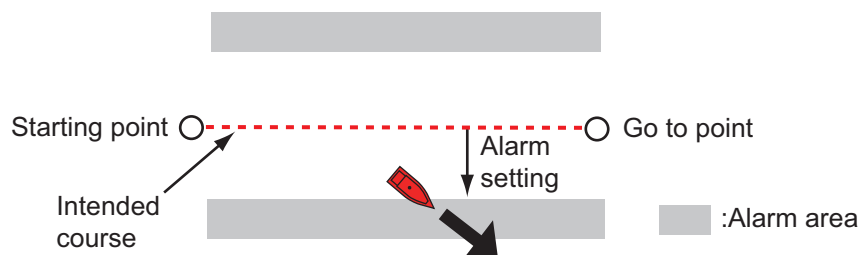2. PLOTTER

2.11.1 XTE alarm

The XTE alarm tells you when your ship goes off course by more than the limit set (XTE alarm boundaries).

1. Turn on [XTE Alarm] in the [Alarm] menu.
2. Tap [XTE Alarm Value] to display the software keyboard.
3. Set the value, then tap ✓.
4. Tap the close button at the top of the screen to close the menu.

2.11.2 Depth alarm

The depth alarm tells you when the depth to the bottom is shallower than the value you set. Requires depth data.

1. Turn on [Depth Alarm] in the [Alarm] menu.
2. Tap [Depth Alarm Value] to display the software keyboard.
3. Set the value, then tap ✓.
4. Tap the close button to finish.

2.11.3 SST alarm

The sea surface temperature alarms tells you when the sea surface temperature is over, under, within, or out of range of the temperature you set. Requires a temperature sensor.

1. Tap [Sea Surface Temperature Alarm] on the [Alarm] menu.

2. Tap [Over], [Under], [Within], [Out of] or [Shear]. Follow the appropriate procedure below.

[Over] or [Under]

The [Over] or [Under] alarm sounds when the temperature is over or under the set value, respectively.

1) Tap [Temperature Alarm Value] to display the software keyboard.

2) Set the value, then tap ✓. Go to step 3.

[Within] or [Out of]

The [Within] or [Out of] alarm sounds when the temperature is within or out of the temperature range set, respectively.

1) Tap [Temperature Alarm Minimum Value] to display the software keyboard.

2) Set the minimum value, then tap ✓.

3) Tap [Temperature Alarm Maximum Value] to display the software keyboard.

4) Set the minimum value, then tap ✓. Go to step 3.

[Shear]

The shear alarm sounds when the temperature exceeds the alarm setting for 10 seconds.

1) Tap [Temp. Shear Alarm Value] to display the software keyboard.

2) Set the value, then tap ✓. Go to step 3.

3. Tap the close button to finish.

2.11.4 Speed alarm

The speed alarm tells you when the speed of your ship is over or under the limit set. Set the value at [Speed Alarm Value].
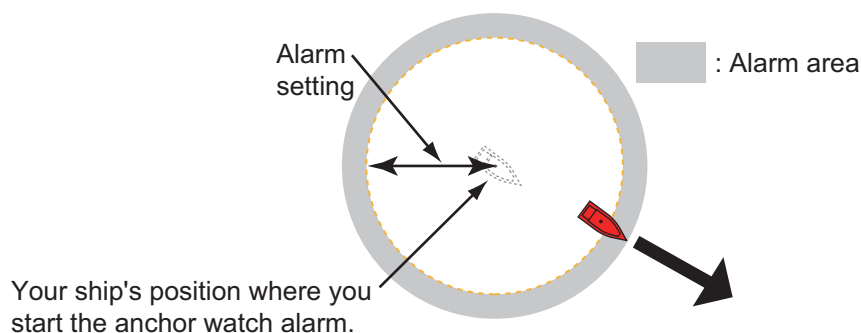
1. Tap [Speed Alarm] on the [Alarm] menu.
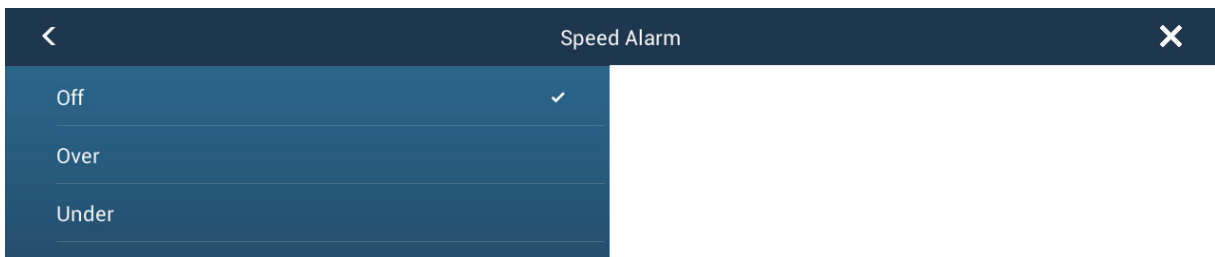
2. Tap [Over] or [Under].

3. Tap [Speed Alarm Value] to display the software keyboard.

4. Set the value for [Over] or [Under] then tap ✓.

5. Tap the close button to finish.

2.11.5   Anchor watch alarm

The anchor watch alarm tells you that your ship has moved a distance greater than the set value when the ship must not be moving.

1. Turn on [Anchor Watch Alarm] in the [Alarm] menu.
2. Tap [Anchor Watch Alarm Value] to display the software keyboard.
3. Set the value, then tap ✓.
4. Tap the close button to finish.

2.11.6   Other Alarm menu items

The followings are the alarm menu items not previously mentioned.

[Hardware Alarm]: This alarm alerts you when something is wrong with the hardware.

[Notification Sound]: Activate or deactivate the notification sound (for "Waypoint Crossing" (see section 5.8), "End of Route" (section 4.11) or fish finder alarms (section 7.10)).

**[Alarm Sound]**: Disable or enable the buzzer.

[Sound Alarm Until Acknowledged]: Turn this item on to sound the aural alarm until an alarm is acknowledged (see paragraph 2.11.7).

[Save Log File]: Save alert list to SD card.

[Reset Default Settings]: Select this menu item to restore default settings for the [Alarm] menu.

2.11.7 How to show the Alarms list

When an alarm is violated, you can see the name of the offending alarm on the [Alarms] list. The list stores both warning and system messages. Open the home screen, then tap [Lists] followed by [Alarms]. Active alarms are flashing. Tap an active alarm to acknowledge it and stop the f lashing. Acknowledged alarms appear in the [HISTORIC] section. Tap the close button to close the list.
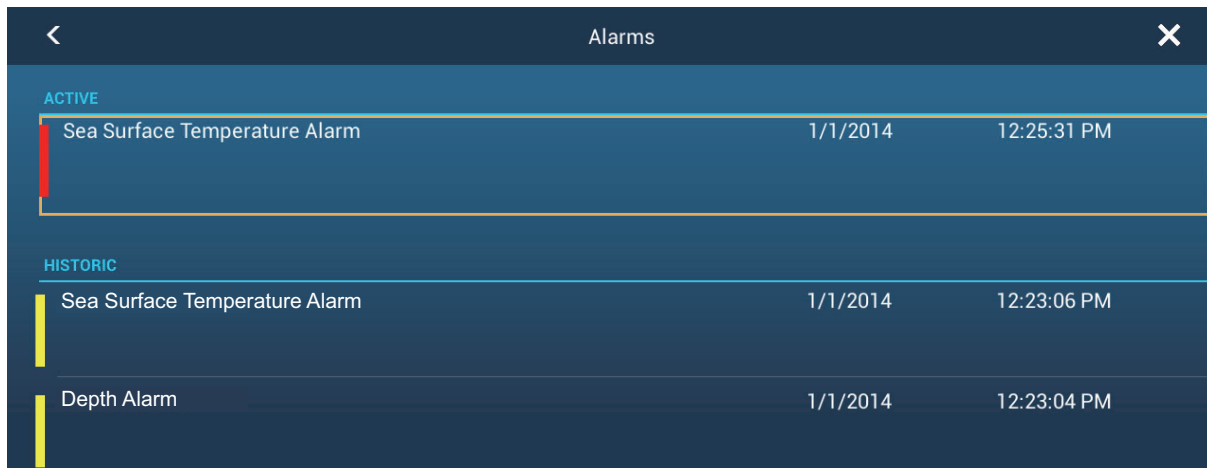
2.12 Track

The track (or movement) of your ship is plotted on the screen with position data. Your track lets you see how your ship has moved.
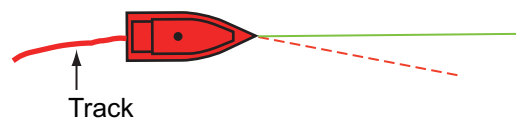
Track

The track is saved to the internal memory if the track is active. A line runs between each track point. The internal memory stores a maximum of 30,000 track points.

Your track remains on the screen when the power is turned off. You can delete the track that you do not need from the home screen.

The saved track can be shown on the screen, and you can make a route with the saved track.

2.12.1 How to start, stop recording the track

Start recording

Open the slide-out menu or tap the boat icon, then turn [Track] on.

Stop recording

Method 1: Tap the track, then tap [Stop Track].
**Method 2**: Open the slide-out menu or tap the boat icon. Turn [Track] off.

2.12.2 How to show or hide the track display

Open the [Layers] menu and turn [Tracks] on or off.

2.12.3 Track interval

In drawing the track, the position of your ship is stored into the memory of this unit at an interval of time. A shorter interval provides better reconstruction of the track, but the storage time of the track is reduced.

1. Open the home screen, then tap [Settings] - [Ship & Track].
2. Tap [Track Interval].

<	**Track Interval**
0'01s	
0'02s	✓
0'05s	
0'10s	
0'30s	
1'00s	
5'00s	
10'00s	
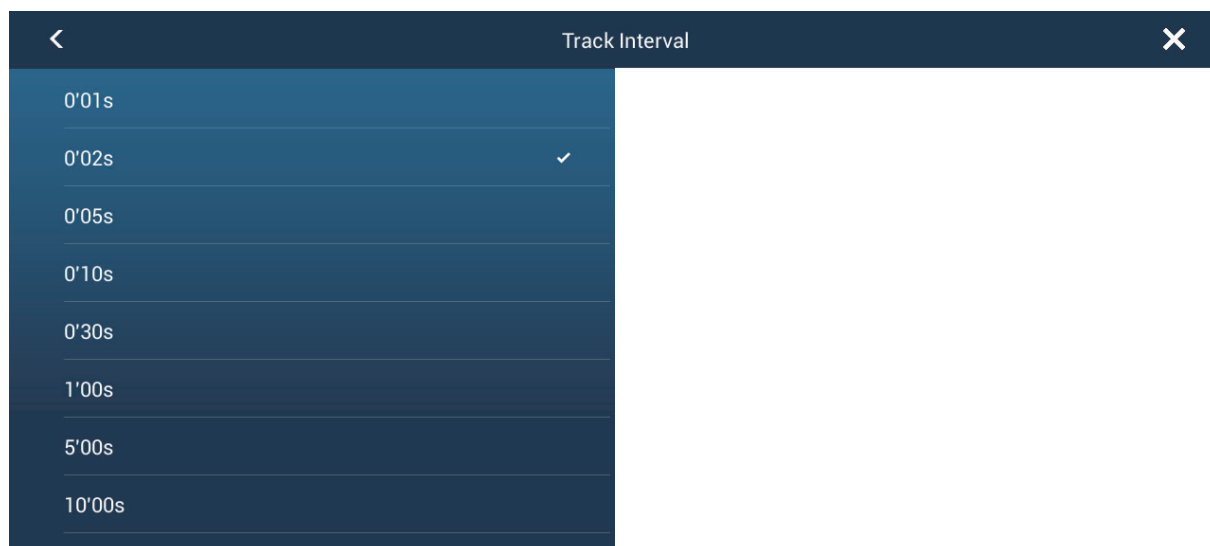
3. Tap a time interval.
4. Tap the close button at the top of the screen to close the menu.

2.12.4 Track color

Track can be displayed in a single color or multiple colors. For multiple colors, you can display the track according to the conditions shown below.

• SST (Sea Surface Temperature)
• Speed
• Depth
• Bottom sediment

Note: The "bottom sediment" method requires a bottom discrimination capable transducer, bottom discrimination sounder BBDS1, or network sounder DFF1-UHD.
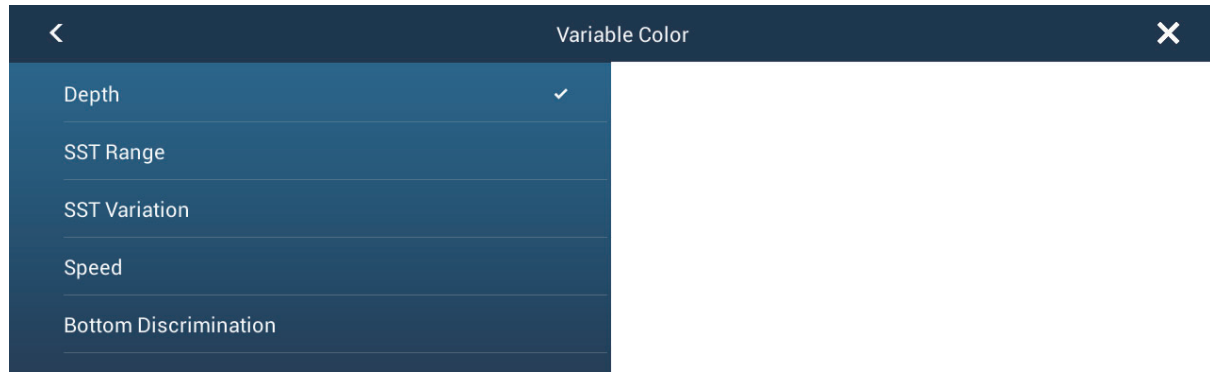
From the home screen

1. Open the home screen, then tap [Settings] - [Ship & Track].
2. Tap [Track Color].
3. Tap [Fixed] or [Variable]. Tap ">" to go back one layer. For [Fixed], go to the next step. For [Variable], go to step 5.

4. Tap [Fixed Color Setup] then tap a color. Go to step 10.
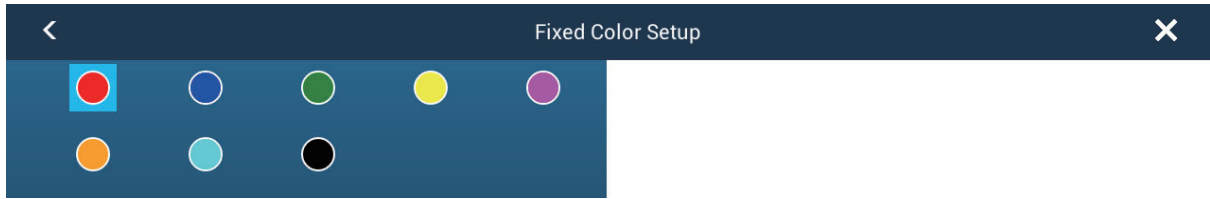
5. Tap [Variable Color] then tap an option.

[Depth]: Change the color of the track with depth.
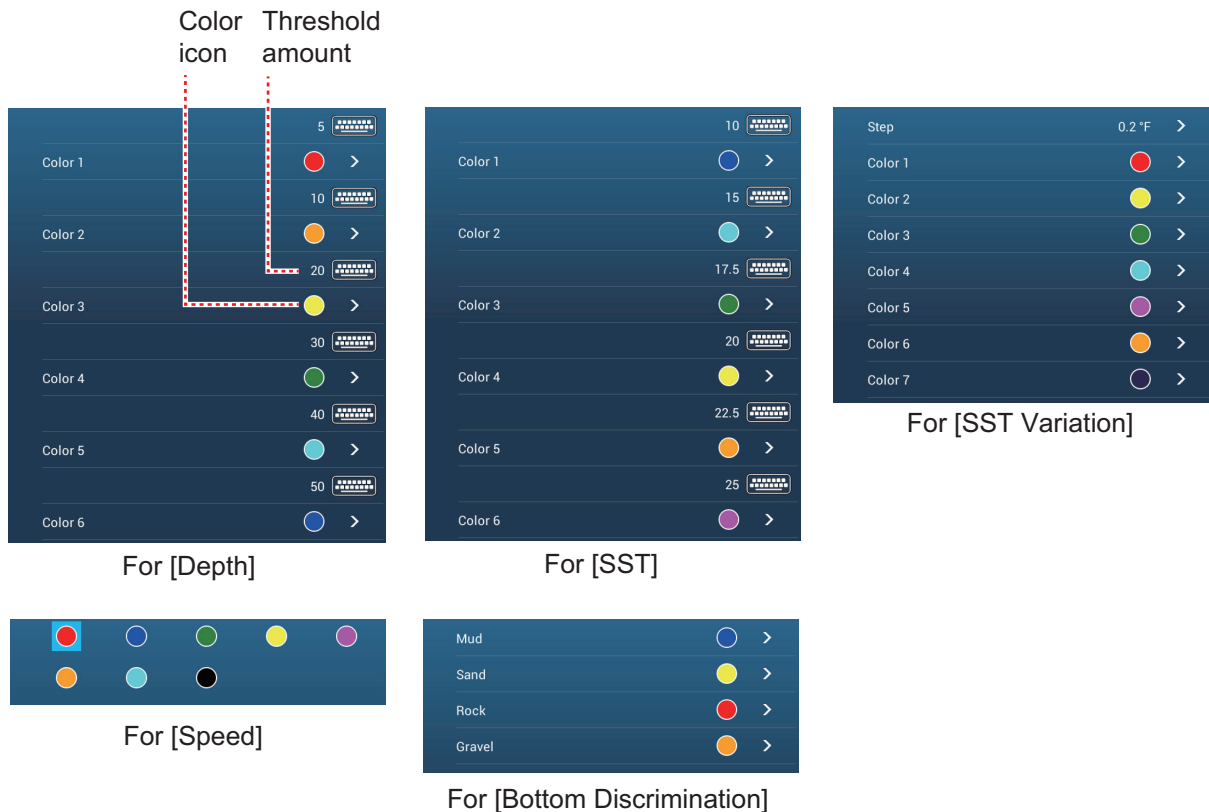**[SST Range]**: Change the color of the track with change in sea surface temperature.
[SST Variation]: Change the color of the track according to variation in sea surface temperature as follows:

Temperature range (°C)	Color
16.60 - 16.80	Red
16.81 - 17.00	Yellow
17.01 - 17.20	Green
17.21 - 17.40	Light-blue
17.41 - 17.60	Purple
17.61 - 17.80	Orange
17.81 - 18.00	Blue
18.01 - 18.20	Red
18,21 - 18.40	Yellow
18.41 - 18.60	Orange

[Speed]: Change the color of the track with speed.
[Bottom Discrimination]: Change the color of the track with bottom sediment.

6. Tap [Variable Color Setup].

Color icon   Threshold amount

For [Depth]

For [SST]

For [SST Variation]

For [Speed]

For [Bottom Discrimination]

7. For [Bottom Discrimination], tap [Mud], [Sand], [Rock] or [Gravel]. For others, tap a color (seven choices).

8. Tap a color for each menu item.
   [Depth]: Set the color for each depth range. For example, when the red icon is selected in [Color 1], the track is red for depths from 5 to 10 ft.
   [SST Range]: Set the color for each range of sea surface temperature. For example, when the blue icon is selected in [Color 1] (temperature range: 10 to 15°F), the track is blue for temperatures from 10 to 15°F.
   [SST Variation]: Set the color for each temperature variation. Tap Step 0.2°F, then set each color. Do the same for Step 2.0°F

   [Speed]: Set the color for each speed range. For example, when the blue icon is selected in [Color 1], the track is blue for speed from 0 to 5 kn.
   [Bottom Discrimination]: Set the color for each bottom sediment. For example, when the blue icon is selected in [Mud], the track where mud is found is blue.
   For [Depth], [SST Range], [SST Variation] and [Speed], you can change the threshold amount for each color. Tap a threshold amount to display the software keyboard. Set the value, then tap ✓.

9. Tap [Close].

10. Tap the close button to finish.

On the screen

1. Tap a section of track to display the pop-up menu.

2. Tap [Color].

3. Tap a color.

2.12.5 Track thickness

You can set the thickness of the track. If you are following the same track many times, you can show the track in the thinnest width to prevent overlapping of track.

1. Open the home screen, then tap [Settings] - [Ship & Track].
2. Drag the slider at [Track Thickness] to set the level. (The thickness can also be set with the software keyboard. Tap the keyboard in the [Track Thickness] field then enter desired thickness.)
3. Tap the close button to finish.

2.12.6 How to delete tracks

If the screen becomes full of track, you can not know which is the newer track. Delete the track you do not need.

How to delete a specific part of a track

You can delete a track partially. Tap the part of a track to delete. Tap [Del From Here] or [Delete Up to Here] as required.

How to delete all tracks

1. Open the home screen, then tap [Settings] - [Ship & Track].
2. Tap [Delete All Tracks] on the [TRACK] window. The message "THIS ACTION WILL PERMANENTLY DELETE ALL TRACK..." appears.
3. Tap [OK].
4. Tap the close button to finish.

Automatic deleting of tracks

The internal memory stores a maximum of 30,000 track points. When the memory for track points becomes full, the equipment can automatically delete the oldest track points to get space for new track points. To get automatic deletion of track do as follows:

1. Open the home screen, then tap [Settings] - [Ship & Track].
2. Turn [Automatic Track Deleting] on or off as required.
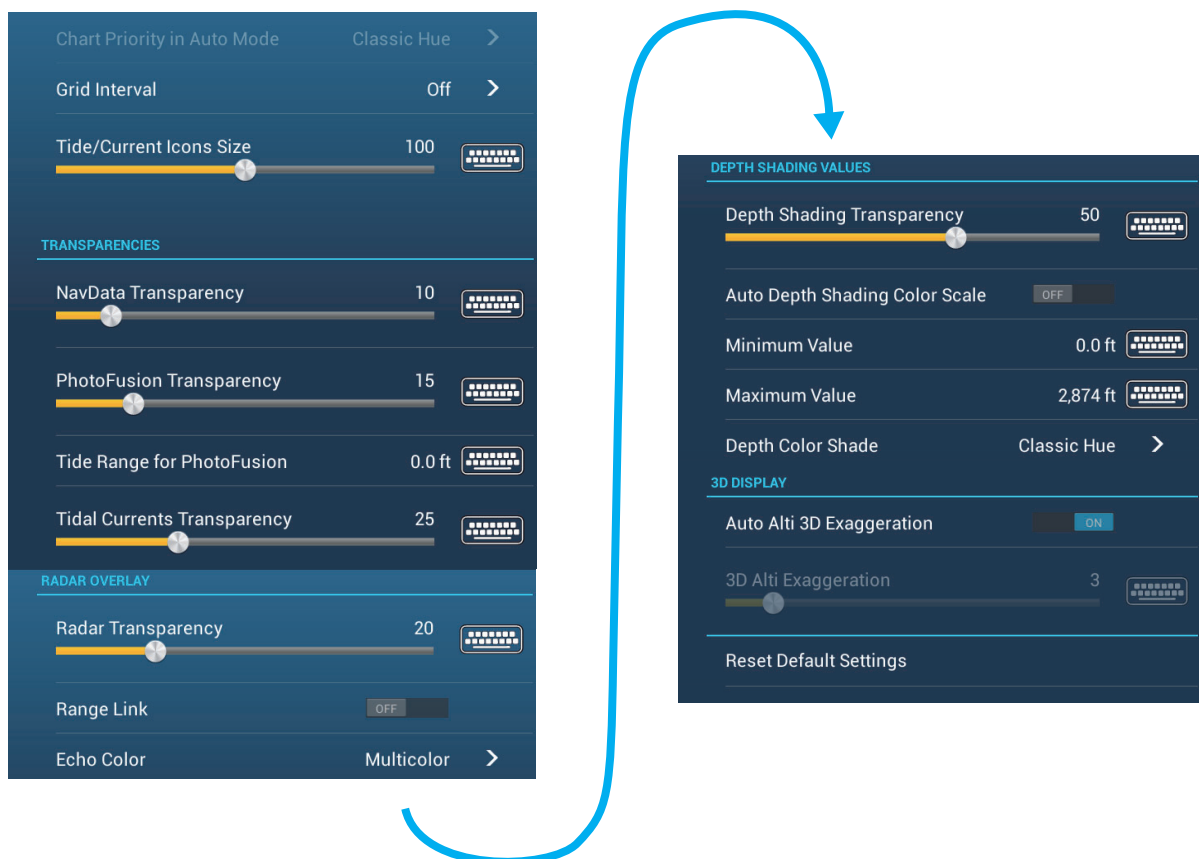3. Tap the close button to finish.

2.12.7 How to find number of track points used

On the home screen, tap [Settings] - [General]. Find [Track points] in the [DATA US-AGE] section. In the example below. 735 track points out of 30,000 have been used.
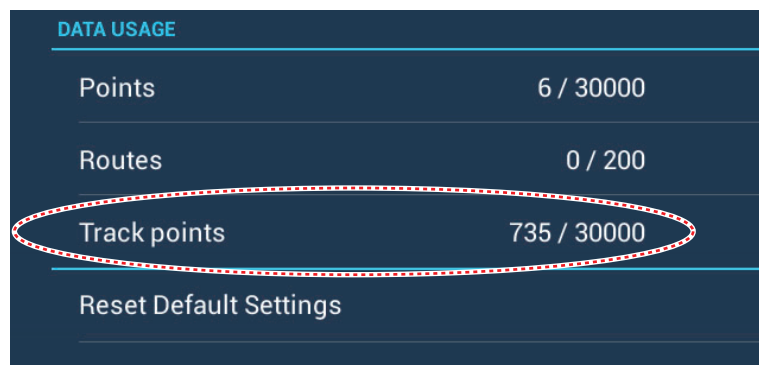
2.13 Plotter Menu

This section describes the plotter menu items, which are in the [Settings] - [Plotter] menu.

[Grid Interval]: Set the distance between grid lines. The options are [Off] (no lines), [Very Small], [Small], [Medium], [Large], and [Very Large].

[Tide/Current Icons Size]: Set the size of the icon for tide and current.

[Transparencies]

[NavData Transparency]: Set the degree of transparency for the navdata display.

[PhotoFusion Transparency]: Set the degree of transparency for the satellite photo overlay.

[Tide Range for PhotoFusion]: Set the degree of transparency for the tide range in the satellite photo overlay.

[Tidal Currents Transparency]: Set the degree of transparency for the tidal currents display.

[Radar Overlay]

[Radar Transparency]: Set the degree of transparency for the radar echo.

[Range Link]: Activate or deactivate matching the overlay with radar ranges.

[Echo Color]: Tap the color for the radar echo.

Depth Shading Values

[Depth Shading Transparency]: Set the degree of transparency for the depth shading overlay.

For the menu items shown in the table, see the mentioned section.

Menu item	Reference
[3D Display] • [Auto 3D Alti Exaggeration] • [3D Alti Exaggeration]	See paragraph 3.1.2.
[Depth Shading Values] • [Auto Depth Shading Color Scale] • [Minimum Value] • [Maximum Value] • [Depth Color Shade]	See paragraph 3.2.1.

[Reset Default Settings]: Tap this menu item to restore default settings for the [Plotter Display] menu.

2.14   NAVpilot-700 Series Auto Pilot

This section shows you to how to enable use of the NAVpilot with your system. For how to use the NAVpilot to steer to a point or route, see paragraph 4.11.4.

The FURUNO NAVpilot-700 Series Auto Pilot installs in the NavNet TZtouch2 network to get automatic steering when going to a point or a route. The following navpilot functions can be controlled from a NavNet TZtouch2 display:

- Control operation of the NAVpilot from this equipment.
- Select the NAVpilot steering mode (Auto or Nav).

Note: When an alarm message for the NAVpilot appears, check the control unit of the NAVpilot.

2.14.1   How to enable use of the navpilot

Open the [Settings] - [Routes] menu, then turn on [Navigate with AutoPilot]. When you set a route or point as destination, the message" Do you want to navigate using the NAVpilot?" appears.

2.14.2   How to show the NAVpilot control box in the data area

1. Tap [DATA] or [ROUTE] on the data area to select where to show the NAVpilot-control box.
2. Tap a data box or an unoccupied area to select where to show the NAVpilot control box. A pop-up menu appears.
3. Tap [NavPilot] to show the NAVpilot control box in the area selected.
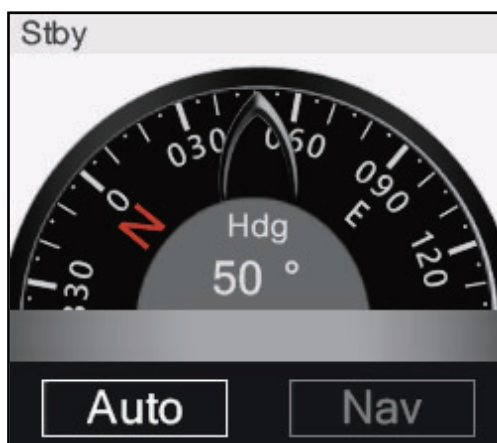
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3. 3D DISPLAY, OVERLAYS

3.1 3D Display

The 3D display has native 3D chart design that allows full time 3D presentation. This true 3D environment gives you all of the information you require with no restrictions on the information you can see. You can plan your routes, enter points, etc. like on the 2D chart.

The 3D display provides a 3D view of land and sea around your ship. The 3D display has most of the same information as the 2D display. With both presentations available you can see the conditions around your ship from different angles. The 3D display helps you navigate when you are in waters that you do not know. Also, most functions of the 2D display, for example, destination setting, are available in the 3D display.

For best results make sure you have accurate position and heading data.

Point

Boat icon (your ship)
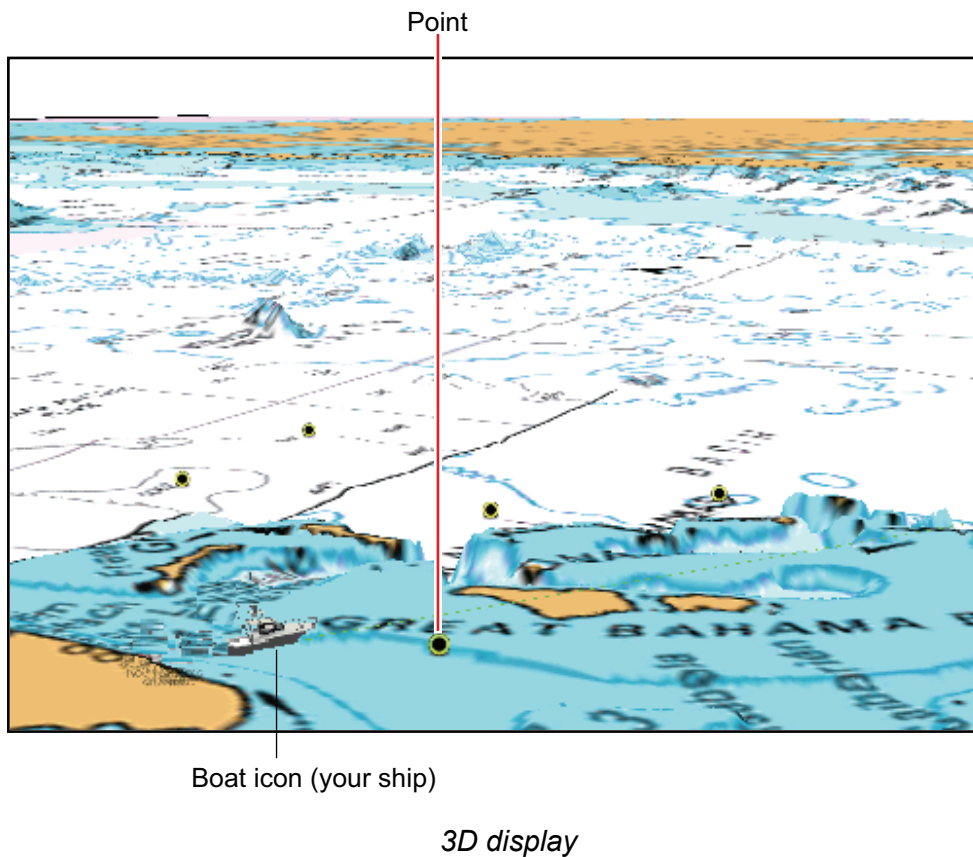
3D display

3.1.1 How to activate the 3D display

1. To switch between the 2D and 3D displays, tap the 2D/3D switch at the bottom left corner on the screen or drag upward as shown below. The icon is filled in white when the 3D display is active.
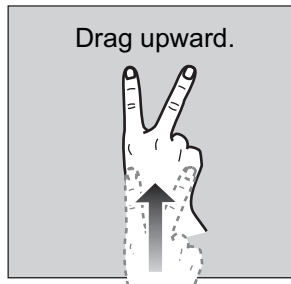

2. Tap the orientation mode switch to select an orientation mode.

3. Orientate the 3D display by dragging leftward or rightward with two fingers.
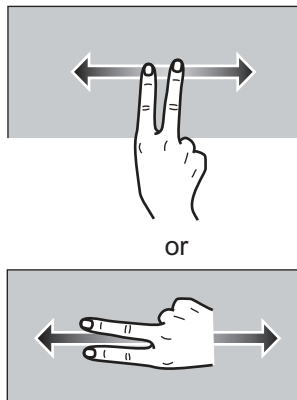
### The 2D/3D display switch, orientation mode switch

The 2D/3D display switch and the orientation mode switch indicate 2D/3D display status and orientation mode. In the North up mode, North is at 0°. When you change the viewpoint on the 3D display, the orientation mode switch shows the "North" icon. The arrow on the icon points toward North. To switch to North-up orientation, tap the switch.
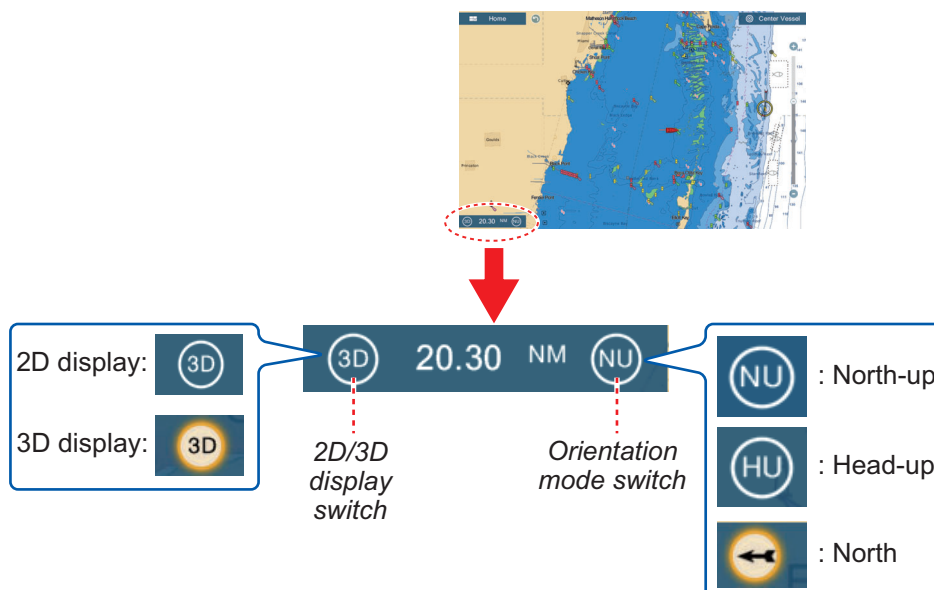
3.1.2 How to make the 3D view clearer

In the 3D display, some topographical features are easier to see if you use the 3D exaggeration feature. This feature expands both objects on the chart and the underwater vertically so that you can easily see the shape of the objects and position. There are two methods for 3D exaggeration: automatic and manual.

1. Open the home screen, then tap [Settings] - [Plotter].
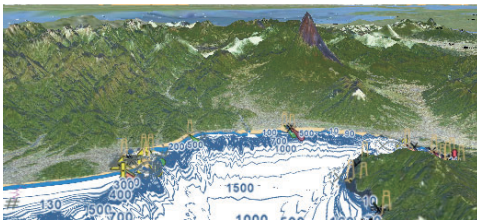2. Find the [3D DISPLAY] section.
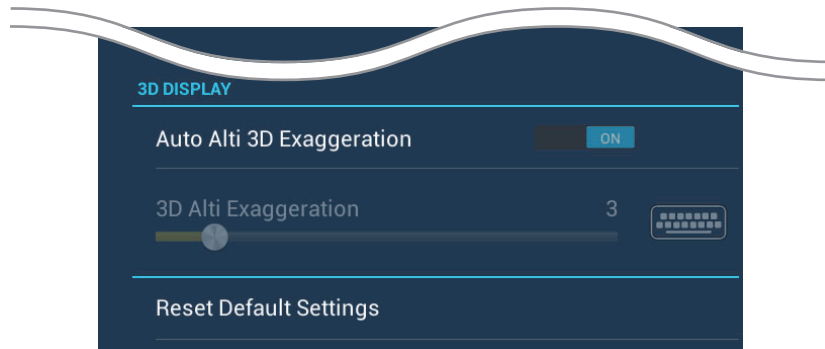
3. Automatic method:
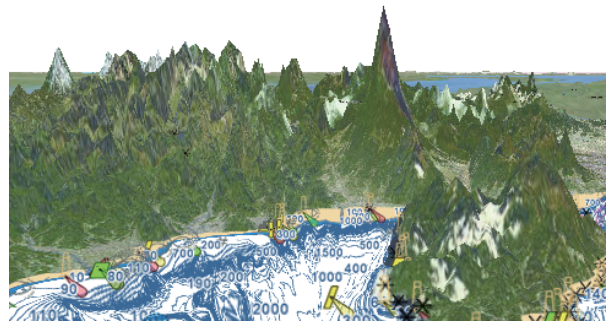   Turn on [Auto Alti 3D Exaggeration].
   Manual method:
   Turn off [Auto Alti 3D Exaggeration]. Use the slider or software keyboard at [3D Alti Exaggeration] to set the exaggeration level.
   High gives the highest level of exaggeration. The example below compares the same picture in low and high exaggerations.


Low exaggeration

High exaggeration

4. Tap the close button to finish.

3.2 Overlays

Radar, satellite photo, depth shading, tide icons, tidal currents, etc. overlays are available on the plotter display.

3.2.1 Depth shading overlay

The depth shading overlay shows the depths in different color (the default settings are red (shallow), yellow (medium) and blue (deep)). This overlay is available in both 2D and 3D presentations. Use this overlay to find depths. To show the depth shading overlay, open the [Layers] menu then turn [Depth Shading] on or off as required.
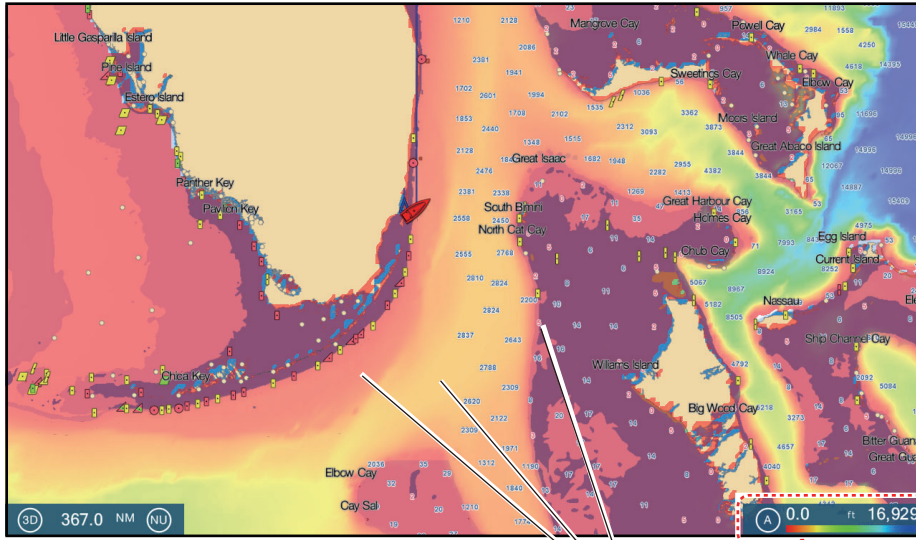
Depth shading

Minimum value   Maximum value

OFF   ON

You can turn the automatic depth shading color scale adjustment on or off by tapping the "A".

OFF: Depth shading can be adjusted manually, with the range sliders.
ON: Depth shading set according to the depth shading values set in the menu.

Depth shading settings

The depth shading settings are in the [Plotter] menu.

[**Auto Depth Shading Color Scale**]: Turn automatic depth shading color scale selection on or off.

[**Minimum Value**]: Set the minimum depth range for which to show depth shading, with the software keyboard. This is available when [Auto Depth Shading Color Scale] is set to [OFF].

[**Maximum Value**]: Set the maximum depth range for which to show depth shading, with the software keyboard. This is available when [Auto Depth Shading Color Scale] is set to [OFF].

[**Depth Color Shade**]: Select how to display the depth colors among [Classic Hue], [Inverted Classic Hue], [Red Hue], [Blue Hue], [Green Hue] and [Yellow Hue].
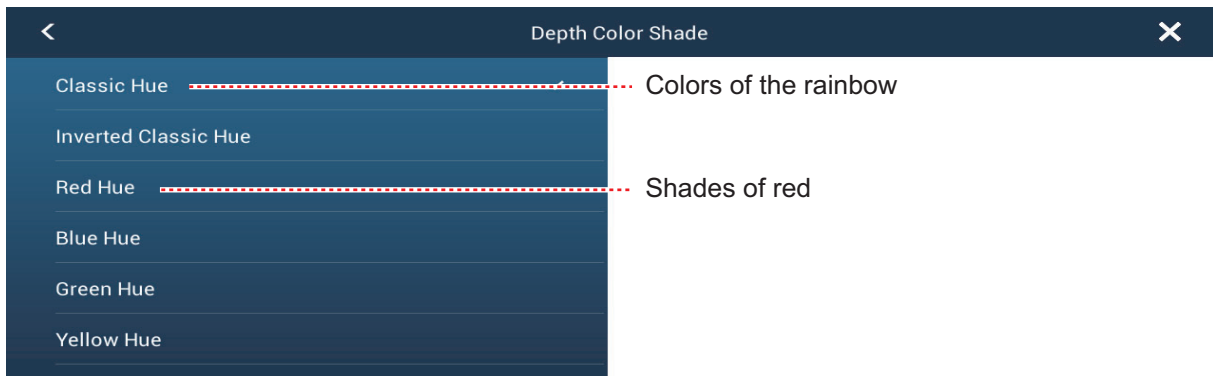

[**Depth Shading Transparency**]: Adjust the degree of transparency of the depth shading overlay.

3.2.2 Satellite photo overlay

You can put the satellite photo for your area on the 2D and 3D displays. Open the [Layers] menu then turn [Satellite Photo] on or off as required.

High resolution satellite images for the USA coastline are not provided standard, but are available at no cost (except shipping and handling). Users can install multiple satellite photos on the hard drive of the NavNet TZtouch2. The illustration below shows the vector chart with the satellite photo overlay.
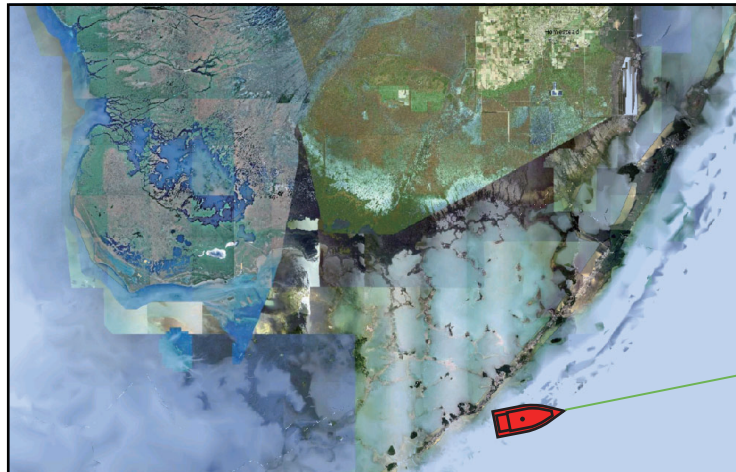

How to set satellite photo transparency on water

You can set the degree of transparency for the satellite photo on the water.

1. Open the home screen, then tap [Settings] - [Plotter].
2. Drag the slider at [PhotoFusion Transparency] to set the level (setting range: 0 to 80%).
3. Tap the close button to finish.

3.2.3 Radar overlay

The radar overlay display puts the radar picture on the top of the navigation chart. To display the radar overlay, open the [Layers] menu then turn [Radar Overlay] on or off.
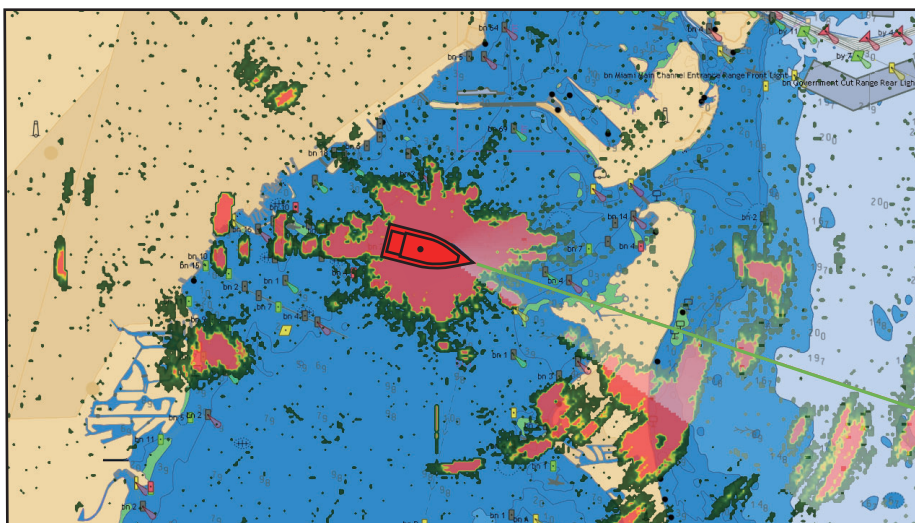
How to switch between stand-by and TX, match overlay and radar ranges

Tap the [TX] icon at the bottom right corner to set the radar in transmit or standby state. The icon is filled in white when the radar is transmitting; hollow in standby.

To match overlay and radar ranges, open the home screen, then tap [Settings] - [Plotter]. Turn on [Range Link]. You can sync the ranges with the Sync icon (at the lower right corner) when [Range Link] is turned off.

Push to sync radar and overlay ranges.

: Standby

: TX

**How to set the level of the radar echo transparency**

Open the home screen, then tap [Settings] - [Plotter]. Drag the slider at [Radar Transparency] to set the transparency level.

How to adjust radar gain, sea, rain

The gain and sea and rain clutters can be adjusted from the navigation data display. See sections 6.2, 6.3, 6.4, respectively.

How to select the echo color

Open the home screen, then tap Settings - [Plotter] - [Echo Color]. Tap [Multicolor], [Green] or [Yellow].
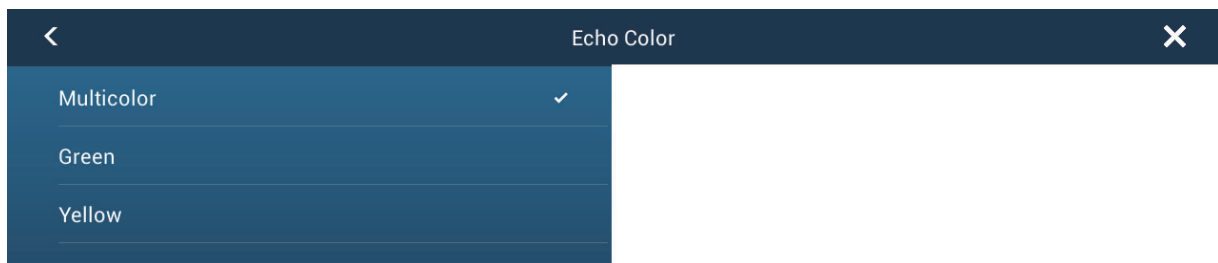
How to acquire a target for ARPA

A target can be acquired for ARPA. See paragraph 6.23.2.

3-7