggle box at [NAVpilot Control] to show [ON]. When a new route destination is selected, the message "Use the NAVpilot for navigation?" appears. Tap [Yes] to use the autopilot, or tap [No] to use the GP-1x71F plotter for navigation.

2.13 Tide Information

Tide stations offer tide information in the form of a graph.

Note: A chart card with valid tide station data is required to view tide station information.



2.13.1 How to show the tide graph

You can show a tide graph with one of the following methods. Information shown in the graph changes depending on the selected method.

- Tap a tide station.
- Tap [Tide] in the slide-out menu, or from the [Home] screen.
- Tap a location on the chart.

From a tide station

Tap the tide station to show the chart pop up menu, then tap [Chart Info] => [Tide Height Station] => [Graph]. Tide graph for the selected tide station appears.

From the slide-out menu or [Home] screen

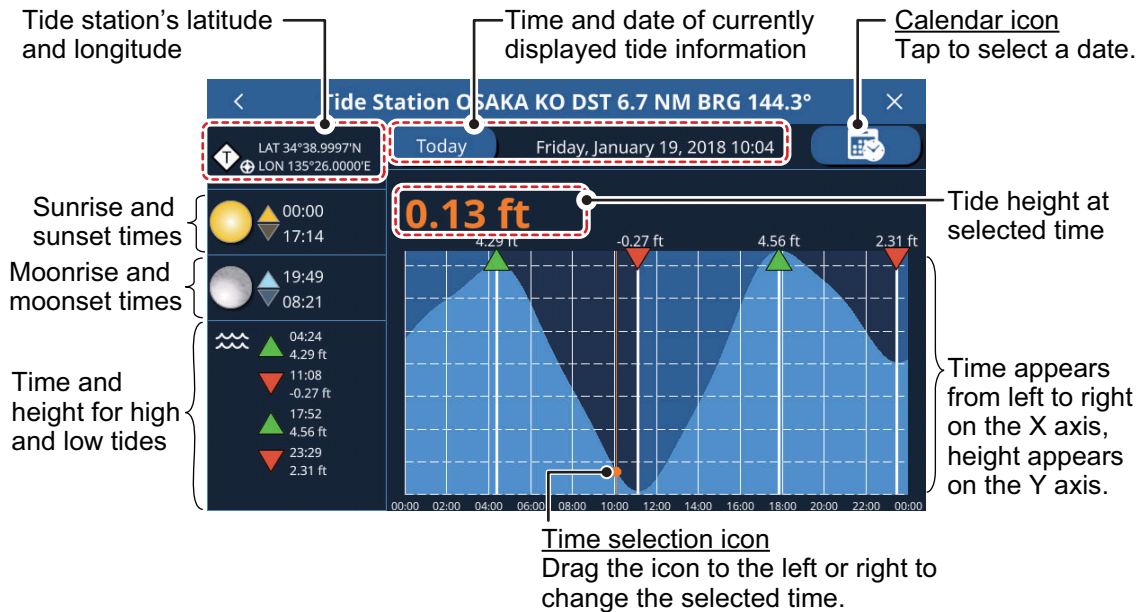
From the [Home] screen, tap [Tide], or swipe the right-hand side of the screen leftwards to show the slide-out menu, then tap [Tide]. The graph shows tide information from the closest tidal station to your present location. If there is no tide station nearby, the message "There is no Tide Station near you." appears.

From the chart

Tap the desired location on the chart to show the pop up menu, then tap [Chart Info]. If there is a tide station nearby, the tide station appears with other chart objects in the

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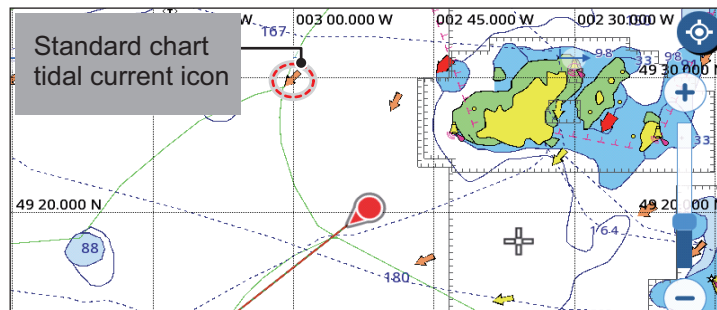
object list, at the left side of the screen. Drag the list to show chart objects which are not displayed on the screen. Tap [Tide Height Station] => [Graph] to show the tide information for the selected chart area. (See section 2.10.)



2.13.2 How to view tidal current information

Provided your chart card has tidal current information, you can view current information on the plotter screen.

Current information appears as indicated in the following figure.



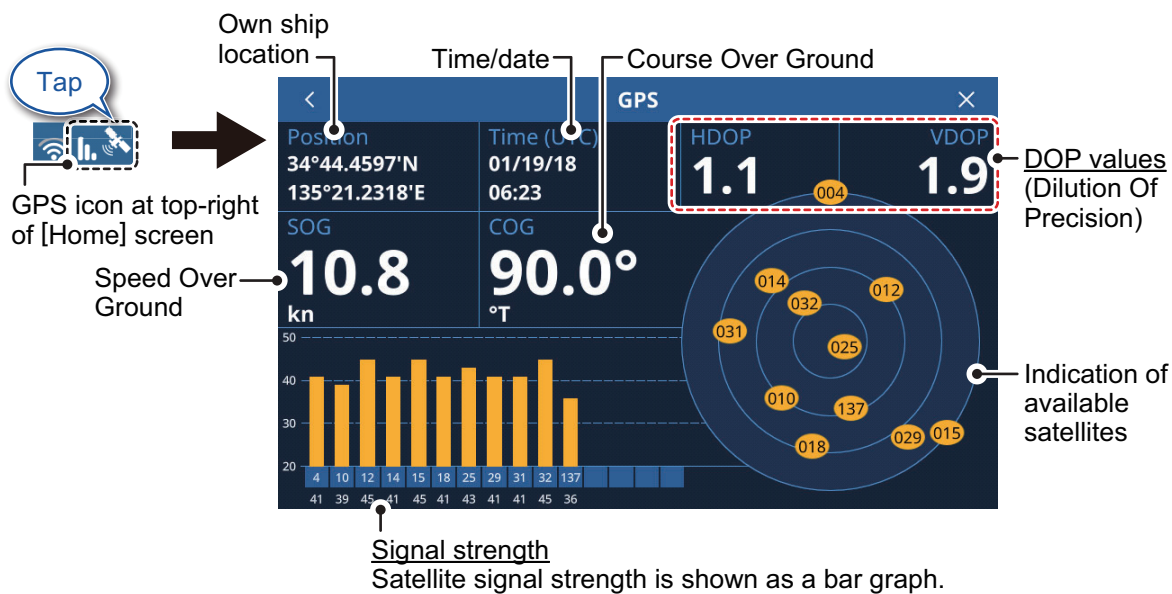
The current's direction is indicated by the arrow's direction, speed and current strength are indicated in the following manner:

| <u>Current's speed indication</u> | <u>Current's strength indication</u> |
|--------------------------------------------|--------------------------------------------------------------------------------|
| Size increases as current speed increases. | Color changes as follows: Yellow = Weak, Orange = Moderate, Red = Strong |

2.14 How to View Satellite Status

The satellite status screen shows the signal strength of satellites in use, available satellites and their elevation (in a 2D format) and other related information. To show the status screen, tap the satellite icon at the top-right corner of the screen.

At least four satellites must be available in order to calculate your position correctly.



DOP (Dilution Of Precision) values are indicated in both horizontal (HDOP) and vertical (VDOP) formats. A lower value indicates a more reliable position fix.

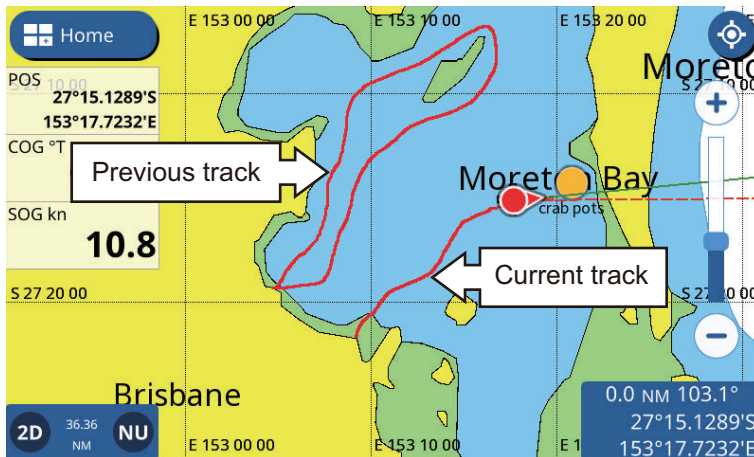
2. PLOTTER

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3. TRACKS

3.1 Tracks Overview

Your boat's track is plotted on the display with position information fed from: the internal GPS navigator, the NMEA2000 network, or the NMEA0183 network.



3.2 How to Show/Hide Own Tracks

Swipe the Plotter screen from the bottom upwards to show the layered menu, then tap [Show Own Tracks] to toggle between [ON] and [OFF].

Note: The current track is not hidden when [OFF] is selected, only past tracks are hidden.

3.3 Track Recording

From the pop up menu

Tap the own ship icon to show the pop up menu, then tap the toggle box at [Record Track] to show [ON]. To stop recording tracks, tap the toggle box to show [OFF].

From the [Settings] menu

1. From the [Home] screen, tap [Settings] => [Ship and Tracks] => [Track]. The track settings appear in the right-hand side of the screen.
2. At [Track Recording], tap the [Record Tracks] toggle box to show [ON]. To stop recording tracks, tap the toggle box to show [OFF].
3. Tap the [x] at the top-right corner of the menu to close the menu.

3.4 How to Set Up Tracks

You can set the recording interval, track color (single or multicolor) and track thickness.

3. TRACKS

1. From the [Home] screen, tap [Settings] => [Ship and Tracks] => [Track]. The track settings appear in the right-hand side of the screen.
2. At [Track Recording], tap [Track Interval] to show the time interval options.
3. Select the desired time interval.
4. Tap the [<] at top-left of the time interval options window to close the window.
5. At [Track Color Type], tap either [Single Color] or [Multi-color].
6. If you selected [Single Color] at step 5, select the track color from [Single Color] menu section.
7. Tap the [<] at top-left of the solid color options window to close the window.
8. If you selected [Multi-color] at step 5, select the data to reference for color changes.
 - [Depth]: Sets the depth interval at which the track color changes. The available intervals are [5 m], [10 m] or [20 m].
 - [Temperature]: Sets the temperature difference at which the track color changes. The available setting range is 0.2 degrees to 2.0 degrees, in 0.2 degree steps.
 - [Speed]: Sets the speed difference at which the track color changes. The available setting range is 0.4 knots to 3.8 knots, in 0.2 knot steps.
 - [Bottom Discrimination]: Track color changes in direct relation to detected seabed composition. Mud: dark orange; Sand: yellow; Gravel: steel blue; Rock: dark gray.
9. If you selected [Temperature] or [Speed] at step 8, slide the slider bar (or tap the keyboard icon for direct input) to adjust the setting value. For [Depth], select the depth from the options window. [Bottom Discrimination] has no settings options.
10. At [Track Thickness], select the thickness for the track line.
11. Tap the [x] at the top-right corner of the menu to close the menu.

Note: You can toggle between color types and change the track color from the track's pop up menu.

How to change color type and color from the pop up menu

1. Tap the track to show the pop up menu.
2. **To change the color (for solid color tracks)**, tap [Track Color], then select a color.
3. **To change the color type (for variable color tracks)**, tap [Color Logic], then select the data reference. Detailed settings for variable color, such as intervals and ranges, can only be set from the menu (see previous procedure).

3.5 How to Delete Tracks

You can delete tracks with the following methods:

- Delete an individual track completely
- Delete a section of the track
- Delete track automatically
- Delete all tracks

3.5.1 How to delete an individual track

Note: Active individual tracks cannot be deleted.

1. Tap the track to delete. The pop up menu appears.
2. Tap [Delete]. A confirmation message appears.
3. Tap [Yes]. The selected track is deleted.

3.5.2 How to delete a section of track

1. Tap the track to delete. The pop up menu appears.
2. Tap [Delete]. The track delete options appear in the pop up menu.
3. Tap the method you want to use to delete a section of the track with.
[All by Color]: Select a color from the options to delete all section of the track with the selected color.
[From Here]: Deletes all sections of the track from the selected point.
Note: [From Here] is not available for active tracks.
[Up to Here]: Delete all sections of the track up to the selected point.
4. Tap [Yes] in the confirmation pop up to delete the selected section(s), or tap [No] to cancel.

3.5.3 How to delete tracks automatically

When the tracks memory becomes full, you can use the [Auto Track Delete] function to delete the oldest track automatically.

1. From the Home screen, tap [Settings] => [Ship & Tracks].
2. Tap [Track] to show the track settings.
3. Tap [Auto Track Delete] button to toggle between [ON] and [OFF].
4. Tap the [x] at the top-right corner of the menu to close the menu.

3.5.4 How to delete all tracks

Note: The active track cannot be deleted. To delete the active track, first disable track recording (see section 3.3), then do this procedure.

1. From the Home screen, tap [Settings] => [Ship & Tracks].
2. Tap [Track] to show the track settings.
3. Tap [Delete All Tracks]. A confirmation popup appears.
4. Tap [Yes] to delete all tracks.
5. Tap the [x] at the top-right corner of the menu to close the menu.

3. TRACKS

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4. POINTS AND POLYLINES

4.1 Points and Event Marks

A point, in navigation terminology, is a location you mark on the display. A point can be a fishing spot, reference point and other important locations. You can create a new point from the Plotter, Radar or Fish Finder screens. You can also set a point as a destination and create a route.

An event mark is a point which marks the own position. You can create a new event mark from the Plotter, Radar, Fish Finder or Weather screens. You can also set an event mark as a destination and create a route.

When you create a point or event mark, an icon appears at the location where the point/mark is created. Both points and event marks are number in ascending order, as they are created. Points/event marks are also named accordingly. For example, the first point you create is stored with the name "PT1" and the first event mark is stored with the name "EV1".

The position of the point, symbol and navigation information (range, bearing, etc.) are saved to the [Points List]. You can show or hide the points, and the default setting shows all points. You can edit a point on the screen or from the [Points List].

4.2 Points/Event Marks Setup

You can set the color, shape, size and other characteristics for points and event marks from the menu.

1. From the [Home] screen, tap [Settings] => [Points]. The settings appear in section on the right-hand side of the screen.
2. At the [Display Points] section, select the display method for points.
[Name and Icon]: Shows all points with their name and the assigned point icon.
[Icon]: Shows only the point icon.
3. At the [Point Size] section, select the size to display the point icons.
4. Tap [Default Point Symbol] then select the default symbol (shape) from the selection window. The figure below shows the available symbols.



5. Tap the [<] at top-left of the window to close the window.
6. Tap [Default Point Color], then select the default color from the selection window.
7. Tap the [<] at top-left of the window to close the window.
8. Tap the [x] at the top-right corner of the menu to close the menu.

How to restore the factory defaults for points

1. From the [Home] screen, tap [Settings] => [Points] => [Restore Default Settings].

4. POINTS AND POLYLINES

2. Tap [Restore Default Settings] in the right-hand side of the screen. A confirmation message appears.
3. Tap [Yes] to restore default settings for the [Points] menu, or tap [No] to cancel.
4. Tap the [x] at the top-right corner of the menu to close the menu.

4.3 Point/Event Mark Creation

4.3.1 How to create a point

There are two methods you can use to create a point; directly on-screen, or from the slide-out menu.

Directly on-screen

Tap the location where you want to create a point, then tap [New Point] in the pop up menu.

From the slide-out menu

Swipe the right-hand side of the screen leftwards to show the slide-out menu, then tap [Lat/Lon]. Enter the coordinates for the new point, then tap [OK].

4.3.2 How to create an event mark

With the [Function Gesture] feature

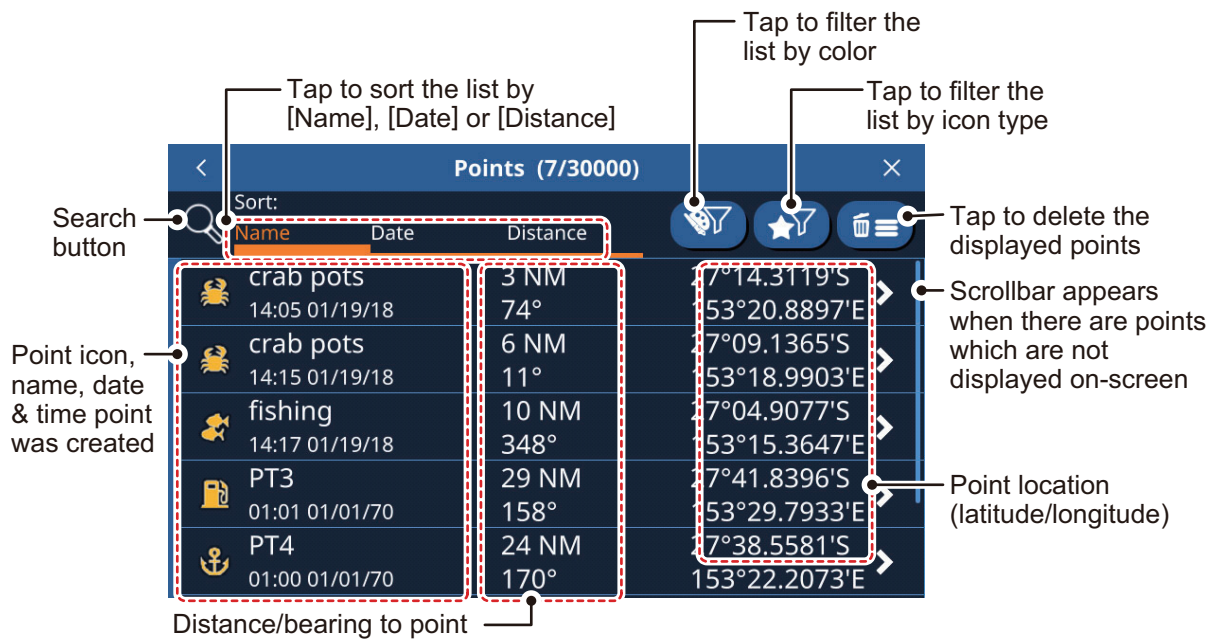
Tap, or double tap, the screen, using two fingers simultaneously.

Note: The [Function Gesture] feature must be set beforehand to [Event] from the [Home] => [Settings] => [General] => [Function Gestures] menu.

From the slide-out menu

Swipe the right-hand side of the screen leftwards to show the slide-out menu, then tap [Event Mark].

4.4 Points List Overview



4.4.1 How to view the points list

From the [Home] screen, tap [List] => [Points].

4.4.2 How to search the points list

1. Tap the search button at the top-left of the [Points] list. The software keyboard appears.
2. Enter the name, or part of the name, for the point(s) you want to search for, then tap [OK].
The list now shows only the points that match your search.

4.4.3 How to sort the points list

You can sort the list by point name, date that the point was created, or by distance from own ship. Tap the [Name], [Date] or [Distance] indication above the list.

4.4.4 How to filter the points list

You can filter the list by color, symbol or a combination of both color and symbol. Points which do not meet the filter criteria are hidden.

1. Tap the appropriate filter button at the top-right of the points list to show the filter options.
2. Tap the filter you want to apply. The listed points change accordingly. To show all points for either filter, tap [All].

4.5 How to Move a Point

You can move a point two ways: on-screen or edit the point location from the [Points List].

To edit a point location from the [Points] list, see section 4.7.

To move a point on-screen, follow the procedure below.

1. Tap the point to show the pop up menu. (The point is correctly selected if the "point" box appears.)
2. Select [Move].
3. Tap the new location for the point, then tap [Save] at the top-right of the screen.

4.6 How to Delete Points

You can delete individual points directly on the screen and on the [Points] list. All points can be deleted from the [Points] list.

4.6.1 How to delete a point from the screen

1. Tap the point you want to delete. The pop up menu appears.
2. Tap [Delete]. A confirmation message appears.
3. Tap [Yes] to delete the point.

4.6.2 How to delete points from the Points List

How to delete an individual point

1. From the [Home] screen, tap [List] => [Points] to show the [Points] list.
2. Tap the point to you want to delete.
3. Tap [Delete]. A confirmation message appears.
4. Tap [Yes] to delete the point.

4.6.3 How to delete all points or specified points

1. From the [Home] screen, tap [Lists] => [Points] to show the [Points] list.
2. **To delete only specified points**, set the list filter referring to section 4.4.6. **To delete all points**, set the list filters for both color and symbol to [All].
3. Tap the trash icon at the top-right of the list. A confirmation message appears.
4. Tap [Yes] to delete all listed points.

4.7 How to Edit Points

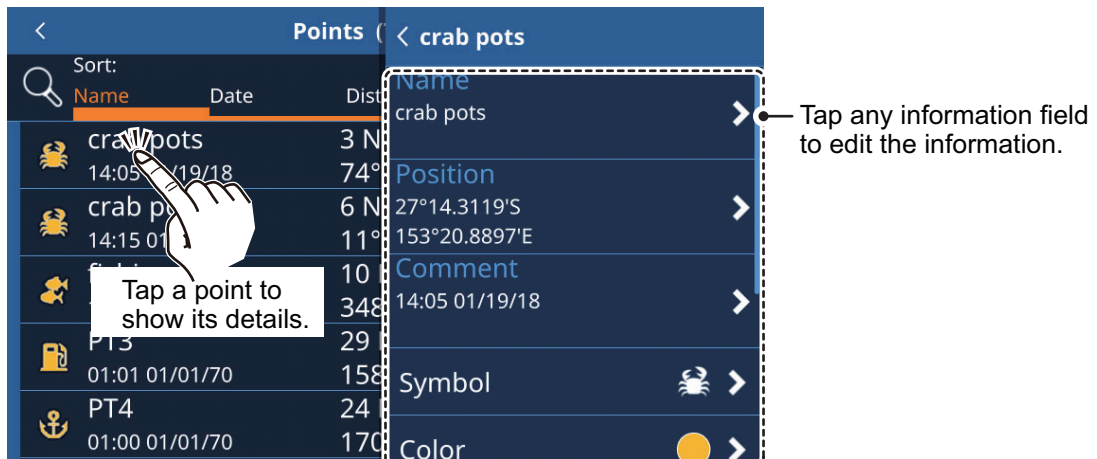
You can edit the characteristics for any point from the [Points] list, or from the pop up menu.

4.7.1 How to edit a point on-screen

1. Tap the point you want to edit. The pop up menu appears.
2. **To change the location of the point**, tap [Edit Position]. Enter the new coordinates for the point, then tap [OK].

3. **To change the name of the point**, tap [Name].
Enter the new name for the point, then tap [OK].
4. **To change the description for the point**, tap [Comment].
Enter the new description for the point, then tap [OK].
5. **To change the color of the point**, tap [Color].
Select a new color for the point, then tap [<].
6. **To change the symbol of the point**, tap [Symbol].
Select a new symbol for the point, then tap [<].

4.7.2 How to edit a point from the [Points] list



Information fields not shown in this figure

- [Go To]: Sets the selected point as a Quick Route destination.
- [Locate on map]: Locates the selected point on the map.
- [Add to active route]: Adds the selected point, as a new waypoint, to the active route.
- [Delete]: Delete the selected waypoint.

1. From the [Home] screen, tap [Lists] => [Points] to show the [Points] list.
2. Tap the point you want to edit. The information fields for the point appear on the right-hand side of the screen.
3. Edit the point as required.
 - To change the name, location, symbol, description or color of the point**, see section 4.7.1.
 - To set the point as a route destination**, tap [Go To]. A Quick Route is created with the point as the destination.
 - To find the point on-screen**, tap [Locate on Map]. The point is shown on-screen with the cursor on the point.
 - To add the point to an active route**, tap [Add to Active Route]. The point is added as the last waypoint (destination) in the active route.

4.8 How to Show or Hide All Points

You can show, or hide, all points on the screen from the layered menu.

Swipe the bottom of the screen upwards to show the layered menu, then tap the toggle box at [Show Points] to show [ON] (show) or [OFF] (hide) as required.

4.9 What is a Polyline?

A polyline is a user-defined line, made up of at least two points. The most common use for polylines is to indicate where nets are, or to indicate an area which should be avoided. These lines are not convertible to a route and appear in addition to the chart marks and lines.

4.10 How to Create a Polyline

Polylines are a combination of several straight lines. Each straight line is referred to as a "Vertex".

1. Tap the location you want to start a polyline from. The pop up menu appears.
2. Select [New Polyline]. A point appears at the selected location.
3. Tap the location for the next point in the polyline. A line appears between the first point and this point, making the first vertex of the polyline.
4. Repeat step 3 as necessary to complete the polyline.
5. Tap [Save] to save the new polyline.
The polyline is saved in the [Polylines] list, under the [List] menu.

4.11 Polyline List

To show the information for a polyline, from the [Home] screen, tap [Lists] => [Polylines].

Tap to sort list

Search button

Tap to delete listed (filtered) items.

Editing window

[Detail]: Show each vertex of the selected line and vertex details.
[Color]: Change polyline color.
[Delete]: Delete the selected polyline.

Polyline name, color, created date and time

Polyline length

Number of vertices in polyline

Vertex list

Editing window

[Name]: Change the selected vertex's name.
[Position]: Change the location of the selected vertex.
[Delete]: Delete the selected vertex.
[Locate on Map]: Locate the selected vertex and move the screen to show the vertex at the center.

[NAME]: Shows the selected vertex's name.
[BRG]: Show the bearing to the next vertex.
[DST]: Shows the distance to the next vertex.
[TOT]: Shows the total distance from the start point to each vertex.

4.12 Polyline Color Setup

To change the color of a polyline, follow the procedure below.

1. From the [Home] screen, tap [List] => [Polylines].
2. Tap the line whose color you want to change. The polyline information window appears.
3. Tap [Color], then select the default color from the selection window.
4. Tap the [<] at top-left of the window to close the window.
5. Tap the [x] at the top-right corner of the menu to close the menu.

4.13 Finding Polylines on the Map

1. From the [Home] screen, tap [List] => [Polylines].
2. Tap the line you want to find. The polyline information window appears.
3. Tap [Detail] to show the polyline's vertex list.
4. Tap any vertex to show the vertex information.

4. POINTS AND POLYLINES

5. Tap [Locate on Map].
The menu closes and the map moves to show the selected polyline at the center of the screen.

4.14 How to Delete Polyline

To delete an individual polyline, follow the procedure below.

1. From the [Home] screen, tap [List] => [Polylines].
2. Tap the line you want to delete. The polyline information window appears.
3. Tap [Delete]. A confirmation window appears.
4. Tap [Yes] to delete the selected polyline.
5. Tap the [x] at the top-right corner of the menu to close the menu.

To delete all polylines, follow the procedure below.

1. From the [Home] screen, tap [List] => [Polylines].
2. Tap the trash icon at the top-right of the list. A confirmation message appears.
3. Tap [Yes] to delete all listed points.
4. Tap the [x] at the top-right corner of the menu to close the menu.

4.15 How to Delete a Vertex

You can delete an individual vertex from any polyline with the following procedure.

Note: You can only delete vertices individually.

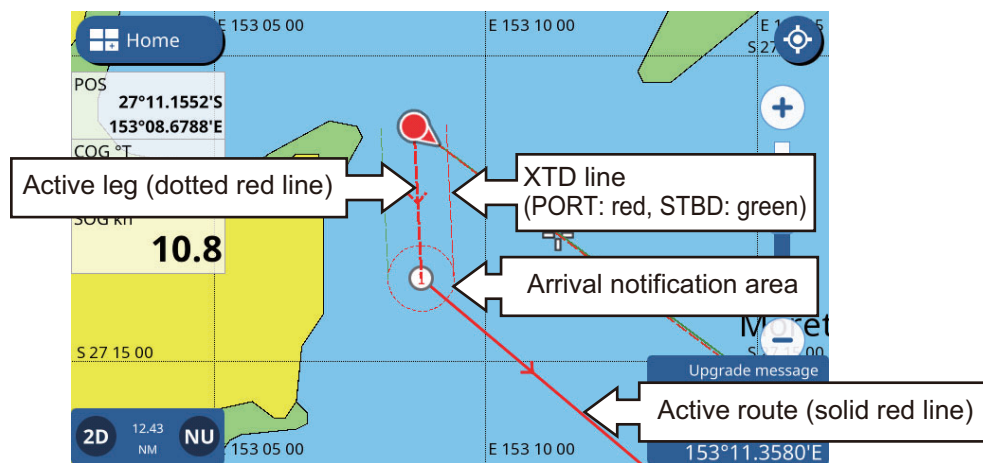
1. From the [Home] screen, tap [List] => [Polylines].
2. Tap the line you want to find. The polyline information window appears.
3. Tap [Detail] to show the polyline's vertex list.
4. Tap any vertex to show the vertex information.
5. Tap [Delete]. A confirmation window appears.
6. Tap [Yes] to delete the selected vertex.
7. Tap the [x] at the top-right corner of the menu to close the menu.

5. ROUTES

5.1 What is a Route?

Often a trip from one place to another involves several course changes, requiring a series of route points (waypoints) which you navigate to, one after another. The sequence of waypoints leading to the ultimate destination is called a route.

Once you create a route, you can navigate it. When you navigate a route (known as the “active route”), the points on the route are white circles and a red line with arrows connects between the points. The arrows show the direction in which to follow the route. Inactive routes are shown as a blue line with arrows in the navigation direction and waypoints are shown as blue circles.



5.2 How to Create Routes

5.2.1 Quick routes

A quick route uses the [Go To] feature to create a “temporary” route. Tap a location on the chart or tap a point, then tap [Go To] in the pop up menu. The selected point/location is set as a destination and the route line is shown as a dotted red line. The route line also shows arrows in the navigational direction.

Note: Quick routes are not saved in the [Routes] list and the destination point is not saved in the [Points] list.

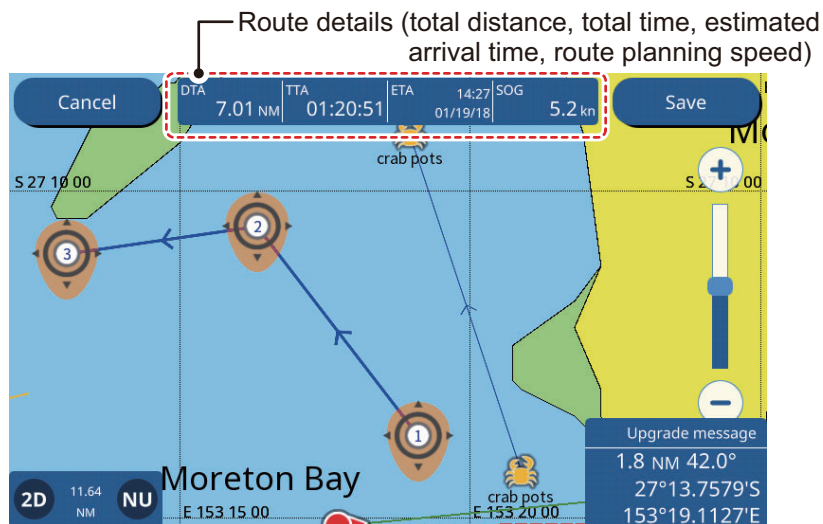
5.2.2 Planned routes with waypoints

A planned route contains two or more waypoints (referred to as “route points”) and is saved with a name, comment and other details. The default name for planned routes is “RTxxxx” (xxxx indicated the route number and the first route created is numbered as 0001). By default, new routes have no comment.

You can change the name of the route when you create it, and you can change the route comment after the route is saved.

To create a new planned route, do the following:

1. Tap the location you want to start a route from. The pop up menu appears.
2. Tap [New Route]. The screen changes to route creation mode and the selected location becomes the first route point of the route. The first route point is indicated with the number "1".
3. Tap the location for the next route point. The second route point is indicated with the number "2".
4. Repeat step 3 as required. New route points are numbered sequentially.



5. To complete route creation, tap [Save], at the top-right of the screen.
6. To skip naming the route and use the default name, tap [OK], or enter a name for the new route, then tap [OK].
The new route is now saved and appears in the [Routes] list.

5.3 How to Use Easy Routing

The Easy Routing feature automatically constructs a route between two points, taking into consideration the preset values for safe depths, safe heights and boat's width, to provide you with an estimate of a safe route to your destination. Easy Routing can be initiated on points, on route legs (inactive routes only), on a cartographic object and on the chart.

You simply set a destination. This can be newly entered points or any of the points mentioned above that are currently on the screen. (The total distance can not be longer than 100 NM.) Easy Routing then analyzes the path between your current position and the selected point and creates a route, inserting legs in the route when necessary to get you away from areas which exceed the safety values set on the menu. Easy Routing analyzes each leg for safety in three levels: safe leg, potentially dangerous leg, and unsafe leg, and color codes them accordingly, green for safe, yellow for potentially dangerous and red for unsafe.

Note: A chart card must be inserted to use Easy Routing. Not all chart cards carry Easy Routing. The message "No charts with Easy Routing data found." appears if a chart card does not have Easy Routing.

EASY ROUTING DISCLAIMER: The accuracy of Easy Routing is limited by the availability of electronic charts loaded on your navigation system and the accuracy of orig-

inal source material used in producing such charts. Always remember that you should navigate with the most detailed and up-to-date chart available from FURUNO, and new information from National Hydrographic Offices may render your charts obsolete at any time. Easy Routing is only an aid to navigation and must be used in conjunction with conventional navigation practices. As the navigator of your boat, you are responsible for reviewing the suggested route against the official nautical publications and situational awareness. You must edit and/or approve the suggested route before using it for navigation purposes.

How to set the safe values for Easy Routing

Follow the procedure below to set the safe values to use in Easy Routing.

1. From the [Home] screen, tap [Settings] => [Routes] => [Easy Routing].
2. [Depth] is the minimum safe depth, namely, your boat's draft.
3. [Height] is the minimum safe height, namely, the height of your boat.
4. [Width] is the minimum width of the path.
5. [Timeout] is the amount of time to wait before exiting the Easy Routing function, when it cannot create a route.
6. [Safe Margin] is the minimum distance (300 m) between a dangerous/not navigable area and your boat. This area could be land or a body of water. Turn it on to honor this distance.
7. Turn off [Respect Draft] if you want to disregard the depths that are shallower than the [Safe Depth] setting.

How to create a route with Easy Routing

1. Tap the point to use as the Easy Route destination. The context menu appears.
2. Select [Easy Routing]. The system checks if there is an active route and if the destination is within the 100 NM distance limit.
If a route is active, a confirmation message appears asking if you want to change the destination. Select [YES] or [NO] as appropriate.
Further, if the selected destination is outside the 100 NM limit, a message appears informing that the destination must be less than 100 NM away.
 If the destination passes both checks, the system calculates a route to the selected destination.
3. When route calculation is complete, a confirmation message appears asking if you want to start navigation, or save the destination as a new point.
 Select [Start Nav] to begin navigation to the selected destination. The Easy Route is saved and navigation begins.

If you saved the route, the Start and Destination flags and the route remain on the screen. If you exited without saving the route, the flags and route are removed. The flags and route are also removed when the power is turned off.

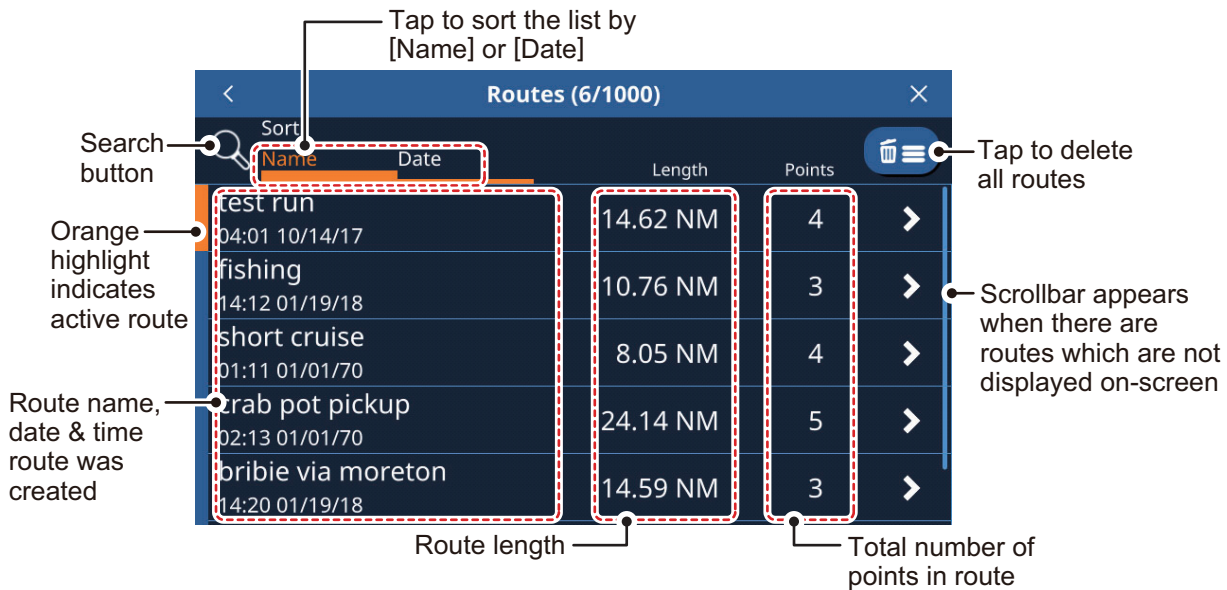
5.4 Routes List

5.4.1 How to display the Routes List

The [Routes List] shows all the routes saved to the internal memory. To show the [Routes] list, select [Lists] => [Routes] from the [Home] screen.

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Swipe the list up or down to show routes which are not displayed on the screen.



5.4.2 How to search the routes list

1. Tap the search button at the top-right of the [Routes] list. The software keyboard appears.
2. Enter the name, or part of the name, for the route(s) you want to search for, then tap [OK].
The list now shows only the routes that match your search.
To clear the search and show all routes, tap the search button again.

5.4.3 How to sort the routes list

You can sort the route list alphanumerically (Alphabet > Numbers) or by the date that the route was created. Tap the [Name] or [Date] indication above the list.

5.4.4 How to edit route details

You can edit most route details from the [Routes] list.

To edit a route's details, tap the route from the [Routes] list, then tap [Details].

Editing a route from the [Routes] list

- [Name]: Tap the name field to edit the route name.
- [Comment]: Tap the comment field to edit the comment.
- [Start Nav]: Tap to start navigation the route.
Note: If a route is already active, a confirmation message appears. Tap [Yes] to stop the active route and switch to the selected route.
- [Detail]: Tap to show the route details. This action opens the route point details for the selected route.
- [Reverse]: Tap to navigate the route in reverse (start at the end point).
Note: If a route is already active, a confirmation message appears. Tap [Yes] to stop the active route and switch to the selected route.

- [Delete]: Tap to show a confirmation message, then tap [Yes] to delete the selected route.
- [Locate on Map]: Tap to show the location of the route on the map. The map moves to show the selected route at the center of the screen.
- [Convert to Polyline]: Tap to convert the selected route to a polyline.
Note 1: When a route is converted to a polyline, it is no longer navigable and is removed from the [Routes] list. Further, this action cannot be undone. Use caution when converting routes to polylines.
Note 2: Active routes cannot be converted to polylines.

Editing a route point's details

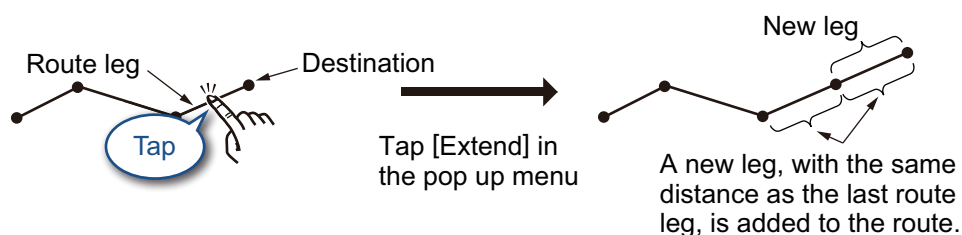
Tap an existing route to show the pop up menu, then tap the desired option.

- [Start Nav From Here]: Start navigating the route from the selected route point.
- [Go To]: Set the selected route point as a Quick Route destination.
- [Delete]: Delete the selected route point. The route is re-drawn and saved without the deleted route point.
- [Locate on Map]: Shows the selected route point at the center of the screen.

5.5 Extending Routes On-screen

You can extend a route from the last route point on the route. This is useful when you want to travel beyond the last point in a route.

1. Tap any leg of the route. The pop up menu appears.
2. Select [Extend]. A new route point is added at the end of the route, at a distance equal to the last leg of the route. You can now move the new route point; either tap the new location, or long-tap the new route point and drag to the desired location.



3. Tap [Save] to save the extended route.

5.6 Creating Route Points On-screen

You can put a route point between route legs when you need an additional point along a route.

1. Tap a leg of the route. The pop up menu appears.
2. Tap [Insert]. A new route point is overlaid on the selected leg. You can now move the new point.
3. Tap the new location, or long-tap the new route point and drag to the desired location.

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4. Tap [Save] to save the new route point to the route.

5.7 Moving Route Points On-screen

You can move a route point in a route as follows:

1. Tap the route point you want to move. The pop up menu appears.
2. Tap [Move]. The selected route point is now movable.
3. Tap the new location, or long-tap the new route point and drag to the desired location.
4. Tap [Save] to save the new point location to the route.

5.8 How to Delete a Route Point

Unnecessary points in a route can be deleted either from the menu, or directly on the screen.

5.8.1 How to delete a route point from the screen

1. Tap the point you want to delete. The pop up menu appears.
2. Tap [Delete QP]. A confirmation pop up appears.
3. Tap [Yes] to delete the point.

The route is redrawn omitting the deleted point.

5.8.2 How to delete a route point from the menu

1. From the [Home] screen, tap [List] => [Routes] to show the [Routes] list.
2. Tap the route which contains the route point you want to delete, then tap [Detail] in the options window. The route point list appears.
Note: The route point list shows all points used in the route.
3. Tap the route point you want to delete, then tap [Delete]. A confirmation pop up appears.
4. Select [Yes] to delete the selected waypoint.
If the selected point is a user-defined point, the point is not deleted, however it is removed from the route.
If the selected point is a Route Point, the point is permanently deleted.
5. Repeat steps 3 and 4 to delete other points in the route as required.
6. Tap the [x] at the top-right corner of the menu to close the menu.

5.9 How to Delete Routes

There are three methods to delete routes.

Note: Active routes cannot be deleted. To delete an active route, stop route navigation, then delete the route.

- From the pop-up menu

- From the Routes list
- From the menu.

5.9.1 How to delete a route from the pop up menu

1. Tap the route point you want to delete. The pop up menu appears.
2. Tap [Delete Route]. A confirmation message appears.
3. Tap [Yes] to delete the selected route.

5.9.2 How delete routes from the [Routes] list

1. From the [Home] screen, tap [List] => [Routes] to show the [Routes] list.
2. **To delete a single route**, tap the route, then tap delete.
To delete all routes, tap the trash icon at the top-right of the list.
3. A confirmation message appears. Tap Yes to delete the selected route(s).
4. Tap the [x] at the top-right corner of the menu to close the menu.

5.9.3 How to delete routes from the menu

1. From the [Home] screen, tap [Routes] => [Routes]. The menu options appear in the right-hand side of the screen.
2. Tap [Delete All Routes] from the menu options. A confirmation message appears.
3. Tap [Yes] to delete all routes.
4. Tap the [x] at the top-right corner of the menu to close the menu.

5.10 Route Calculation Speed Setup

1. From the [Home] screen, tap [Routes] => [Routes]. The menu options appear in the right-hand side of the screen.
2. At [Route Planning Speed] in the menu options, set the default speed to use. Drag the slider on the slide bar to change the speed value, or tap the keyboard icon, enter a value, then tap [OK].
3. Tap the [x] at the top-right corner of the menu to close the menu.

5.11 Show/Hide Routes On-Screen

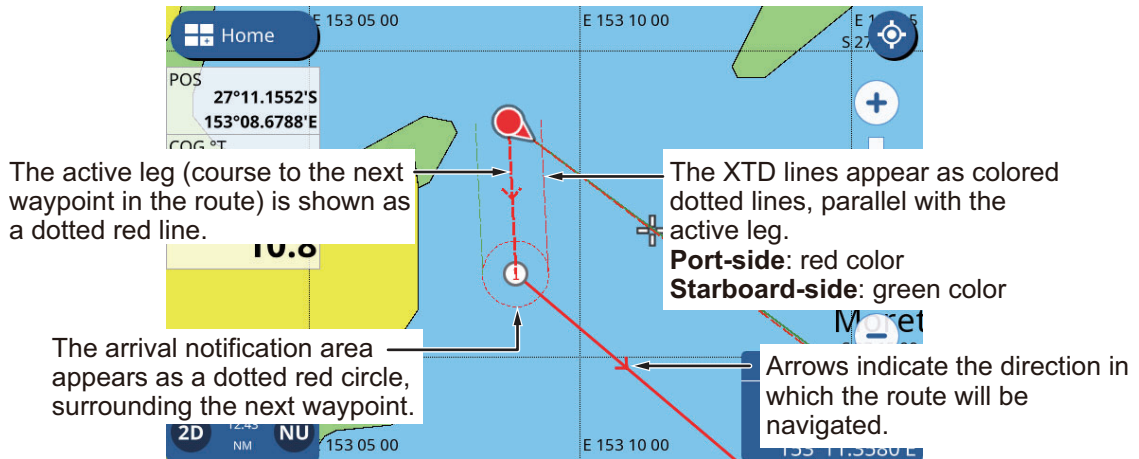
You can show or hide all routes from the layered menu. Swipe the bottom edge of the screen upwards to show the layered menu, then tap the toggle box at [Show Routes] to show [ON] or [OFF] as required.

Note: Active routes cannot be hidden until the route is either completed or canceled.

5.12 How to Navigate a Route

5.12.1 How to select a route from the screen

1. Tap the route you want to navigate. The pop up menu appears.
2. Tap [Start Nav].



The selected route now appears in red color, with the course to the next route point shown as a dotted line. Arrows appear along each leg to indicate the direction of navigation.

5.12.2 How to select a route from the [Routes] list

1. From the [Home] screen, tap [List] => [Routes] to show the [Routes] list.
2. Tap the route you want to navigate. The menu options appear on the right-hand side of the screen.
3. Tap [Start Nav]. The list closes and navigation to the first route begins. The selected route now appears in red color, with the course to the next route point shown as a dotted line. Arrows appear along each leg to indicate the direction of navigation.

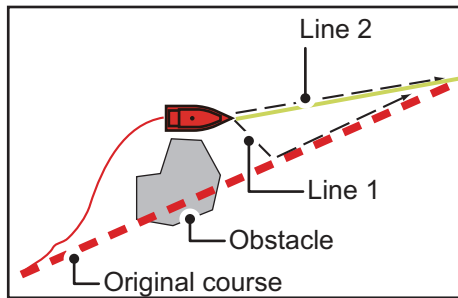
5.12.3 How to navigate from a specified point in a route

1. Tap the location in the route you want to start navigation from. The pop up menu appears.
2. Tap [Start Here]. Route navigation starts with the selected point as the first route point.

5.13 Changing Route Navigation

5.13.1 How to restart navigation

When you steer to keep away from an obstruction or your boat drifts, you go off course, like shown with Line 1 in the figure below. If you do not need to return to the original course, you can go to the next route point from the current position as shown in Line 2 in the figure below.



1. Tap the next route point, or a leg in the route to show the pop up menu.
2. Tap [Restart Nav].

5.13.2 How to follow a route in reverse order

You can follow the route points of a route in reverse order. This feature is useful when you want to retrace a route from the end to the beginning.

Note: This feature is not available for active routes.

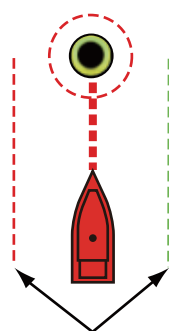
1. Tap a route to show the pop up menu.
2. Tap [Start Reverse]. The arrows (direction indicators) are reversed and navigation begins at the final route point.

5.13.3 How to stop following a route

Tap the screen to show the pop up menu, then tap [Stop Nav].

5.13.4 How to set the XTE (off-course) width

The XTE lines give you an indication as to how far off-course you may be at any given time. The port-side line appears as a red dotted line and the starboard-side line appear as a green dotted line. When you drift outside the XTE width, a notification can be released (see 10.3.4).

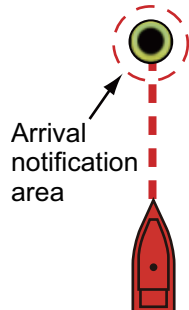


XTE lines
Port: red, STBD: green

1. From the [Home] screen, tap [Settings] => [Routes] => [Routes]. The route menu options appear in the right-hand side of the screen.
2. At [XTE value] in the menu options, set the width of the area. Drag the slider on the slide bar to change the width, or tap the keyboard icon, enter a value, then tap [OK].
3. Tap the [x] at the top-right corner of the menu to close the menu.

5.13.5 How to adjust the size of the arrival notification area

The arrival notification area is a fixed-radius area around each route point and is shown as a dotted red circle. The area is used to calculate the turning point towards the next route point and also as a notification trigger. You can adjust the size (radius) of the area.



1. From the [Home] screen, tap [Settings] => [Routes] => [Routes]. The route menu options appear in the right-hand side of the screen.
2. At [Circle Radius] in the menu options, set the size of the area. Drag the slider on the slide bar to change the size, or tap the keyboard icon, enter a value, then tap [OK].
3. Tap the [x] at the top-right corner of the menu to close the menu.

5.13.6 How to enable/disable the arrival notification

When you approach the final point in a route, a pop up message appears to inform you that the route is completed.

Note: If you set [Arriving at Destination] to [ON], in the [Notifications] menu, an audible beep is also released when you reach the preset distance from the destination.

1. From the [Home] screen, tap [Settings] => [Routes] => [Routes]. The route menu options appear in the right-hand side of the screen.
2. Tap the toggle box at [End Route Notification] to show [ON] or [OFF] as required.
3. Tap the [x] at the top-right corner of the menu to close the menu.

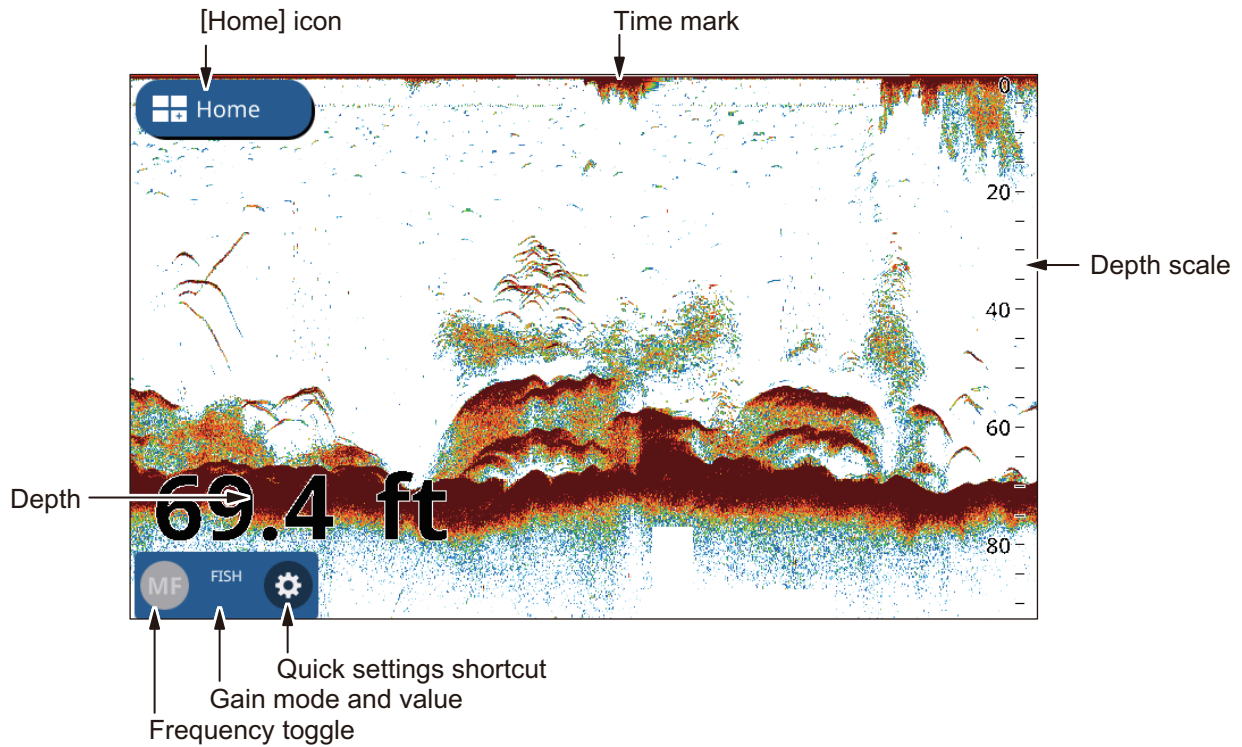
5.13.7 How to keep or discard a route destination once you arrive

By default, a route destination is kept after you arrive and the route remains active. You can discard the destination and the route remains saved but becomes inactive.

1. From the [Home] screen, tap [Settings] => [Routes] => [Routes]. The route menu options appear in the right-hand side of the screen.
2. Tap the toggle box at [Keep Destination] to show [ON] or [OFF] as required.
3. Tap the [x] at the top-right corner of the menu to close the menu.

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6.1 Fish Finder Display



The quick settings shortcut gives you access to regularly used settings such as gain adjustment and TVG, as well as other settings. Tap the cog icon to show the quick settings menu. This chapter uses the term “Open the menu.” when referring to this procedure.

To close the quick settings menu, tap anywhere outside the menu, or tap the [<] icon at the top-left corner of the menu. This chapter uses the term “Close the menu” to refer to both methods.

6.2 How to Set Up the Transducer

To set up the transducer, follow the procedure below.

Note: This procedure is not required for transducers with a TD-ID.

1. From the [Home] screen, tap [Settings].
2. Tap [Fish Finder] => [Initial Setup] => [Transducer].
3. Select the transducer you have equipped from the list.
4. Close the menu.

6.3 Start/Stop Transmission

Transmission can be controlled from the [Settings] menu. To open the [Settings] menu, follow the procedure below.

1. Open the menu.
2. Tap the toggle box at [Transmission] to show [ON] and [OFF] as required.
3. Close the menu.

6.4 How to Select a Display

6.4.1 Single/dual frequency displays and zoom displays

You can change the display mode from the layered menu. Swipe the bottom of the screen upwards to show the layered menu, then tap [Mode]. Your fish finder has the following display modes:

- [Single Freq]: Shows either low or high frequency echoes on the screen. Tap the frequency toggle at the bottom-left of the screen to change frequency.
- [Dual Freq]: Shows both low and high frequency echoes on the screen.
Note: Dual frequency is not available for CHIRP transducers. CHIRP transducers which can be connected to your SMD7/SMD9 are listed in the equipment list of the installation manual.
- [Mrk Zoom]: Shows the [Single Freq] display on the right-hand side of the screen and the location highlighted by the cursor (zoom marker) is shown zoomed in the left-hand side of the screen.
- [Btm Zoom]: Shows the [Single Freq] display on the right-hand side of the screen and the seabed area is shown zoomed in the left-hand side of the screen.
- [Btm Lock]: Shows the [Single Freq] display on the right-hand side of the screen and a set distance from seabed area is shown zoomed in the left-hand side of the screen (the seabed echo appears flat in the zoomed area).
- [Single Btm Zoom]: The seabed area is shown zoomed in the full-screen display and moves when the range is adjusted.
- [Single Btm Lock]: The seabed area is shown zoomed in the full-screen display and is fixed in place at the bottom of the screen, regardless of the range selected.

How to show the [Zoom Marker]

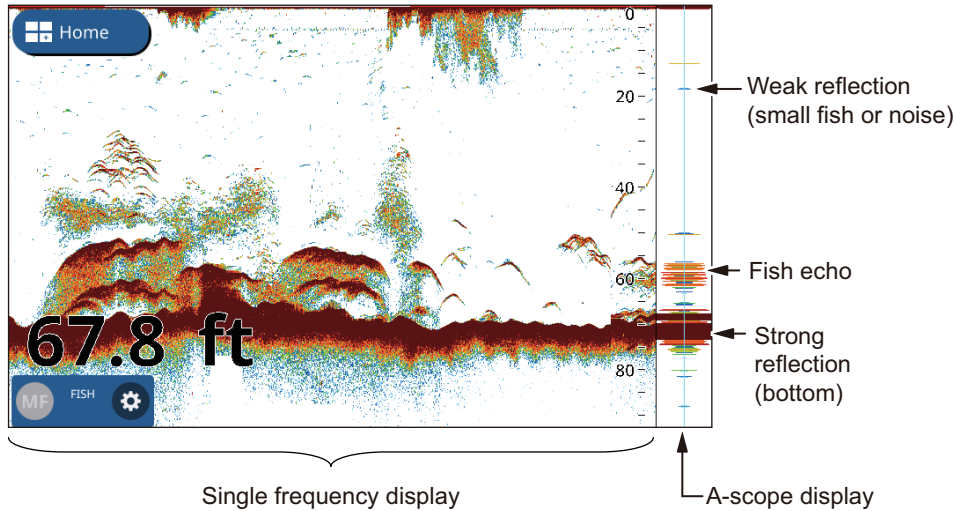
The zoom marker is used with the [Mrk Zoom], [Btm Zoom], [Btm Lock], [Single Btm Zoom] and [Single Btm Lock] display modes. To show the marker, tap [Home] => [Settings] => [Fish Finder] => [Display], then tap the toggle box at [Zoom Marker] to show [ON].

How to use the zoom slider

The zoom slider adjusts the zoom for [Mrk Zoom], [Btm Zoom], [Btm Lock], [Single Btm Zoom] and [Single Btm Lock] display modes. To show the zoom slider, tap [Home] => [Settings] => [Fish Finder] => [Display], then tap the toggle box at [Zoom Slider] to show [ON].

6.4.2 A-scope display

The A-scope display appears at the right 1/16 of the screen and is available in any fish finder mode. This display shows the echoes at each transmission with the amplitudes and tone in balance with their intensities. This display helps you identify possible fish species and bottom structure.



To show or hide the A-scope display, swipe the bottom of the screen upwards to show the layered menu, then tap the toggle box at [A-Scope]. Select [ON] to show the A-Scope, or [OFF] to hide the A-Scope.

A-Scope peak hold

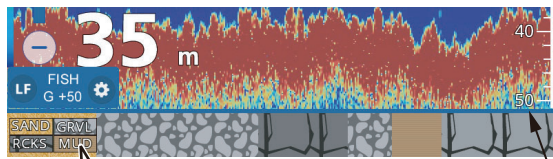
You can show the "normal" A-scope display plus the peak-hold amplitude picture for the last five seconds in dots. To show the peak hold display, turn on [A-Scope Peak Hold] in the [Settings] => [Fish Finder] menu.

6.4.3 Bottom discrimination display

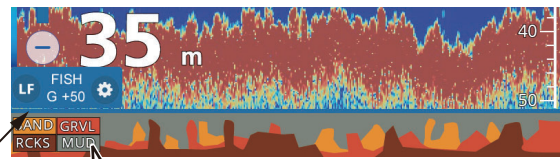
The bottom discrimination display analyzes the seabed echo to categorize seabed hardness in one of four types (rocks, gravel, sand, mud) and shows the results in a colorful graphic display. A transducer that supports bottom discrimination is required.

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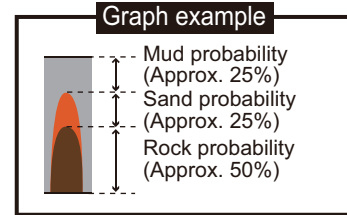
Graphic: The most probable material on the seabed (mud, sand, gravel, rock) is indicated graphically.



Probability: The most probability of each seabed material is indicated in graph form.



*: The probability bar indicates the degree of trust for the seabed composition estimate. (Green=Normal; Yellow=Caution; Background color=Abnormal)



See the installation manual for a full list of transducers which can be connected to your GP-1x71F. CHIRP transducers are NOT compatible with the Bottom Discrimination feature.

There are two bottom discrimination displays: graphic and probability.

How to set the bottom discrimination display

Note: Auto range is automatically turned on when the bottom discrimination display is activated.

1. Swipe the bottom of the screen upwards to show the layered menu.
2. Tap the toggle box at [Bottom Discrimination] to select [ON].
3. Tap [Home] => [Settings] => [Fish Finder], then tap [Bottom Discrimination].
4. Select [Graphic Representation] or [Probability Graph].
5. Tap the toggle box at [Legend] to select [ON] or [OFF] as required.
6. Close the menu.

About the bottom discrimination display

- The bottom discrimination display provides an estimate of bottom composition. Actual composition may be different.
- The high and low frequencies are alternately transmitted, regardless of current display selection. The TX interval is slower when this feature is active.
- Operating environment: Depths between 16 to 328 ft; Speed of 10 knots or less.
- This feature uses the range from the boat's draft.
- Be sure that the transducer is mounted straight. Otherwise the bottom discrimination display may not function accurately.

6.5 Automatic Fish Finder

Your fish finder can be adjusted automatically, allowing you to do other tasks.

The automatic fish finder function automatically adjusts the gain, clutter, TVG and echo offset. The main features of the automatic mode are as shown below.

There are two types of automatic fish finder modes: [Cruising] and [Fishing]. [Cruising] tracks the bottom, and [Fishing] searches for schools of fish. [Cruising] uses a higher clutter removal setting than [Fishing]. Do not use [Cruising] when your purpose is to find fish, because the clutter removal processing can erase weak fish echoes.

6.5.1 How to select the automatic mode

To select an automatic mode, tap the cogwheel icon to open the [Settings] menu then tap [Auto Fish] or [Auto Cruise] as required.

[Auto Cruise] suppresses weak echoes (small targets) and shows strong echoes (seabed, fish schools) clearly, making this mode handy for checking the seabed at a glance, while underway.

[Auto Fish] shows weaker echoes clearly and is more suited for use after arriving at a fishing spot.

6.5.2 How to adjust the gain in the auto mode

The gain controls how echoes of different strengths are displayed. Gain is automatically adjusted; however, you can fine tune the gain according to meet local characteristics, etc. Set the gain to show a slight amount of noise on the screen. Increase the gain for greater depths and lower the gain for shallow waters.

To adjust the gain, tap the cogwheel icon to open the [Settings] menu then drag the slide bar at [Gain Value], or tap the keyboard icon at [Gain Value] to input the gain value.

6.5.3 How to offset the bottom echo

When the seabed does not appear on-screen with [Auto Range] active, you can offset where the seabed is displayed on-screen.

1. Tap [Home] => [Settings] => [Fish Finder] => [Bottom Range Shift Area].
2. At [Upper Limit], set the start of the area where to show the bottom echo. For example, setting 75% would place the bottom echo at a position equivalent to 75% from the top of the screen.
3. At [Width], then set the width of the bottom echo, proportionate to the display screen. For example, a setting of 10% would show the bottom echo at no more than 10% of the width of the display.
4. Close the menu.

6.6 Manual Fish Finder Operation

Use the manual operation to see schools of fish and the bottom echo with a fixed gain setting.

6.6.1 How to select the manual mode

To select the manual mode, tap the cogwheel icon to open the [Settings] menu then tap [Manual].

6.6.2 How to select a display range

Range can be selected automatically or manually. Tap the cogwheel icon to open the [Settings] menu then tap the [Auto Range] toggle box to select [ON] or [OFF].

[ON]: The range is automatically adjusted to always display the bottom echo at the lower of the screen. The range slider bar is not available.

[OFF]: Change the range with the range slider bar. Drag the bar, use the pinch motion or tap the +/- icons to set the range.

6.6.3 How to shift the range

The basic range and range shift functions let you select the depth you can see on the screen. This function is not available in the following circumstances: Auto Range mode is on; ACCU-FISH™ feature is on; or Bottom Discrimination feature is on.

To adjust the shift, drag the echo display up to go deeper, or down to go shallower.

6.6.4 How to adjust the gain

You can adjust the gain (sensitivity) of the transducer. The correct setting shows some background noise on the screen. If you do not use enough gain, weak echoes are erased. If you use more gain than necessary, the background noise hides both weak and strong targets.

To adjust the gain, tap the cogwheel icon to open the [Settings] menu then drag the slide bar at [Gain Value], or tap the keyboard icon at [Gain Value] to input the gain value.

6.7 How to Reduce Clutter

Low intensity “spots” of noise appear over most of screen when clutter is present. These spots of noise are caused by sediment in the water or noise.

To reduce clutter, tap the cogwheel icon to open the [Settings] menu then tap [Sensitivity]. Drag the slide bar at [Clutter Range], or tap the keyboard icon at [Clutter Range] to input the value.

Use caution when adjusting the clutter. A high setting reduces more noise, however weak echoes (small targets) may also be removed.

6.8 How to Reduce Interference

Interference from other fish finders and electrical equipment appears on the screen as broken vertical lines. When this type of interference appears on the screen, use the interference rejector to reduce the interference. Three levels are available.

Turn off the interference rejector when there is no interference, so that you do not erase weak echoes.

To reduce interference, tap the cogwheel icon to open the [Settings] menu then select [Sensitivity]. At [Interference], select the required level.

6.9 How to Erase Weak Echoes

Sediment in the water and reflections from plankton appear on the display in low-intensity colors.

To erase weak echoes, tap the cogwheel icon to open the [Settings] menu then select [Sensitivity]. At [Erase Weak Echoes], drag the slider bar, or tap the keyboard icon to input a value. Select a low value to erase weak echoes. Increase the value to erase stronger echoes.

6.10 White Marker, White Edge

6.10.1 White marker

The white marker displays the selected echo strength in white.

1. Tap the cogwheel icon to open the [Settings] menu then select [Sensitivity].
2. Tap the [White Marker] toggle box to select [ON]. The [Range] settings are now selectable.
3. Drag the slider bar, or tap the keyboard icon to input a value.
The higher the number, the stronger echo is displayed in white. The selected color is marked in white on the color bar.

6.10.2 White edge

The white edge feature displays the leading edge of the bottom echo in white to help you distinguish bottom fish from the bottom echo.

1. Tap the cogwheel icon to open the [Settings] menu then select [Sensitivity].
2. Tap the [White Edge] toggle box to select [ON] or [OFF] as required.

6.11 How to Balance Echo Strength

A school of fish at a depth deeper than a school of equal strength in shallow water appears in weaker colors. This condition is caused by the attenuation of the ultrasonic wave. To display the schools of fish in the same colors, use the TVG. The TVG automatically adjusts the gain with depth so that echoes of the same strength at different depths are shown in the same colors.

1. Tap the cogwheel icon at the bottom-left of the fish finder screen. The quick settings menu appears.
2. Drag the slide bar at [TVG Range], or tap the keyboard icon to input a value.
3. Close the menu.

6.12 Zero Line

The zero line rejection feature helps to find fish near the surface, often hidden by the transmission line. When turned on, the transmission line disappears, which allows you to better watch fish echoes near the surface. The length of the transmission line changes with transducer used and installation characteristics.

1. Tap [Home] => [Settings] => [Fish Finder] => [Zero Line].
2. Tap the toggle box at [Zero Line Rejection] to show [ON].
3. If your transducer has a transmission line wider than 1.4 meters, tap [Zero Line Range] to adjust the width of the area affected by this feature.
For a long tail, increase the value. If the transmission line does not disappear, lower the TX power.
4. Close the menu.

6.13 Picture Advance Speed

The picture advance speed controls how quickly the vertical scan lines move across the screen. A fast advance speed expands the size of a school of fish horizontally on the screen. A slow advance speed shortens the school of fish. Use a fast advance speed to see the hard bottom. Use a slow advance speed to see the smooth bottom.

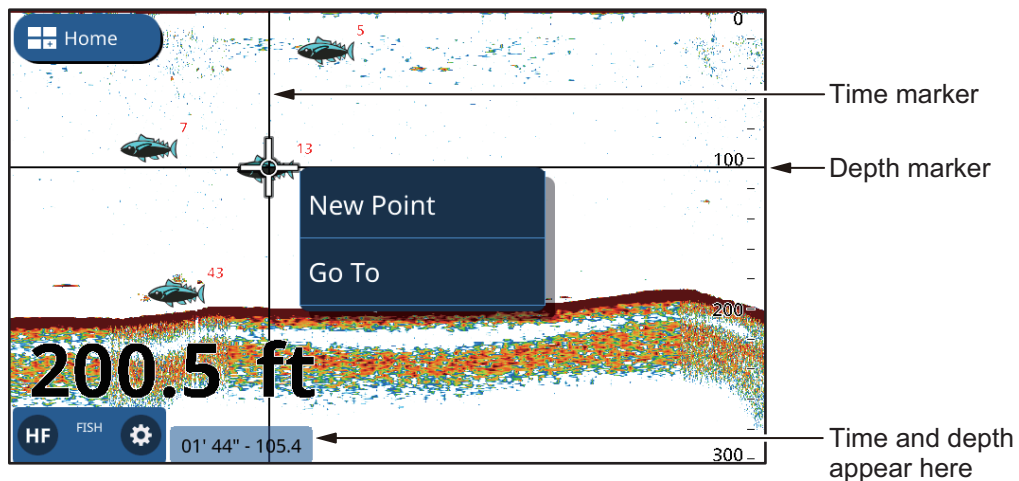
Note: When ACCU-FISH™ or Bottom Discrimination is active, the picture advance speed may be slowed.

1. Tap [Home] => [Settings] => [Fish Finder], then tap [Display].
2. From the [Picture Advance] options, in the right-hand side of the menu, select the appropriate setting.
3. Select a picture advance speed. The options in the window indicate the number of scan lines made per transmission. For example, [1/2] creates one scan line per two transmissions. [1/16] is the slowest advance speed and [4/1] is the fastest speed. [STOP] stops picture advance, and is useful for taking a screenshot or photo.

6.14 Depth/Time Measurements

You can measure the depth to an object with the VRM. Also, you can measure the time from the right edge to a location. For example, you can measure how many minutes ago the echo appeared.

To measure the time to a location, or the depth to an object, tap the object/location. The VRM cross-hairs move to the tapped location.



Depth and time appears the bottom-right corner of the screen. Time is measured using the time interval indications at the top of the screen.

6.15 How to Show Past Echoes

You can review past echoes which are longer shown on the screen. You can drag the screen to the left/right and review up to four pages of echoes. To return the screen to normal operation, tap the [Center] icon at the top-right of the screen.

6.16 Fish Finder Display Settings

Display settings for the fish finder can be changed from the [Settings] => [Fish Finder] menu. Referring to the list below, changed the settings as required.

- [Color Scheme] => [Day]/[Night]: Set the color scheme to use for Day/Night palettes.
- [Display] => [Echo Colors]: Set the number of colors available when an echo appears on the screen.
- [Display] => [Color Bar]: Show/hide the color bar.

6.17 ACCU-FISH™

The ACCU-FISH™ feature measures the length of individual fish and tags the fish with a fish symbol whose size is scaled to the length of the fish. The length or depth of the fish can be indicated digitally.

Connection to a transducer compatible with ACCU-FISH™ is required.

6.17.1 Considerations for ACCU-FISH™

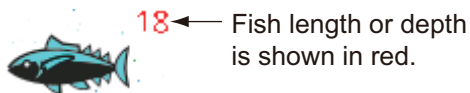
- The fish length calculated by this fish finder is intended for reference purposes; it is not a completely accurate measurement of fish length.
- The 600 W transducers which support ACCU-FISH™ are 520-5PSD, 520-5MSD, 525-5PWD, 525STID-MSD and 525STID-PWD.

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- To display fish marks and fish size using a 1 kW transducer, the integrated transducer 50/200-1T or 526TID-HDD is recommended.
- Echo intensity depends on fish species and can cause a difference between the indicated length and the actual length. When the indicated fish length differs from the actual length, you can compensate for the difference on the [Fish Finder] menu in the [Home] => [Settings] menu.
- When ACCU-FISH™ is active, the auto range feature is automatically turned on.
- ACCU-FISH™ is not available with CHIRP transducers.
- High and low frequencies are alternately transmitted when ACCU-FISH™ is active, regardless of mode selection.
- A fish whose depth is shallower than 2 m or greater than 100 m cannot be measured.
- In a school of fish, echoes overlap one another, so the margin of error will be greater.
- The bottom echo must be present to show the fish symbols.
- The TX pulse length changes according to ACCU-FISH™ On/Off state. This causes a difference in both sensitivity and the echoes viewed.
- This feature cannot be used with the inside-hull transducer since a fish may not be detected depending on the transducer's frequency. Even if a fish is detected, the fish length indicated may be smaller than actual length.

6.17.2 How to activate ACCU-FISH™, select display information

1. From the [Home] screen, tap [Settings] => [Fish Finder].
2. At [ACCU-FISH Info] and select the information to display.
[Off]: Hide the fish size/depth indications, showing only the icon.
[Fish Size]: Show fish size.
[Depth]: Show depth to the fish.



3. At [ACCU-FISH Symbol] to select the size of the fish symbol. Tap [Small] or [Large], or tap [OFF] to hide the symbol (only the size/depth appears).

6.17.3 Fish size correction

The fish size shown on the display can be different from the true size. If the size indicated is wrong, add an offset to the measured value to get an accurate indication on the screen.

1. Swipe the bottom of the screen upwards to show the layered menu.
2. Tap [Size Correction] to show the settings.
3. Drag the slider bar, or tap the keyboard icon to input a value. The following list shows example settings and how the fish length is revised, for reference.
 - [+100%]: Two times the detected length
 - [+50%]: 1.5 times the detected length
 - [-50%]: Half the detected length

- [-80%]: 1/5 of the detected length

6.17.4 How to filter the ACCU-FISH display

You can set filters for the ACCU-FISH™ feature so that only fish which meet your conditions are shown on the screen.

1. Tap [Home] => [Settings] => [Fish Finder], then tap [ACCU-FISH].
2. At [ACCU-FISH Filter 1], set the filter.
 - [Name]: Set the name of the filter.
 - [Symbol]: Assign a symbol to the filter.
 - [Color]: Set the color for the filter.
 - [Fish Size]: Set the minimum size of fish you want to filter. You can filter for lengths of up to 200 cm.
 - [Depth]: Set the depth for the fish you want to filter.
 - [Surface/Bottom]: Sets the reference point from which the previous setting, [Depth], is measured
3. Set [ACCU-FISH Filter 2] through 4 in the same manner.
4. Close the menu.
5. Swipe the bottom of the screen upwards to show the layered menu.
6. Tap [ACCU-FISH Filter] to show the filter list.
7. Tap the toggle boxes to show [ON] (use the filter) or [OFF] (do not use the filter)
8. Close the menu.

Note: When more than one filter is used, the filters are applied in numerical order. For this reason, use the largest measurement for the first filter (F1), then step down in measurements for subsequent filters.

6.18 RezBoost™

With connection of a RezBoost™ capable transducer, echo resolution can be improved. For example, previously it was difficult to distinguish fish from the seabed echoes. With [Enhanced] RezBoost™, however, fish near the bottom are clearly seen.

Note: The RezBoost™ feature is not available with CHIRP transducers. See the equipment list in the Installation Manual for details.

To use the RezBoost™ feature, swipe the bottom of the screen upwards to show the layered menu, then tap [RezBoost] => [Enhanced]. To disable the RezBoost™ feature, tap [Standard].

6.19 Fish Finder Notifications

The fish finder has four main notification settings: detection level (based on echo strength), school (bottom), single fish size and seabed composition. When the conditions of a notification are met, the buzzer sounds and the applicable message appears at the top of the screen. Tap the message to silence the buzzer. The icon remains on the screen until the offending notification is disabled or the condition that caused the notification has ended.

6.19.1 How to set the detection level

Detection level determines the echo strength at which an echo is interpreted as a school. Echoes which are estimated to be a school trigger the fish detection notification.

1. Tap [Home] => [Settings] => [Notifications] => [Fish and Bottom].
2. At [Fish Detection Level], tap the echo strength you want to set as a threshold. Echoes with a strength lower than this setting do not trigger the fish detection notification.
3. At [Fish], tap the toggle box for [Notification] to show [ON]. The menu items for [Depth] and [Range] are now active and selectable.
4. Set the [Depth] (from transducer) to set the start point for the detection area. Drag the slider, or tap the keyboard icon to input a value.
5. Set the [Range] (width) of the detection zone in a similar manner.
6. Close the menu.

6.19.2 How to set the notification for fish near the seabed

You can set a detection zone based on an area near the seabed. Fish detected within the set range from the seabed trigger the fish detection notification.

1. Tap [Home] => [Settings] => [Notifications] => [Fish and Bottom].
2. At [Fish B/L], tap the toggle box for [Notification] to show [ON]. The menu items for [Depth] and [Range] are now active and selectable.
3. Set the [Depth] (from transducer) to set the start point for the detection area. Drag the slider, or tap the keyboard icon to input a value.
4. Set the Range (width) of the detection area in a similar manner.
5. Close the menu.

6.19.3 How to set the fish size notification

The [Fish Size Notification] is triggered when fish meet the criteria set for the ACCU-FISH™ filter. See section 7.17.5 to set the criteria.

1. Tap [Home] => [Settings] => [Notifications] => [Fish and Bottom].
2. At [Fish Size Notification], tap the toggle box to show [ON].
3. Close the menu.

6.19.4 How to set the seabed type notification

The Bottom Discrimination feature gives you an estimate of the seabed composition and you can set a notification to inform you when a certain composition is detected.

1. Tap [Home] => [Settings] => [Notifications] => [Fish and Bottom].
2. At [Seabed Type Notification], tap the toggle box to show [ON]. The composition types (Sand, Mud, Rock, Gravel) are now active and selectable.
3. Select the [Seabed Type] you want to trigger the notification.
4. Set the [Probability] at which the notification is triggered. Drag the slider, or tap the keyboard icon to input a value.

5. Close the menu.

6.20 Restoring Factory Defaults

You can reset Fish Finder menu settings back to factory default.

Note: This procedure resets **ALL** settings in the [Fish Finder] menu to default.

1. Tap [Home] => [Settings] => [Fish Finder] => [Restore Defaults] => [Restore Default Settings]. A confirmation message appears.
2. Tap [Yes] to restore the [Fish Finder] menu settings to factory default.

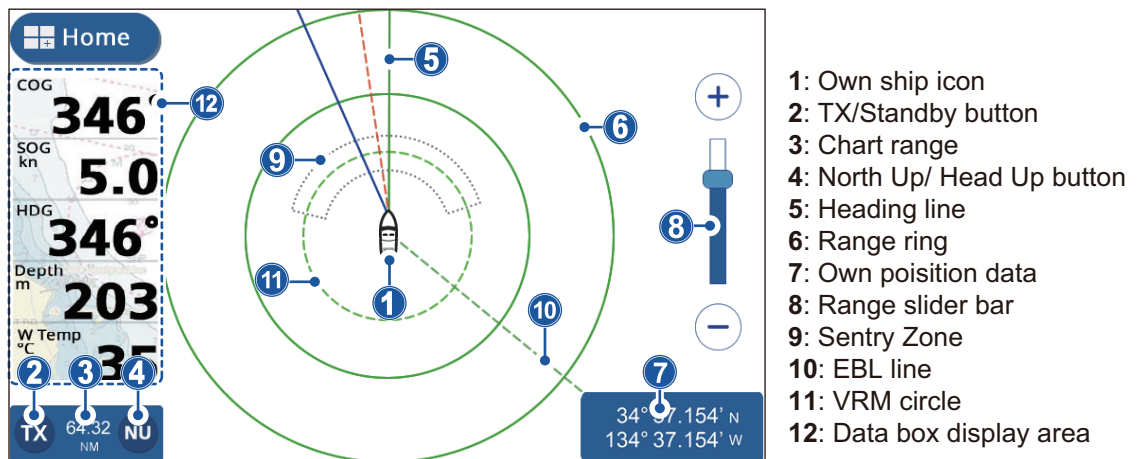
6. FISH FINDER

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7. RADAR

7.1 Radar Screen Overview

When connected to a radar, you can view the radar echoes on screen. The radar screen also shows various navigational data in the data boxes at the left-hand side of the screen.



7.2 Transmit/Standby

Tap the TX icon at the bottom-left of the radar screen to toggle between transmit and standby. When the radar is set to transmit, the icon is highlighted in a yellow color.

7.3 Tune Initialize

You can tune enable or disable the automatic tuning feature. The default settings is [ON] and the picture is automatically adjusted to give clearer echoes.

1. From the [Home] screen, tap [Settings] => [Radar] => [Initial Setup]. The menu options appear in the right-hand side of the screen.
2. Tap the toggle box at [Auto Tuning] to show [ON] or [OFF] as required. The setting is effective once the menu is closed.
3. Tap the [x] at the top-right corner of the menu to close the menu.

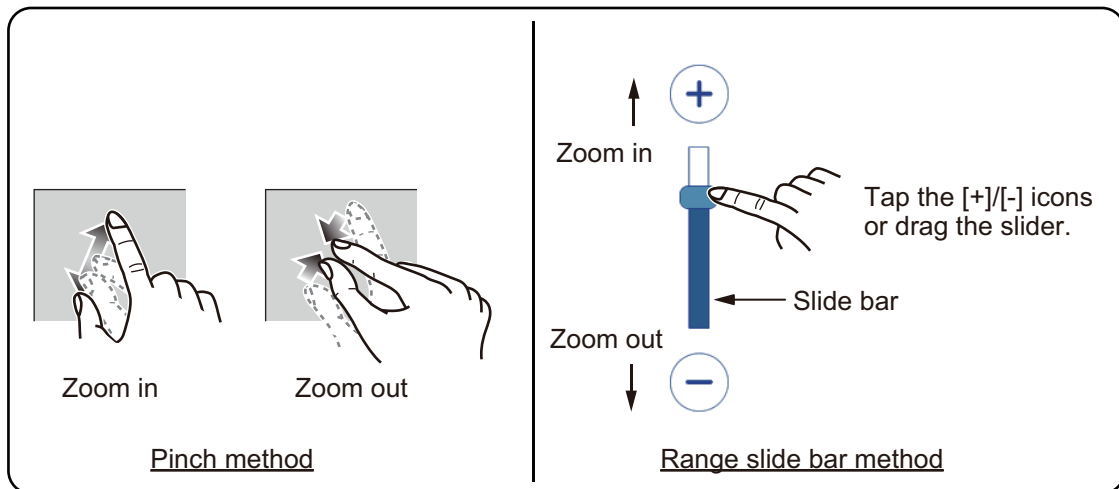
7.4 How to Reduce Clutter

Rain and snow can cause “clutter” when reflecting the radar beam. Clutter appears similar to “white noise” on the radar screen. You can use the Auto Rain feature to reduce this clutter.

1. Tap the radar screen to show the pop up menu.
2. Tap the [Aut.Rain] toggle box to show [ON] (clutter is reduced) or [OFF] (no clutter reduction) as required.

7.5 How to Change the Range

There are two methods you can use to change the range: pinch the radar screen, or use the range slide bar.



If the slide bar is not shown, tap [Home] => [Settings] => [Radar] => [General], then tap the toggle box at [Show Range Slider] to show [ON].

7.6 Changing Orientation Modes

The radar display can be oriented with North at the top of the screen or with the heading at the top of the screen. To switch between orientation, tap the [North Up]/[Head Up] button at the bottom-left of the screen. The indication changes to show "NU" or "HU" respectively.

Head Up: Echoes appear on the screen in a manner similar to your view from the bridge. This orientation is best suited for narrow waterways and high traffic areas. However, the picture can be affected when you turn, or when the ship yaws.

North Up: The display is oriented with True North at the top of the screen and the heading line/course line move in accordance with your ship's movements. Non-moving targets are displayed in the same manner as shown on a chart. This orientation is best suited for open seas and route monitoring. The picture is not affected when turning or yawing.

Note: North Up orientation required heading data. If heading data input is interrupted or lost while North Up orientation is used, the system automatically switches to Head Up orientation. Restore heading input to use North Up orientation again.

7.7 How to Select the Radar Sensor

You can select the radar antenna (sensor) to use as the radar data source.

1. From the [Home] screen, tap [Settings] => [Radar] => [General]. The menu options appear in the right-hand side of the screen.
2. Available radar sensors are shown in the [Source] section of the menu options. Tap the sensor you want to use.
3. Tap the [x] at the top-right corner of the menu to close the menu.

7.8 Show/Hide the Own Ship Icon

Swipe the bottom of the screen upwards to show the layered menu, then tap the toggle box at [Show Own Ship Icon] to show [ON] or [OFF] as required.

7.9 Measuring Range and Bearing

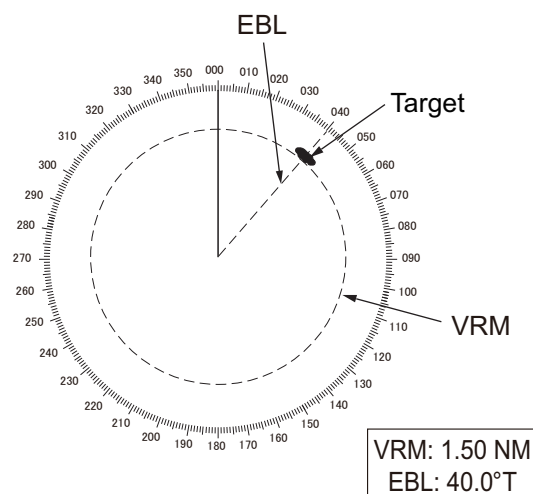
7.9.1 How to estimate the distance to a target

You can estimate the distance (range) to a target by counting the number of range rings between your vessel and the target. The range ring closest to the target can be used to estimate the distance.

If range rings are not displayed, swipe the bottom of the screen upwards to show the layered menu, then tap the toggle box at [Show Radar Rings] to show [ON].

7.9.2 How to use EBL and VRM to measure distance and bearing

1. Swipe the bottom of the screen upwards to show the layered menu, then tap the toggle box at [Show EBL/VRM] to show [ON].
2. Close the layered menu.
3. Tap any location on the radar screen, other than echoes or indications. The pop up menu appears.
4. Tap [EBL/VRM]. The pop up menu closes. The EBL (Electronic Bearing Line) and VRM (Variable Range Marker) are now adjustable.



5. **To measure the bearing to a target**, drag the EBL line until it intersects the target.
To measure the distance (range) to a target, drag the VRM circle until it intersects the target.
6. **To enable/disable either the EBL or the VRM**, tap the toggle box at the bottom of the screen. Set to [ON] to enable, [OFF] to disable.
7. Tap [Save] at the top-right of the screen to save the changes, or [Cancel] at the top-left of the screen to discard any changes.

7.9.3 How to change the bearing reference


Bearing can reference to either North (True) or relative to your heading (Relative). Heading data input is required to show or change the bearing reference.

1. From the [Home] screen, tap [Settings] => [Radar] => [General]. The menu options appear in the right-hand side of the screen.
2. Tap the reference indication at [EBL Reference], then tap the desired reference.
3. Tap the [x] at the top-right corner of the menu to close the menu.

7.10 How to Shift the Screen

You can “off-set” the screen, moving the center (own ship position) to view areas not already shown on the screen. This allows you to keep the same detection range, however it is limited to 75% of the screen, in any direction.

To shift the screen, drag the radar display in the direction you want to view. To return the display to normal, tap the [Center] icon at the top-right of the screen.

[Center] icon: 

7.11 How to Use Echo Stretch

The echo stretch feature enlarges targets in range to make them easier to see, and is available on any range. To use the echo stretch feature, follow the procedure below.

1. Tap any location on the radar screen, other than echoes or indications. The pop up menu appears.
2. Tap [Echo st.]. The echo stretch settings appear.
3. Set echo stretch referring to the options below.
 - [Off]: Disable the echo stretch feature.
 - [Low]: Targets are stretched by a small amount.
 - [High]: Targets are stretched by a large amount.

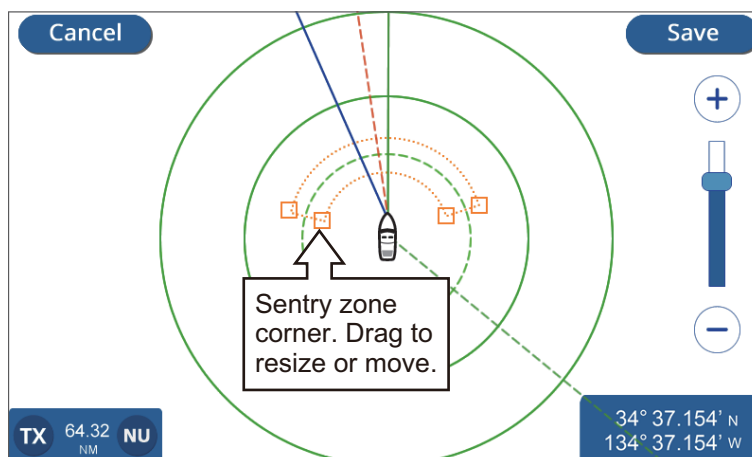
Note: Echo stretch magnifies not only small targets, but also rain clutter and interference. For this reason, make sure interference and clutter are sufficiently reduced before using this feature.

7.12 How to Use the Sentry Zones

Sentry zones can be used to inform you when a target enters or leaves a preset area. To set and adjust the sentry zones, follow the procedure below:

1. Swipe the bottom of the screen upwards to show the layered menu.
2. Tap the toggle button to select [ON] for [Sentry Zone 1] or [Sentry Zone 2], as required. Select [OFF] to hide the sentry zone. This procedure assumes that at least one sentry zone is set to [ON].
3. Tap any location on the radar screen, other than echoes, indications or the layered menu. The layered menu disappears.

4. Tap any location inside of the sentry zone. The pop up menu appears.
5. Tap [Resize SZ]. The sentry zone now appears with a yellow colored dashed line and a box appears at each corner of the zone.



6. Drag the corners to resize or relocate the sentry zone.
7. Tap [Save] to save the changes, or tap [Cancel] to discard any changes. The sentry zone now appears in the new location.
8. Tap any location inside of the sentry zone. The pop up menu appears.
9. Tap [Notif.]. The notification settings appear.
10. Set the notifications for the sentry zone, referring to the list below.
 - [OFF]: Disables notification for the selected sentry zone.
 - [IN]: Notifications appear only when a target enters the sentry zone.
 - [OUT]: Notifications appear only when a target exits the sentry zone.
 If you selected [IN] or [OUT], the sentry zone outline changes from dashed lines to solid lines.

Note: You can only hide a sentry zone by setting the zone to [OFF] from the layered menu.

7.13 How to Change Echo Colors

You can change the color for radar echoes.

1. From the [Home] screen, tap [Settings] => [Radar] => [General]. The menu options appear in the right-hand side of the screen.
2. Tap the color indication at [Echo Color], then tap the color you require. [Multicolor] colors the targets based on echo signal strength, with red color for the strongest signals, yellow for medium-strength signals and green for weak signals.
3. Tap the [x] at the top-right corner of the menu to close the menu.

7.14 Changing Background Color

The system has two color schemes, Day and Night, each with their own background colors.

7. RADAR

1. From the [Home] screen, tap [Settings] => [Radar] => [General]. The menu options appear in the right-hand side of the screen.
2. Tap the color indication at [Day Background Color], then tap the background color to use.
3. Tap the color indication at [Night Background Color], then tap the background color to use.
4. Tap the [x] at the top-right corner of the menu to close the menu.

7.15 Bearing Scale Reference Setup

The bearing scale appears at the outer edge of the range rings and shows the bearing in relation to your own bearing. The scale can be referenced to True North (True) or relative to your own vessel (Relative).

1. From the [Home] screen, tap [Settings] => [Radar] => [General]. The menu options appear in the right-hand side of the screen.
2. Tap the indication at [Bearing Scale Mode], then tap the reference to use.
3. Tap the [x] at the top-right corner of the menu to close the menu.

The manner in which the scale is shown on-screen depends on the combination with the display orientation.

Where display orientation is set to Head Up

[True]: The heading line always shown pointing to the top of the screen and the scale moves in relation to your heading.

[Relative]: 0 degrees bearing is always shown at the top of the screen.

Where display orientation is set to North Up

[True]: 0 degrees bearing is always shown at the top of the screen.

[Relative]: The scale moves in relation to your vessel's movements.

7.16 Radar [Initial Setup] Menu

1. From the [Home] screen, tap [Settings] => [Radar] => [Initial Setup]. The menu options appear in the right-hand side of the screen.
2. Select the item you want to change and set as required, referring to the list below.
 - [Tune Initialize]: Select whether or not to use the [Tune Initialize] feature.
 - [Random Pulse]: Set to [ON] if the radar shows interference from other radars or other equipment.
 - [On Time]: Shows the total time the radar is powered.
 - [Tx Time]: Shows the total transmission time for the radar.
 - [Sector Suppression]: Enable or disable the sector suppression feature. Use this feature stops transmission in a preset arc. Normally this setting is done at installation and does not require adjustment.

- [Sector Start Angle]: Sets the angle at which [Sector Suppression] begins. This menu item can be adjusted regardless of the setting for [Sector Suppression], however the setting has no effect until [Sector Suppression] is enabled.
 - [Sector Width]: Sets the width for [Sector Suppression]. This menu item can be adjusted regardless of the setting for [Sector Suppression], however the settings has no effect until [Sector Suppression] is enabled.
 - [Video Contrast]: Sets the video contrast (sharpness) for radar echoes. This menu option is only available when a radar antenna is connected.
 - [Antenna Heading Align]: Aligns the antenna heading. This setting is done at installation and should not be changed during normal use.
3. Tap the [x] at the top-right corner of the menu to close the menu.

7.17 Restoring Factory Defaults

You can restore the [Radar] menu to factory default settings with the following procedure.

1. From the [Home] screen, tap [Settings] => [Radar] => [Restore Defaults].
2. Tap [Restore Default Settings]. A confirmation pop up appears.
3. Tap [Yes] to restore the menu to factory default settings, or tap [No] to cancel.
4. Tap the [x] at the top-right corner of the menu to close the menu.

7. RADAR

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8. AIS/DSC OPERATIONS

8.1 AIS Overview

AIS (Automatic Identification System) is a system that continuously transmits and receives the identification, position, and other AIS data of vessels equipped with an AIS transponder within communicating range. The AIS broadcasts this information over a VHF transceiver. AIS data can be displayed on the Radar screen or the Plotter screen, giving you almost instant access to detailed information of vessel in your vicinity.

8.2 AIS Target Information

Swipe the bottom of the screen upwards to show the layered menu, then tap the toggle box at [AIS/DSC Targets] to show [ON].

8.3 AIS Target Symbols

Class A: Blue
Class B: Green



Lost targets are shown
in gray with a "X".



Dangerous targets
are highlighted in red.



SART icon is shown
in red for active, Gray
for test.



8.4 AIS Activation Range

The default AIS activation range is 5.0 NM. Any AIS target that is within 5.0 NM of your boat is automatically activated.

To change the activation range, follow the procedure below.

1. From the [Home] screen, tap [Settings] => [AIS and DSC].
2. Tap the keyboard icon at [Activate Range], then enter the desired range, or slide the slider bar to select a range.
3. Close the menu.

8.5 How to Ignore Slow Targets

You can set a speed for “slow” targets. Targets moving at speeds than this settings are ignored, helping keep the screen free of unnecessary AIS targets. Targets deemed as “slow” do not trigger the CPA/TCPA notifications.

1. From the [Home] screen, tap [Settings] => [AIS and DSC].
2. Tap the keyboard icon at [Ignore Slow Targets], then enter the desired speed, or slide the slider bar to select a speed.
3. Close the menu.

8.6 How to Show AIS Target Data

Tap an AIS target symbol to show AIS target information. The information appears at the bottom-right of the screen.

8.7 Show/Hide the AIS Target ID

You can show the AIS target’s identification below the AIS symbol.

1. From the [Home] screen, tap [Settings] => [AIS and DSC] => [AIS].
2. Tap the toggle box at [Show Target IDs] to show [ON] or [OFF] as required.
3. Close the menu.

8.8 AIS List Overview

Tap a sorting method to sort the list.

| Name | Call Sign | Range/BRG | CPA/TCPA | Position |
|------------------------|-----------|----------------|--------------------|-------------------------------|
| PEGASUS 49759037459 | D10P | 0.3 NM 303° | 4.3 NM 01:12:05 | 34°37.154' N 134°37.154' W |
| LOREM 49759037459 | D34576 | 0.3 NM 303° | 4.3 NM 01:12:05 | 34°37.154' N 134°37.154' W |
| PEGASUS 49759037459 | TCCVFD | 0.3 NM 303° | 4.3 NM 01:12:05 | 34°37.154' N 134°37.154' W |
| LOREM 49759037459 | DS0865 | 0.3 NM 303° | 4.3 NM 01:12:05 | 34°37.154' N 134°37.154' W |
| PEGASUS 49759037459 | 1436HH | 0.3 NM 303° | 4.3 NM 01:12:05 | 34°37.154' N 134°37.154' W |

CPA/TCPA

AIS target's location (latitude/longitude)

8.8.1 How to show the AIS target list

From the [Home] screen, tap [List] => [AIS].

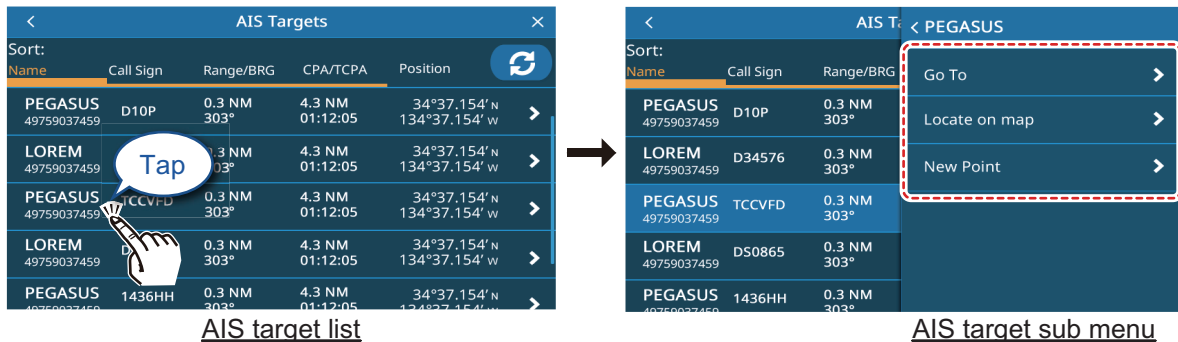
8.8.2 How to sort the AIS target list

Tap a sorting method at the top of the list.

- [Name]: Sorts the list by name, in alphanumerical order.
- [Call Sign]: Sorts the list by call sign, in alphanumerical order.
- [Range/BRG]: Sorts the list by range, in ascending order of distance from own ship.
- [CPA/TCPA]: Sorts the list by CPA, in ascending order.

8.8.3 AIS list sub menu operations

You can tap an AIS target in the list to show the sub menu.



- [Go To]: Set the AIS target as a [Quick Route] destination.
- [Locate On Map]: Move the plotter/radar screen to show the selected AIS target at the center of the screen.
- [New Point]: Place a point at the AIS target's location.

8.9 CPA and TCPA Notifications

The CPA (Closest Point of Approach) and TCPA notifications alert you when an AIS-equipped vessel is within the preset distance (range) or time from your vessel. These notifications can be used to help avoid dangerous situations.

1. From the [Home] screen, tap [Settings] => [Notifications] => [AIS].
2. Tap the [CPA] toggle box to show [ON]. The settings for this notification become active.
3. Drag the slider to set the [CPA], or tap the keyboard icon to enter a value.
4. Tap the [TCPA] toggle box to show [ON]. The settings for this notification become active.
5. Drag the slider to set the [TCPA], or tap the keyboard icon to enter a value.
6. Close the menu.

When a target has a lower CPA or TCPA than the notification setting, the notification is triggered, releasing an audible beep and an on-screen notification. Tap the indication at the top of the screen to silence the audible beep. Take the necessary precautions to avoid a collision.

The notification remains until the target is no longer within the notification setting threshold, or the CPA/TCPA notification is disabled.

8.10 AIS SART Operations

You can be notified to an active/test AIS SART (Search And Rescue Transponder) in your area when the system receives the respective AIS SART sentence.

Test AIS SARTs are not shown by default. To show them, tap [Home] => [Settings] => [AIS and DSC], then tap the [AIS SART TEST] toggle box to select [ON].

8.11 ICOM Data

To receive ICOM data, tap [Home] => [Settings] => [AIS and DSC], then tap then tap the toggle box at [Receive ICOM Data] (in the [AIS] tab) to show [ON].

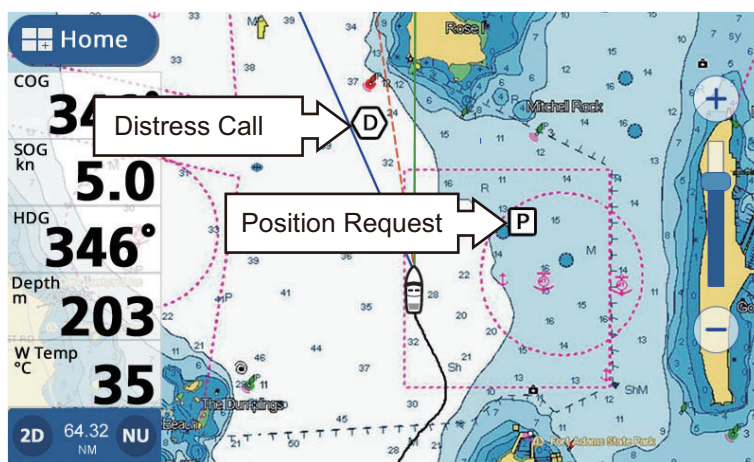
8.12 DSC Message Information

The DSC (Digital Selective Calling) message information feature notifies you when you have received a DSC position request or a DSC distress call, via VHF.

If you are not on the plotter display, a notification appears. Select [Yes] if you want to go to the plotter display.

Distress Calls are indicated as a hexagonal icon with the letter “D” at the center.

Position Requests are indicated as a square icon with the letter “P” at the center.



Note: This feature requires connection of a DSC capable VHF that outputs the PGN format DSC sentence (129808).

When a DSC message is received, an audible beep is released and a notification appears. Tap the indication at the top of the screen to silence the beep.

8.13 Show/Hide the DSC Symbols

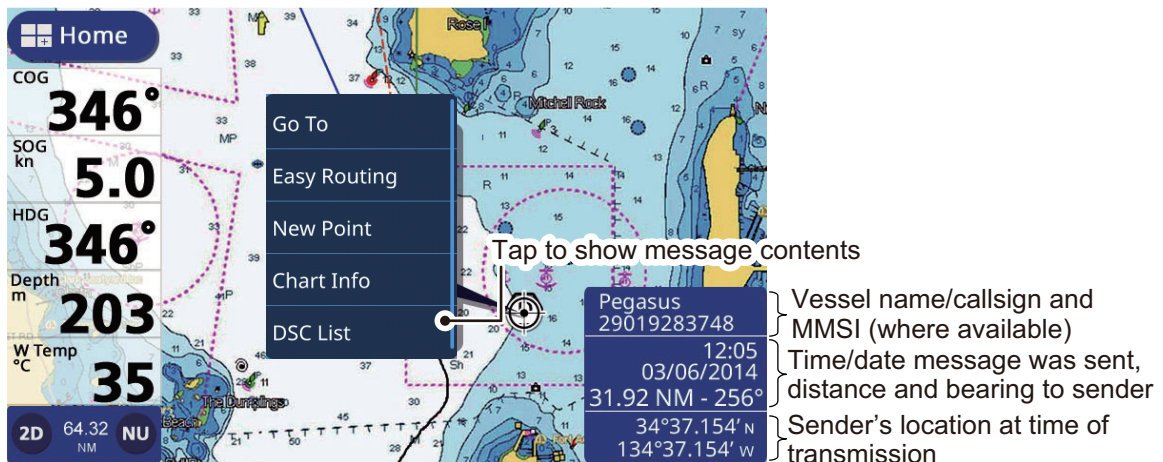
Swipe the bottom of the screen upwards to show the layered menu, then tap the toggle box at [AIS/DSC Targets] to show [ON].

8.14 DSC Device Selection

1. From the [Home] screen, tap [Settings] => [Interface] => [Select Input Device].
2. Scroll down the menu, then tap [DSC].
3. Select the NMEA format that the radiotelephone uses. Available options are [NMEA0183] or [NMEA2000 Auto].
4. Close the menu.

8.15 DSC Message Information

Tap a DSC icon to show the DSC message information.



8.16 Show/Hide the DSC Target ID

You can show the DSC target's identification below the symbol.

1. From the [Home] screen, tap [Settings] => [AIS and DSC] => [DSC].
2. Tap the toggle box at [Show Target IDs] to show [ON] or [OFF] as required.
3. Close the menu.

8.17 DSC List Overview

Tap a sorting method to sort the list.

DSC sender's name, callsign, MMSI and date/time of transmission

| Name | Time | Range/BRG | Position |
|------------------------|---------------------|----------------|-------------------------------|
| PEGASUS 49759037459 | 12:04 03/06/2016 | 0.3 NM 303° | 34°37.154' N 134°37.154' W |
| LOREM 49759037459 | 11:04 03/06/2016 | 0.3 NM 303° | 34°37.154' N 134°37.154' W |
| PEGASUS 49759037459 | 09:34 03/06/2016 | 0.3 NM 303° | 34°37.154' N 134°37.154' W |
| LOREM 49759037459 | 12:04 02/06/2016 | 0.3 NM 303° | 34°37.154' N 134°37.154' W |
| PEGASUS 49759037459 | 12:04 03/06/2016 | 0.3 NM 303° | 34°37.154' N 134°37.154' W |

Distance/bearing from own ship to sender

DSC sender's location (latitude/longitude)

Tap the Refresh button to update the list.

Drag the scrollbar to show targets which are not displayed on-screen.

8.17.1 How to show the DSC target list

From the [Home] screen, tap [List] => [DSC].

8.17.2 How to sort the DSC target list

Tap a sorting method at the top of the list.

- [Name]: Sorts the list by name, in alphanumerical order.
- [Time]: Sorts the list by transmission, newest messages appear at the top of the list.
- [Range/BRG]: Sorts the list by range, in ascending order of distance from own ship.

8.17.3 DSC list sub menu operations

You can tap a DSC target in the list to show the sub menu.

DSC target list

DSC list sub menu

- [Go To]: Set the DSC target as a [Quick Route] destination.
- [Locate On Map]: Move the plotter/radar screen to show the selected DSC target at the center of the screen.
- [New Point]: Place a point at the DSC target's location.

8.17.4 How to delete DSC messages

The system can store up to 100 DSC messages. You can selected when to delete messages.

1. From the [Home] screen, tap [Settings] => [AIS and DSC].
2. Tap the setting at [DSC Calls List] to show the options, then tap the desired option.
3. Close the menu.

8. AIS/DSC OPERATIONS

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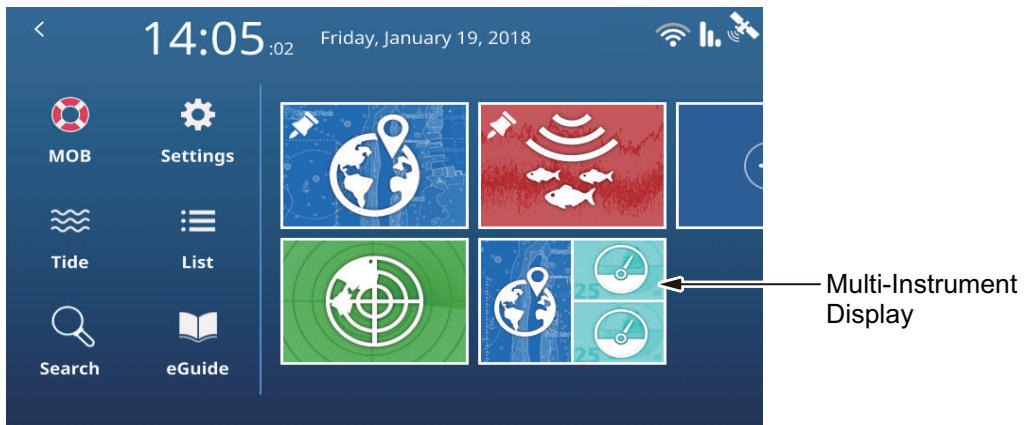
9. INSTRUMENT DISPLAY

9.1 Instrument Display Overview

With the connection of appropriate sensors, you can view information regarding your vessel, such as roll/pitch, speed and engine information. Data is displayed in graphic, digital, analog or NAVpilot formats. The instrument display is available when using the three-section display screen layout.

9.2 Instruments Display

From the [Home] screen, tap the Instrument Display page you want to show.



9.3 Multi-Instrument Display

You can set one or both of the smaller split windows as Multi-Instrument Displays. The settings and information selected to display is shared between the windows if you select both.

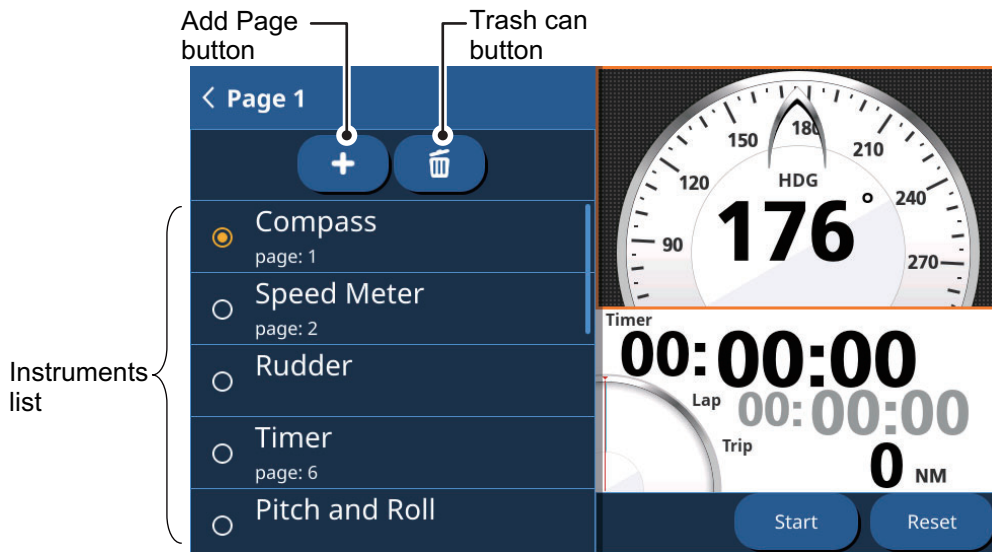
9.3.1 How to set up and edit the Multi-Instrument Display

You can save up to seven pages of Instrument Displays. To set up the Multi-Instrument Display, follow the procedure below.

1. Set up a three-section page with instruments as one (or both) of the smaller sections.
2. Select the page from the [Home] screen.

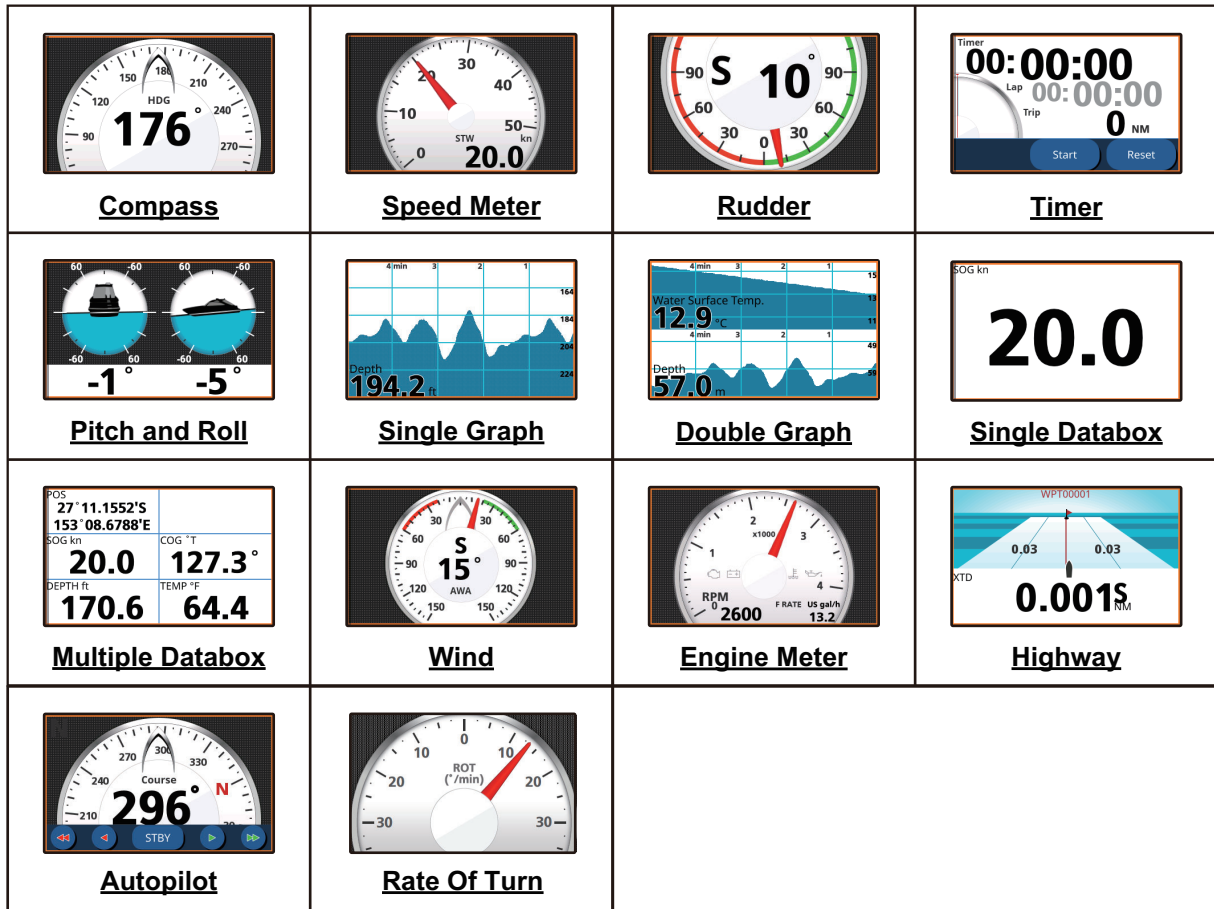
9. INSTRUMENT DISPLAY

3. Long-tap the instrument display at the right-hand side of the page. The editing menu appears.



4. From the instruments list, tap the instrument you want to display.
5. To add a second instrument to the current window, tap the [Add Page] button, then select the instrument you want to add.
6. Repeat steps 4 and 5 to add further instruments. You can have up to 7 instruments assigned to the instrument display. Depending on your selection, further options can be set for the instrument. See section 9.3.4 for details.
7. Tap the [<] icon at the top-left corner of the editing menu to close the menu.

9.3.2 Instrument display examples



9.3.3 How to change the displayed instrument

If you have more than one instrument selected for the Multi-Instrument page, swipe the page up or downwards to show the next page.

9.3.4 How to change the information shown for an instrument

Depending on the displayed instrument, the method in which data is displayed can be changed to suit your requirements.

1. Tap the instrument whose displayed information you want to change. If the instrument has changeable information, the editing menu appears at the left-hand side of the screen.
2. Tap the information you want to display.
3. Tap the [<] icon at the top-left corner of the editing menu to close the menu.

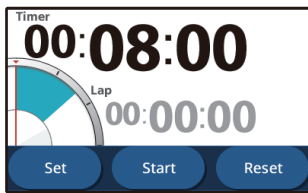
9.3.5 How to delete an instrument page

To delete an instrument page, tap the trash can icon from the editing menu, then tap [Yes] in the confirmation pop up window.

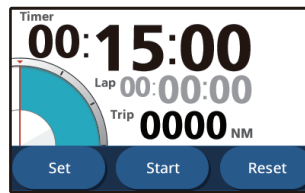
If you have the same instrument displayed on a second instrument window, an error message appears. Change the displayed instrument on the second window, then delete the instrument.

9.3.6 How to use the timer instruments

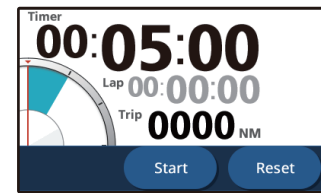
1. Referring to section 9.2.1, set [Timer] as the displayed instrument.
2. Tap the timer window to show the timer settings.
3. Select the desired option.



Countdown timer



Countdown + trip



Stopwatch

- **[Countdown]:** Shows a countdown timer.
Tap the [Set] button to set up the time. The minimum time is 1 minute and the maximum time is 15 minutes, in one-minute intervals.
Tap the [Up] or [Down] buttons to adjust the time, then tap [OK].
Tap the [Start] button to begin the countdown; Tap [Lap] to take a lap time; Tap [Stop] to stop the timer; Tap [Reset] to reset the timer.
 - **[Countdown + Trip]:** Same as [Countdown], however the trip distance is also displayed. Note that trip distance is not reset when you tap the [Reset] button.
 - **[Stopwatch]:** Shows a stopwatch with lap feature.
Tap [Start] to begin start the stopwatch; Tap [Lap] to take a lap time; tap [Stop] to stop the timer; tap [Reset] to reset the stopwatch. Note that the lap time is not reset when you tap [Reset].
4. Tap anywhere outside the settings options to close the settings.

9.3.7 How to use the graph instruments

1. Referring to section 9.3.1, set [Single Graph] as the displayed instrument.
2. Tap the graph to show the settings.
3. Select the desired data to show in graph form, then set the period and range for the data display.
For Double Graph, repeat steps 2 and 3 to set the second graph.
4. Tap anywhere outside the settings options to close the settings.

9.4 Full-Screen Display

You can set up a large window as a Full-Screen Instrument Display. The setting procedure is outlined in the section 9.3 "Multi-Instrument Display".

10. NOTIFICATIONS

10.1 What Are Notifications?

The system displays informative messages, collectively referred to as notifications, when the specified conditions are met.

When the conditions for a notification are met, the system releases an audible beep and the screen shows the relevant message at the top of the screen. You can silence the audible beep by tapping the message, however the messages remains on the screen until the corresponding notification is deactivated, or the cause for the notification is gone.

The system uses two types of notifications.

- **Notifications:** informative messages or warnings related to your vessel, navigation and surroundings. Notifications can be set up from the [Notifications] menu. See section 10.2.
- **System messages:** system-based messages, such as engine s (includes notifications from connected equipment).

Note 1: System messages are in a fixed format and cannot be changed or adjusted from this equipment.

Note 2: The audible beep for Level 1 engine alarms cannot be silenced.

10.2 How to Access the Notifications Menu

To access the [Notifications] menu, open the [Home] screen, then tap [Settings] => [Notifications].

The menu is separated into the following tabs:

- [General]: Set up the audible beep (buzzer). See section 10.3.
- [Fish and Bottom]: Set up Fish Finder-related notifications. See section 7.19.
- [Navigation]: Set up navigational notifications. See section 10.4.
- [Tanks]: Set up tank-related notifications. See section 10.5.
- [Wind]: Set up wind-related notifications. See section 10.6.
- [AIS]: Set up CPA/TCPA notifications. See section 8.9.
- [Loran C]: Sets the GRI and station information for Loran C.

10.3 Notification Buzzer Setup

1. Open the [Notifications] menu then select [General].
2. At the [Buzzer Sound] toggle box, select [OFF] or [ON] as appropriate.
3. At [INTERVAL], tap the appropriate interval for the buzzer to sound. [Short] gives several short beeps, [Long] gives longer beeps, [Continuous] gives a non-stop beep.

4. Close the menu.

10.4 Navigation Notifications

10.4.1 Grounding notification

You can use the grounding notification to alert you when the seabed is within a specified depth, which helps to avoid you running aground.

1. Open the [Notifications] menu then select [Navigation].
2. At the [Grounding] toggle box, select [ON] to activate the grounding notification. The settings for the notification become active.
3. Drag the slide bar or tap the keyboard to set the depth. When the detected seabed is less than this setting, the notification is triggered.

10.4.2 Depth notification

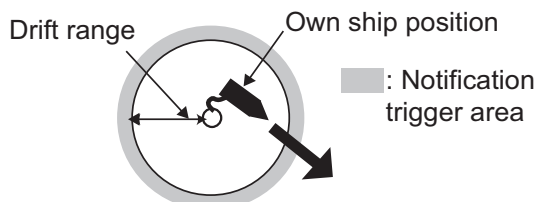
The depth notification alerts you when the seabed is within a preset range.

1. Open the [Notifications] menu then select [Navigation].
2. At the [Depth] toggle box, select [ON] to activate the depth notification. The settings for the notification become active.
3. Drag the slide bar or tap the keyboard icon at **[Min Depth]** to set the start depth for the notification.
Drag the slide bar or tap the keyboard icon at **[Depth Range]** to the set range. When the detected depth is deeper than the start depth and within the set range, the notification is triggered.

10.4.3 Anchor notification

The anchor notification alerts you when your vessel drifts beyond the preset range.

1. Open the [Notifications] menu then select [Navigation].
2. At the [Anchor] toggle box, select [ON] to activate the anchor notification. The settings for the notification become active.
3. Drag the slide bar or tap the keyboard to set the distance. When the boat drifts from the anchor point (determined as the time at which the notifications is activated) more than the distance set here, the notification is triggered.

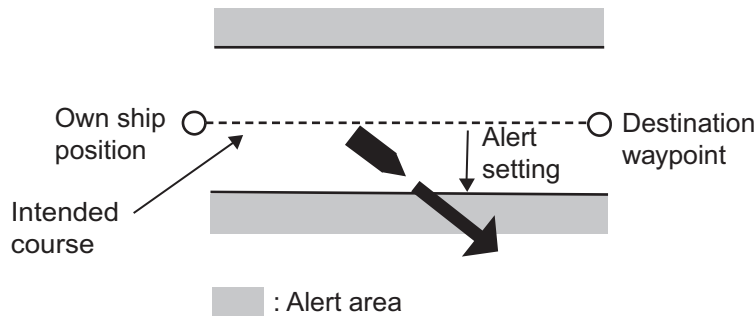


10.4.4 XTD (Cross-track distance) notification

The XTD notification alerts you when you are off course by more than the preset distance.

1. Open the [Notifications] menu then select [Navigation].

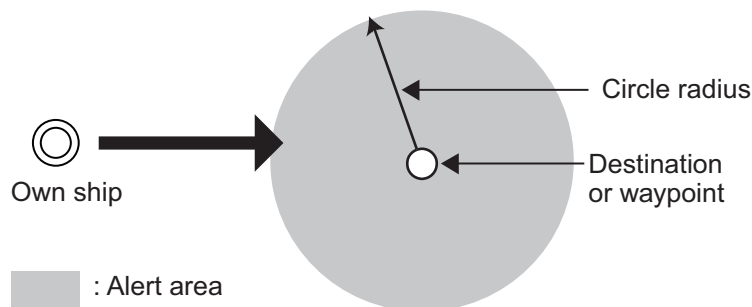
- At the [XTD] toggle box, select [ON] to activate the XTD notification. The settings for the notification become active.
- Drag the slide bar or tap the keyboard to set the distance. When your vessel drifts off-route more than this setting, the notification is triggered.



10.4.5 Arrival notification

The arrival notification alerts you when you are within the preset distance from the next waypoint on your current route.

- From the [Home] screen, tap [Routes] => [Routes].
- At the [End Route Notification] toggle box, select [ON] to activate the arrival notification. The settings for the notification become active.
- At [Circle Radius], drag the slide bar or tap the keyboard to set the distance. When the distance from your boat to the destination is less than this setting, the notification is triggered.



10.4.6 Speed notification

The speed notification alerts you when your speed is above or below the preset.

- Open the [Notifications] menu then select [Navigation].
- At the [Speed] toggle box, select [ON] to activate the speed notification. The settings for the notification become active.
- Tap [Within Range] or [Outside Range] to select the type of speed notification.
 - [Within Range]: When your boat speed is within the set range, the notification is triggered.
 - [Outside Range]: When your boat speed exceeds the set range, the notification is triggered.
- At [Max. Speed] and [Min. Speed], set the maximum and minimum speeds for the notification.

10.4.7 Trip notification

The trip notification alerts you when your trip distance is more than the preset.

1. Open the [Notifications] menu then select [Navigation].
2. At the [Trip] toggle box, select [ON] to activate the trip notification. The settings for the notification become active.
3. At [Max Trip Distance], drag the slide bar or tap the keyboard to set the distance. When your boat travels more than this setting in one trip, the notification is triggered.

10.4.8 Temperature notification

The temperature notification alerts you when the water temperature is within, or outside, the preset temperature range.

1. Open the [Notifications] menu then select [Navigation].
2. At the [Temperature] toggle box, select [ON] to activate the temperature notification. The settings for the notification become active.
3. Tap [Within Range] or [Outside Range] to select the type of temperature notification.
 - [Within Range]: When the temperature is within the set range, the notification is triggered.
 - [Outside Range]: When the temperature exceeds the set range, the notification is triggered.
4. At [Max. Temperature] and [Min. Temperature], set the maximum and minimum temperatures for the notification.

10.4.9 Shear notification

The shear notification alerts when a sudden temperature change (shear) of more than the preset is detected.

1. Open the [Notifications] menu then select [Navigation].
2. At the [Temperature Shear] toggle box, select [ON] to activate the shear notification. The settings for the notification become active.
3. Drag the slide bar or tap the keyboard to set the temperature difference. When a temperature change larger than this setting is detected, the notification is triggered.

10.5 Tank Notifications

1. Open the [Notifications] menu then select [Tanks].
2. At [Tanks on Board], select the number of tanks on your boat. The setup procedure for all tanks is the same, regardless of the number set here. This procedure uses [Tank 1] as an example.
3. At [Tank 1], tap [Type], then select the tank type. Available options are: [Fuel], [Fresh Water], [Live Well], [Oil], [Waste Water], [Black Water].

4. Tap the [Notification] toggle box to select [ON]. The settings for the notification become active.
5. Drag the slide bar or tap the keyboard icon to set the notification percentage. For [Fresh Water], [Fuel], [Live Well] and [Tank], when the tank volume is below this percentage, the notification is triggered. For [Waste Water] and [Black Water], when the tank volume is above this percentage, the notification is triggered.

10.6 Wind Notifications

1. Open the [Notifications] menu then select [Wind].
2. Tap the toggle box to show [ON] for the notification(s) you want to set.
3. Drag the slide bar or tap the keyboard icon at the active notification to set the notification parameters.
 - [Max TWS]: When the wind speed exceeds this setting, the notification is triggered.
 - [Wind Shift]: When the wind shift is excessively high, the notification is triggered.
 - [Low AWA]: When the port-side wind speed exceeds this setting, the notification is triggered.
 - [High AWA]: When the starboard-side wind speed exceeds this setting, the notification is triggered.

10.7 Restoring Notification Defaults

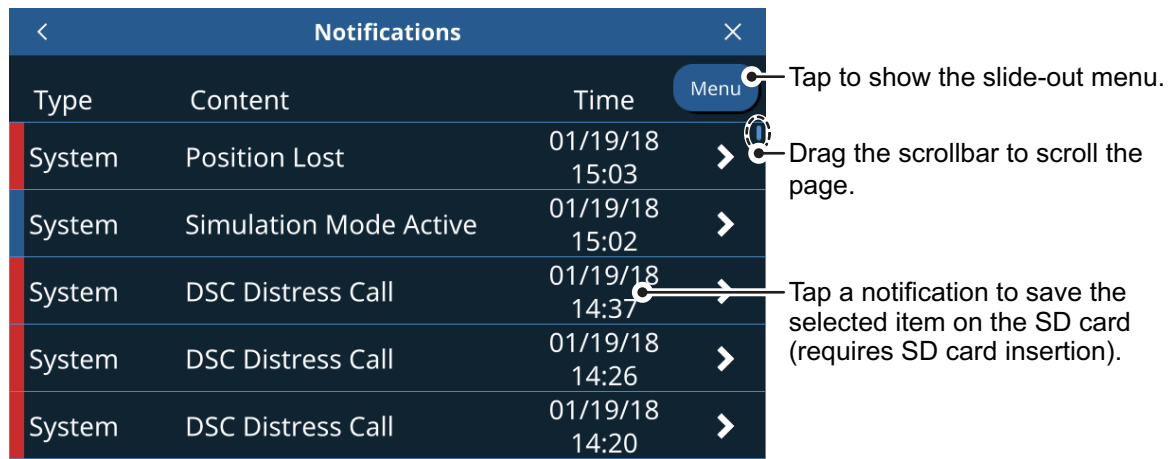
You can restore the default settings for the [Notifications] menu at any time. This procedure does not affect any other settings.

From the Home screen, tap [Settings] => [Notifications] => [Restore Defaults] => [Restore Default Settings]. A confirmation message appears. Tap [Yes] to restore the default settings, or tap [No] to keep the current settings.

Note: This procedure only resets the [Notifications] menu settings. No other settings are changed.

10.8 Notifications List

All notifications are stored in the [Notification and System Messages] list. When the list is full, the oldest notification is deleted to make room for the newest. You can also save the list to a microSD Card.



10.8.1 How to view the notifications list

From the [Home] screen, tap [Lists] => [Notices and System Messages].

10.8.2 How to filter the notifications list

You can apply a filter to the notifications list, reducing the number of notifications displayed and making it easier to find a specified notification.

1. From the [Home] screen, tap [Lists] => [Notices and System Messages].
2. Tap the [Menu] button at the top-right of the list. The filter settings appear.
3. At [Show by Type], select the filter type you want to use.
[All]: shows all notifications unfiltered.
[Notifications]: shows notifications which are set from the [Notifications] menu only.
[System]: shows system notifications only.
4. At [From], select the start date from which you want to view notifications.
5. At [To], select the date up to which you want to view notifications.
6. Tap the [<] icon to close the filter settings.

10.8.3 How to save the notifications list to a microSD card

1. Tap the [Menu] button at the top-right corner of the [Notifications] list.
2. Tap [Save all on SD]. The list is saved in “.csv” format (comma separated values).

Note: If there is no SD Card inserted other than a chart card, an error message appears. Insert a blank SD Card then repeat the above procedure.

10.9 Notification/Messages

- General Notifications

| | |
|-----------------------------------|--------------------------------------------------------------------|
| Arriving at Destination | Entered the arrival area of the destination waypoint. |
| Anchor Watch Exceeded | Drifted more than the set distance from the anchor point. |
| Cross Track Distance Exceeded | Off-course by more than the preset distance. |
| Ship Speed Outside Preset Range | Speed is over/under the preset. |
| Trip Distance Reached | Trip distance is more than the preset. |
| Water Temp. Outside Preset Range | Temperature is over/under the preset. |
| Surface Temp. Shear Detected | Temperature shear is more than the preset. |
| Depth Outside Preset Range | Depth at current location is within/outside the preset range. |
| Grounding Possibility Detected | Depth is less than the preset, there may be a danger of grounding. |
| Fish Detected | Fish or school detected. |
| Seabed Fish Detected | Fish or school detected near the seabed. |
| Fish Detected (Preset Size Range) | Fish within the size range are detected. |
| Seabed Type Detected | Specified seabed type is detected. |
| Low Fuel | Fuel level is lower than the preset. |
| Low Fresh Water | Fresh water level is lower than the preset. |
| Low Oil | Oil level is lower than the preset. |
| High Black Water | Black water level is higher than the preset. |
| TWS Exceeds Preset Maximum | TWS is higher than the preset. |
| High Waste Water | Waste water level is higher than the preset. |
| Wind Shift Detected | Wind has shifted more than the preset. |
| STBD Crosswind Detected | Starboard-side wind speed is higher than the preset. |
| PORT Crosswind Detected | Port-side wind speed is higher than the preset. |
| Target Detected by Sentry Zone | Target detected by the Sentry Zone. |
| NAVpilot Engaged | AutoPilot is engaged. |
| NAVpilot Disengaged | AutoPilot is disengaged. |

- AIS/DSC Notifications

| | |
|------------------------------|-------------------------------------------------------|
| CPA/TCPA | Target detected within the CPA or TCPA setting range. |
| AIS SART | AIS SART (Search & Rescue Transponder) detected. |
| DSC Distress Call | DSC Distress Call received. |
| DSC Position Report Received | DSC Position Report received. |

- Engine Alarms (Level 1)

| | |
|--------------------|-----------------------------|
| Engine Over-Heated | Engine has overheated. |
| Low Oil Pressure | Engine oil pressure is low. |

- Engine Alarms (Level 2)

| | |
|----------------------------|----------------------------------------------|
| Check Engine | There is a problem with the engine. |
| Battery Charge | There is a problem with the battery charger. |
| Water In Fuel | There is a water in the fuel tank. |
| Rev Limit Exceeded | The engine has exceeded its RPM limit. |
| Engine Emergency Stop Mode | The engine has entered emergency stop mode. |

10. NOTIFICATIONS

- System Errors

| | |
|--------------------------|-----------------------------------------------------------------|
| Position Lost | Positioning fix is lost (EPFS signal interrupted or stopped). |
| Heading Lost | Heading is lost (HDG signal interrupted or stopped). |
| Radar Connection Lost | Disconnected from the radar or signal is stopped/interrupted. |
| Radar Trigger Error | The radar has a problem with the transmission trigger. |
| Radar Video Error | There is a problem with the radar video signal. |
| Radar Headline Error | There is a problem with the radar heading line (no HDG signal). |
| Radar Azimuth Error | The radar azimuth is incorrect or faulty. |
| NAVpilot Connection Lost | Disconnected from the NAVpilot or signal is lost/interrupted. |

- Informative Notifications (System information)

| | |
|----------------------------------|-----------------------------------------------------------|
| MOB | MOB function is active |
| Navigation Mode | A route (Quick or Planned) is active. |
| NAVpilot STBY | NAVpilot is in standby mode. |
| NAVpilot Auto | NAVpilot is in AUTO mode. |
| NAVpilot Nav | NAVpilot is in NAV mode. |
| Maximum No. of QPs Reached | Saveable Quick Points have reached maximum capacity. |
| Maximum No. of Points Reached | Saveable User Points have reached maximum capacity. |
| Maximum No. of Routes Reached | Saveable routes have reached maximum capacity. |
| Max. No. of Route Points Reached | Saveable points in a route have reached maximum capacity. |
| Maximum No. of Tracks Reached | Saveable tracks have reached maximum capacity. |
| No Chart Detected | No chart is detected. |
| SD Card Full | SD card has reached maximum capacity. |
| Simulation Mode Active | Simulation mode is active. |

- SUZUKI engine notifications (requires SUZUKI engine and Gateway connection)

| | |
|--------------------------|---------------------------------------------------------------------|
| LOW OIL PRESSURE | Engine oil pressure is below correct level. |
| LOW BATTERY VOLTAGE | Low battery voltage detected. |
| OVER HEAT | Engine temperature is too high. |
| WATER IN FUEL | Water detected in fuel. |
| HIGH OIL TEMP | Engine oil temperature excessively high. |
| Check Control Unit C. | Error detected in control system for electronic throttle and shift. |
| Check 2nd Station | Error detected at 2nd Station. |
| Check Throttle System | Error detected in the throttle system. |
| Check Shift Control | Error detected in the electronic shift. |
| OVER REV | Excessive rpm detected, system will automatically reduce rpm. |
| CHANGE OIL | Replace engine oil. |
| REV LIMIT | Engine rpm is over recommended speed for more than 10 seconds. |
| Check Engine *-* | Communication error with the indicated engine detected. |
| Check Remote Key | Key-fob identification failed. |
| Keyless Unit Battery Low | Keyless control unit's battery voltage is low. |
| Remote Key Battery Low | Key-fob's battery voltage is low. |
| Check Troll System | ECM/BCM not compatible with Troll Mode. |
| Check Troll Condition | Troll Mode cannot be activated from this unit. Check settings. |
| Check Station Setting | Troll Mode not available from this unit. Check settings. |
| Set Limit Angle | Appears when calibrating the trim settings for an engine. |

Note: For SUZUKI engine notifications which recur or cannot be rectified, consult your local SUZUKI dealer.

11. OTHER SETTINGS/FUNCTIONS

This chapter covers settings, functions and menus not previously described in this manual.

11.1 [General] Menu

To show the [General] menu, tap the [Home] icon => [Settings] => [General].

[Date and Time] sub-menu

- [UTC]: Select [ON] to use UTC time, [OFF] to use the internal clock.
- [Custom]: Sets the UTC time offset (This item is available when [UTC] is set to [OFF]).
- [Daylight Saving Time]: Select ON to use daylight saving time, OFF to use normal time. (This item is available when [UTC] is set to [OFF].)
- [Time Format]: Selects the format in which to display the time.
- [Date Format]: Select the format in which to display the date.

Tips (Quick Guide) sub-menu

Select [ON] to show the Quick Guide at startup, [OFF] to hide the Quick Guide.

Restore Defaults sub-menu

Resets the [General] menu to factory default settings.

A confirmation message appears when you tap [Restore Default Settings]. Tap [Yes] to reset the menu, tap [No] to cancel.

11.2 [Units] Menu

To show the [Units] menu, tap the [Home] icon => [Settings] => [Units].

[Units] sub-menu

Tap an item to show the available units of measurement, then tap the desired unit.

[Fuel] sub-menu

Tap the desired unit or measurement for fuel consumption.

[Formats and References] sub-menu

- [Bearing Display]: Sets the reference for bearing display; select [M] for magnetic, [T] for true.
- [Magnetic Variation]: Sets the calculation reference for magnetic variation. Select [Internal] to use the internal processor, or select [External] to use connected equipment for the calculation.
- [True Wind Calculation Reference]: Sets the reference for true wind speed calculation. Select [Ground] or [Surface] (water surface) as required.
- [Position Format]: Sets the format for the display of position (latitude/longitude).

Restore Defaults sub-menu

Resets the [Units] menu to factory default settings. A confirmation message appears when you tap [Restore Default Settings]. Tap [Yes] to reset the menu, tap [No] to cancel.

11.3 File Management

If you have a microSD card inserted in one of the card slots, you can save/load data such as routes, points, tracks, menu settings and screenshots. You can also save a log of the notifications.

11.3.1 How to save points, routes and tracks to the microSD card

1. Insert a microSD card (chart cards excluded) into one of the card slots.
2. From the [Home] screen, tap [Settings] => [Files] => [User Data].
3. At [Export File Format], select the file format for the saved data. the available formats are: [C-MAP], [GPX], [CSV].
4. Tap [Export to SD] at [Routes and Points] or [Tracks], as required. A pop up message appears indicating that system is saving the data. When the save is complete, a new pop up message appears, informing you that the save was successful.
5. Tap [OK] to close the pop up message.
6. Tap the [×] at the top-right corner of the screen to close the menu.

11.3.2 How to load points, routes and tracks from a microSD card

1. Insert a microSD card (the card must have appropriate data saved) into one of the card slots.
2. From the [Home] screen, tap [Settings] => [Files] => [User Data].
3. Tap [Import from SD] at [Routes and Points] or [Tracks], as required. A list of compatible files appears in a slide-out menu.
4. Tap the file you want to load. A pop up message appears indicating that system is loading the data. When the load is complete, a new pop up message appears, informing you that the load was successful.
5. Tap [OK] to close the pop up message.
6. Tap the [×] at the top-right corner of the screen to close the menu.

11.3.3 How to save menu settings to the microSD card

1. Insert a microSD card (chart cards excluded) into one of the card slots.
2. From the [Home] screen, tap [Settings] => [Files] => [Settings Backup].
3. Tap [Export to SD]. A pop up message appears indicating that system is saving the data. When the save is complete, a new pop up message appears, informing you that the save was successful.
4. Tap [OK] to close the pop up message.
5. Tap the [×] at the top-right corner of the screen to close the menu.

11.3.4 How to load menu settings from a microSD card

1. Insert a microSD card (the card must have appropriate data saved) into one of the card slots.
2. From the [Home] screen, tap [Settings] => [Files] => [Settings Backup].
3. Tap [Restore from SD]. A list of compatible files appears in a slide-out menu.
4. Tap the file you want to load. A pop up message appears indicating that system is loading the data. When the load is complete, a new pop up message appears, informing you that the load was successful.
5. Tap [OK] to close the pop up message.
6. Tap the [x] at the top-right corner of the screen to close the menu.

11.3.5 How to save the notification log to the microSD card

1. Insert a microSD card (chart cards excluded) into one of the card slots.
2. From the [Home] screen, tap [Settings] => [Files] => [Notifications Log].
3. Tap [Export to SD (CSV)]. A pop up message appears indicating that system is saving the log. When the save is complete, a new pop up message appears, informing you that the save was successful.
Note: Log data is saved only in .csv format. No other file format are available.
4. Tap [OK] to close the pop up message.
5. Tap the [x] at the top-right corner of the screen to close the menu.

11.4 Search Function

The [Search] function lets you search your chart information to find ports, tide stations, current stations, User Points, POIs (Points of Interest), and other handy information.

There are two methods to access the search function;

- Swipe the right-hand side of the screen leftwards to show the slide-out menu, then tap [Search].
- From the [Home] screen, tap [Search].

Search menu
Shows the search methods available.

Own ship position
Position: LAT 55° 00.0538' N LON 12° 35.6703' E

Search conditions
Range: 12.0 NM

Search results

| N | Name | DST | BRG |
|---|---------------------|----------|-----|
| 1 | Port Area Klintholm | 282.8 NM | 8° |
| 2 | Port Area Klintholm | 282.8 NM | 8° |
| 3 | Port Area Klintholm | 282.8 NM | 8° |
| 4 | Port Area Klintholm | 282.8 NM | 8° |
| 5 | Port Area Klintholm | 282.8 NM | 8° |

11.5 How to Take a Screenshot

A screenshot is a “copy” of the displayed screen you are currently viewing. Screenshots are automatically saved to an inserted microSD card (excludes chart cards).

1. Insert a microSD card into one an available card slot.
2. Referring to section 1.8, set one of the [Function Gestures] to [Screenshot].
3. Display the screen or menu that you want to make a copy of, then two-finger tap (or double tap).

If there is no usable microSD card inserted, a pop up message appears to inform you that the screenshot was saved to the internal memory. See section 11.5.1 for how to move the file to a microSD card later.

If a usable microSD card is inserted, a pop up message appears to inform you that the screenshot is being saved. When the save process is complete, a new pop up message appears.

4. Tap [OK] to close the pop up message.

To delete screenshots from the internal memory, see section 11.5.2.

11.5.1 How to save screenshots to the microSD card

You can move screenshots from the internal memory to the microSD card.

1. Insert a microSD card (chart cards excluded) into one of the card slots.
2. From the [Home] screen, tap [Settings] => [Files] => [Screenshots].
3. Tap [Export to SD]. A pop up message appears indicating that system is saving the screenshots. When the save is complete, a new pop up message appears, informing you that the save was successful.
4. Tap [OK] to close the pop up message.
5. Tap the [x] at the top-right corner of the screen to close the menu.

11.5.2 How to delete screenshots

To delete the screenshots saved in the internal memory, follow the procedure below.

1. From the [Home] screen, tap [Settings] => [Files] => [Screenshots] => [Delete All Screenshots]. A confirmation message appears.
2. Tap [OK] to delete all screenshots from the internal memory. Tap [Cancel] to keep the screenshots.

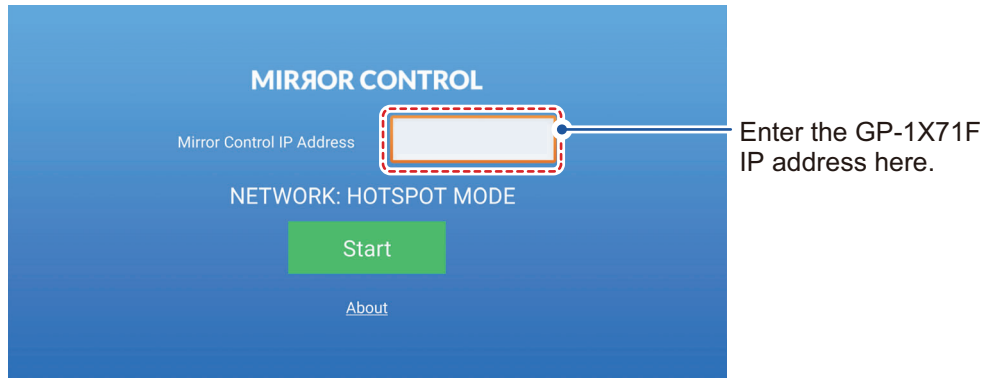
Note: Screenshots saved to an SD card cannot be deleted from the GP-1x71F. Use a PC or hand-held device to delete SD card data.

11.6 How to Use the Mirroring Function

The mirroring function allows full operation (excludes power-related functions) of your GP1x71F from a smart device. To use this function, download and install the MirrorControl application from the Apple Store or Google Play before doing the following procedure.

1. On your smart device, enable wireless tethering. Consult your device’s operator manual for details.

2. From the [Home] screen, tap [Settings] => [General] => [Wireless LAN]. The wireless LAN settings appear on the right-side of the screen.
3. Tap the toggle box inside the [Wireless LAN Connection] section to show [ON]
4. Select your smart device from the [Networks] section in the right-side of the screen. Depending on your smart device settings, a password may be required. See your smart device's tethering menu for the password.
5. Tap [Mirror Control], then tap the toggle box to the right of [Online Status] to show [ON].
6. On your smart device, open the MirrorControl application. An example of the start screen for the application is shown below.



7. Referring to the [Mirror Control] section on the GP-1x71F, enter the IP address into the MirrorControl application, then tap [Start].
8. Once the connection is established, the application shows the same screen as displayed on your GP-1x71F. You can now control your GP-1x71F from the application.

Note: The connection between the smart device and the GP-1x71F is severed and requires reconnection under the following circumstances:

- The distance between the smart device and the GP-1x71F is too great.
- The smart device is turned off or restarted.
- Wireless tethering is disabled at the smart device.
- The GP-1x71F is turned off or restarted.