

JAN-7201/9201

ECDIS

**QUICK
REFERENCE**

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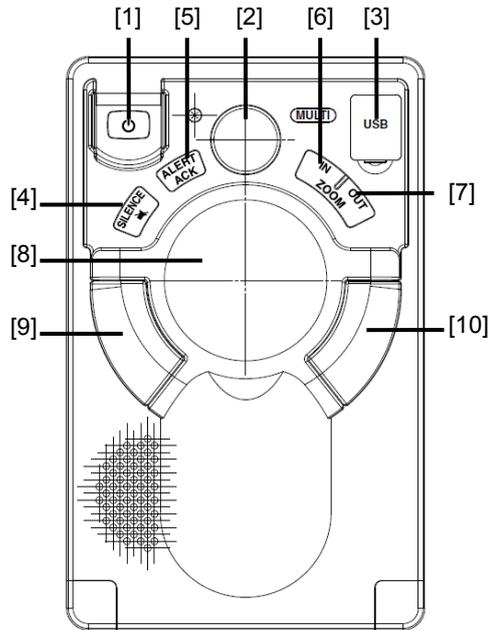
For further details, refer to the corresponding chapter of the instruction manual listed below.

T: Table Editing Mode / G: Graphic Editing Mode

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Preface

■ Trackball operation unit



WARNING

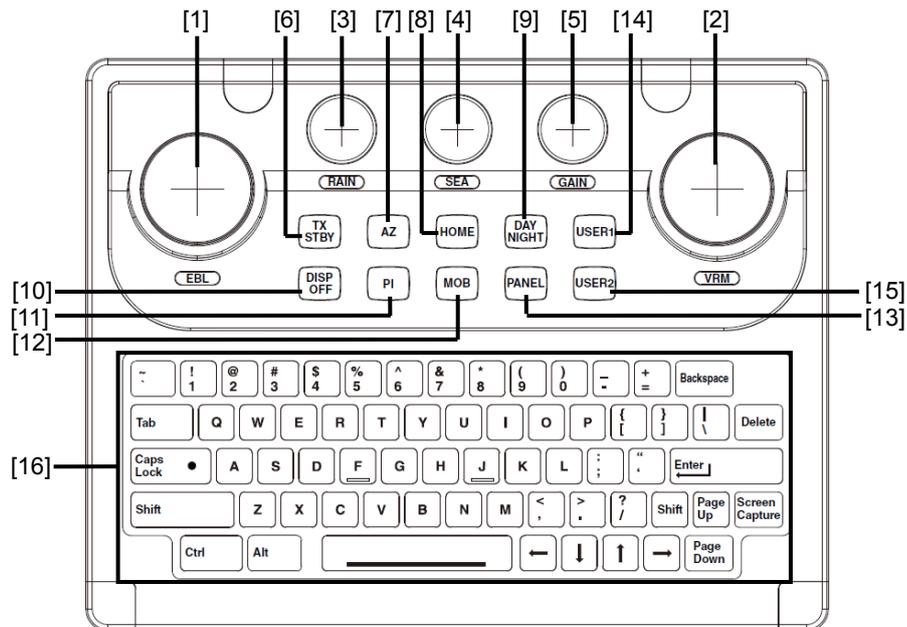


When turning off the power supply, do not hold down the power button of the operation unit. Otherwise, a trouble may occur due to termination failure.

No.	Name	Function outline
1	Power supply button	Use this button to turn on and off this equipment.
2	[MULTI] dial	<ul style="list-style-type: none"> • Turn this dial to operate the function that is assigned to the [MULTI] dial such as the Display Brightness function. • If the [MULTI] dial is held down, the Display Brightness function is assigned to the [MULTI] dial forcibly.
3	USB terminal	Connects a USB flash memory.
4	[SILENCE] key	Stops the alert buzzer.
5	[ALERT ACK] key	Acknowledging the alert.
6	[ZOOM IN] key	<ul style="list-style-type: none"> • "Scale" Setting will increment one step larger. • When this key is held pressed, setting will step continuously until released.
7	[ZOOM OUT] key	<ul style="list-style-type: none"> • "Scale" Setting will increment one step smaller. • When this key is held pressed, setting will step continuously until released.
8	Trackball	<ul style="list-style-type: none"> • Moves the cursor on the screen. Use the trackball to specify a position or to perform various settings.

No.	Name	Function outline
9	Left button	<ul style="list-style-type: none"> Use this button to select a function or determine the operation that is set. The clicking of the left button once is referred to as "click" in this manual. The clicking of the left button twice consecutively is referred to as "double-click" in this manual.
10	Right button	<ul style="list-style-type: none"> Use this button to select a function or perform setting operation. The clicking of the right button is referred to as "right-click" in this manual.

Keyboard operation unit (Option)

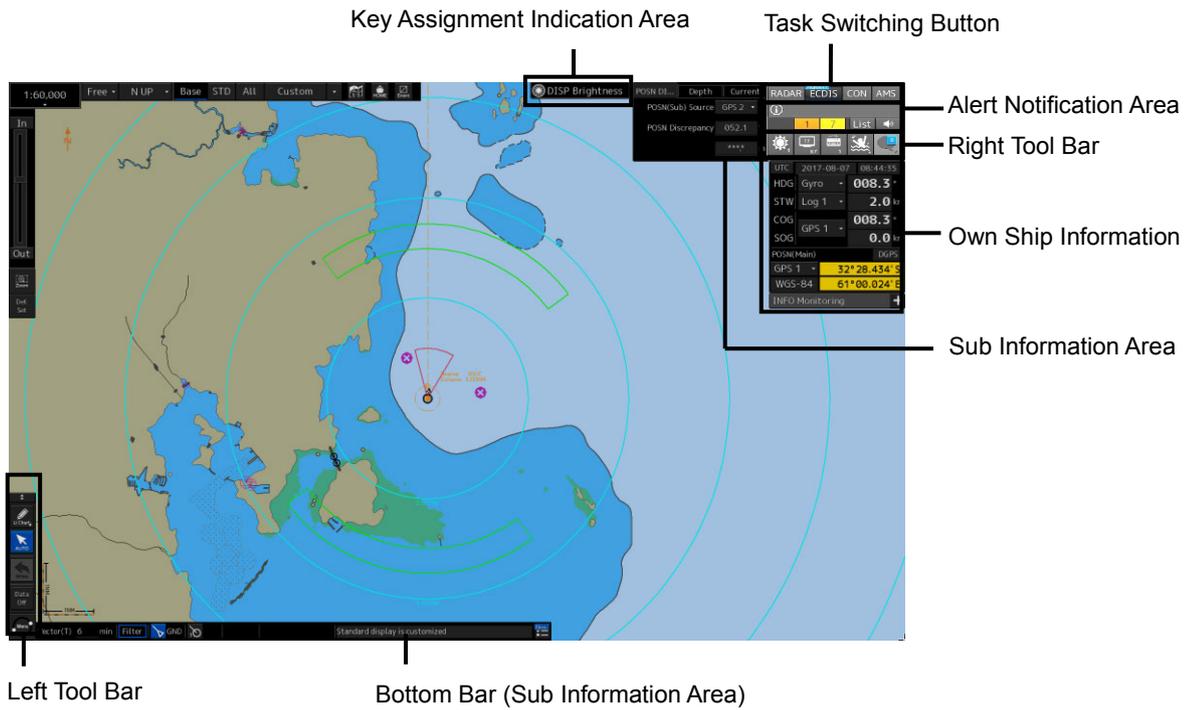


No.	Name	Function outline
1	[EBL] dial	When this dial is turned, control moves in the EBL (PI) direction with control right. This dial also moves the cursor horizontally (in cursor move mode).
2	[VRM] dial	When this dial is turned, control moves in the VRM (PI) direction with control right. This dial also moves the cursor vertically (in cursor move mode).
3	[RAIN] dial	<ul style="list-style-type: none"> When this dial is turned, the level of rain/snow clutters on the radar image is adjusted. When this dial is pressed, the function mode is switched to manual/automatic.
4	[SEA] dial	<ul style="list-style-type: none"> When this dial is turned, the level of sea clutters on the radar image is adjusted. When this dial is pressed, the function mode is switched to manual/automatic.
5	[GAIN] dial	When this dial is turned, the gain of the radar image is adjusted.
6	[TX STBY] key	When this dial is pressed, the radar image on the chart is switched to "On" or "Off".
7	[AZ] key	<ul style="list-style-type: none"> Switches AZ between On and Off. When this button is held down, the [AZ] key allocation dialog is displayed.
8	[HOME] key	Returns own ship to the home position within the display screen. <ul style="list-style-type: none"> -TM: Moves the own ship to the TM RESET position. -RM: Moves the own ship to the on-center position (when it is at off-center only).
9	[DAY NIGHT] key	Switches the display color on the screen over 5 levels according to the brightness on the bridge.

No.	Name	Function outline
10	[DISP OFF] key	The assigned function is executed while the key is pressed. The function that can be assigned is Data Off.
11	[PI] key	<ul style="list-style-type: none"> • Switches the PI operation/display to On/Off. • When this key is held down, the cursor mode is changed to the floating PI mode.
12	[MOB] key	<ul style="list-style-type: none"> • Displays the MOB symbol and the setting dialog box in the own ship's position latitude/longitude. • When this key is held down, the MOB symbol and the setting dialog box are cleared.
13	[PANEL] key	Whenever this key is pressed, the brightness of the panel on the operation unit is switched.
14	[USER1] key	<ul style="list-style-type: none"> • Executes the function that is assigned to the key. • When this key is held down, the setting dialog box of the function that is assigned to the [USER1] key appears.
15	[USER2] key	<ul style="list-style-type: none"> • Executes the function that is assigned to the key. • When this key is held down, the setting dialog box of the function that is assigned to the [USER2] key appears.
16	Keyboard	The keyboard is used for input of numeric values and characters at operation of this equipment.

Names of the Top Screen

This section describes the names of the top screen.



Scale/Range combo box

This button displays the current scale or range.



Select a scale or a range from the combo box.

Original scale display button

When this button is clicked on, the screen scale is changed according to the original scale of the chart that is displayed at the center of the screen.

Motion mode combo box

This button sets the motion mode.

Bearing mode combo box

This button sets the bearing mode.



[Event] button

When this button is clicked on, an event mark is assigned at the own ship's position.

[Home] button

When this button is clicked on, the chart screen moves to the position at which the own ship's position is to be displayed.

Display category

Set the display category of the chart.

Zoom slider

The zoom slider expands/reduces the display in scale/range.

[Def. Set] (Settings at shipment) button

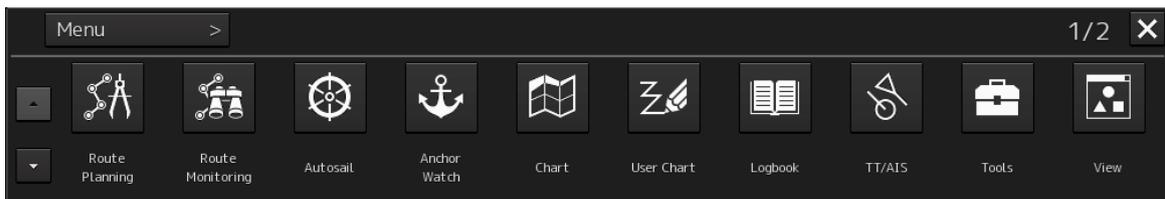
When this button is clicked on, the screen display return from the personal setting information to the settings at shipment.

■ Basic Menu Operations

- 1 Click on the [Menu] button on the left tool bar.

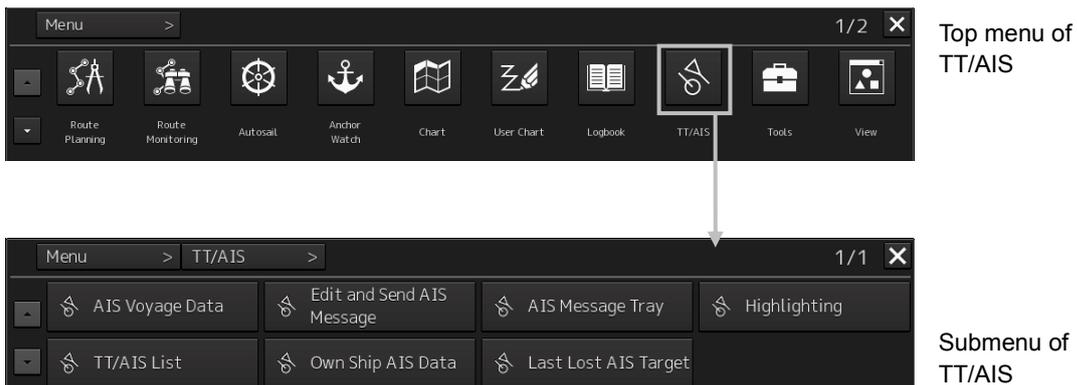


The menu is displayed.



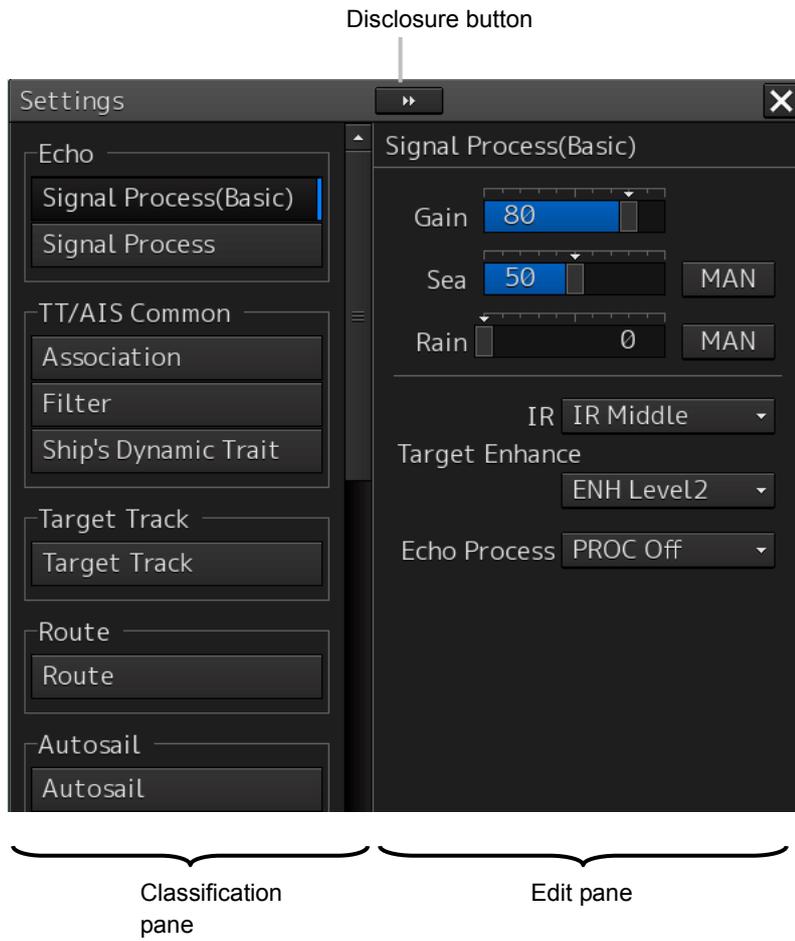
- 2 A submenu is displayed depending on the function.

Example: TT/AIS



- 3 Some functions comprise a classification pane and an edit pane and a dialog is available to hide the classification pane by using the Disclosure button.

Example: "Settings" is clicked on the menu.



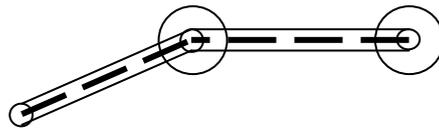
1 Route Planning

To create the route, enter the waypoint (WPT) by the following two methods.

T Table Editing Mode : the way to enter each WPT's value into the table

WPT No.	Name	Position		Leg			XTD		Arrival Radius	Turning Radius	Planned Speed	ROT	ETA [YYYY-MM-DD HH:MM]
		LAT	LON	BWW	Distance	Sail	PORT	STBD					
2		32°15.000'N	120°10.000'E	090.0°	8.5NM	RL	0.20NM	0.20NM	0.50NM	0.50NM	20.0kn	38.2°/min	2017-08-17 08:00
3		32°15.000'N	120°20.000'E	090.0°	8.5NM	RL	0.20NM	0.20NM	0.50NM	0.50NM	20.0kn	38.2°/min	2017-08-17 08:00
4		32°15.000'N	120°30.000'E	090.0°	8.5NM	RL	0.20NM	0.20NM	0.50NM	0.50NM	20.0kn	38.2°/min	2017-08-17 08:00
5		32°30.000'N	120°30.000'E	000.0°	15.0NM	RL	0.20NM	0.20NM	0.50NM	0.50NM	20.0kn	38.2°/min	2017-08-17 10:00
6													

G Graphic Editing Mode : the way to plot each WPT on the chart graphically by using the mouse

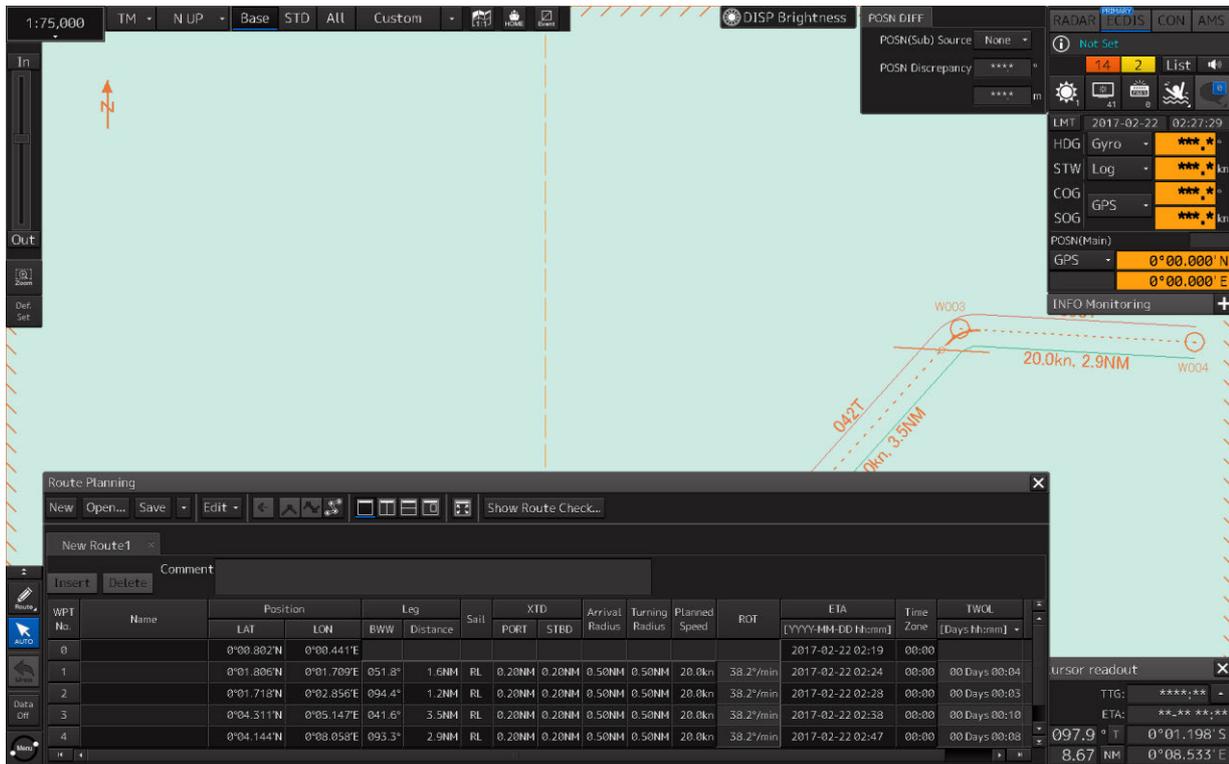


In this quick reference, the following logos indicate the type of these modes.

- **T** : Table Editing Mode
- **G** : Graphic Editing Mode

1.1 Starting the Route Planning

- 1 Click on the [Menu] button on the left tool bar.
The top menu is displayed.
- 2 Click on the [Route Planning] button on the top menu.
The [Route Planning] dialog box appears on the screen.



The width of the dialog box varies according to the screen size.

【Creating the New Route】

T

- 3 Click on the [New] button on the Route Planning bar.
A new tab is added.
- 4 Enter the latitude and the longitude of WPT0 (waypoint 0)
Enter the latitude by clicking on [LAT] of [Position].
Enter the longitude by clicking on [LON] of [Position].
Use the software keyboard for entering the latitude and longitude.
- 5 Set the each item as required.
- 6 Add the next WPT by clicking on the next WPT No. or the [Insert] button after entering the latitude and longitude.
WPT1 is added.
- 7 Set the item as indicated in Step 5.
- 8 Enter data up to the last WPT with the same procedure.
The route based on the input data is displayed each time.
- 9 After completing the creation, save the route file.
For the saving procedure, refer to "1.10 Saving the Creating Route".

G

- 3 **Click on the [New] button on the Route Planning bar.**
- 4 **Placing the cursor on the WPT0 position.**
The latitude and the longitude of the WPT are displayed near the cursor.
- 5 **Click the mouse button.**
WPT0 is added.
- 6 **Move the cursor and click the mouse button.**
WPT1 is added at the cursor position.
- 7 **Add as many WPTs as required in the same way.**
- 8 **After creating the last WPT, double-click the left button or right-click.**
- 9 **Save the route file that was created.**
For the details of how to save the file, refer to "1.10 Saving the Creating Route".

[Editing the Created Route]

- 3 **Click on the [Open] button on the Route Planning bar.**
The [File operation] dialog box appears.
- 4 **Select the route file to be edited and click on the [Open] button.**
The route file is displayed on the [Route Planning] dialog box.
- 5 **Set the route as indicated in Creating the New Route.**
For the procedure, refer to "1.1 Starting the Route Planning".

1.2 Inserting the New WPT

T

- 1 **Right-click on the WPT No. of the WPT to be inserted.**
The context menu is displayed.
- 2 **Click on [Insert WPT] of the context menu.**
WPT is inserted following the selected WPT.

G

- 1 **Click the left button on the leg between the WPTs in which a WPT is to be inserted.**
The leg is set to a selected state.
- 2 **Determine the insertion position of the WPT, and click to move the cursor.**
A WPT is added.

1.3...Deleting the WPT

T

- 1 **Right-click on the WPT No. of the WPT to be deleted.**

The context menu is displayed.

- 2 **Click on [Delete WPT] on the context menu.**

The selected WPT is deleted.

G

- 1 **Right-click on the WPT to be deleted.**

The context menu is displayed.

- 2 **Click [Delete WPT] on the context menu.**

The WPT is deleted.

1.4...Dividing the Leg

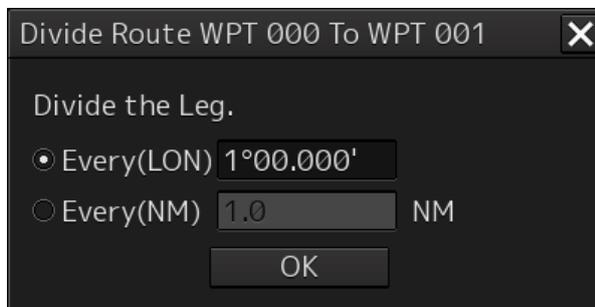
T

- 1 **Right-click on the WPT No. to be divided.**

The context menu is displayed.

- 2 **Click on [Divide leg...] of the context menu.**

The [Divide Route] dialog box appears.



- 3 **Enter a division interval.**

[Every (LON)] (Longitude division) : dividing the leg by the longitude

[Every(NM)] (Nautical mile division) : dividing the leg by the distance

- 4 **Click on the [OK] button.**

The leg that is selected in Step 1 is divided in the unit that is specified in Step 3.

G

- 1 **Right-click on the leg of the route to be divided.**

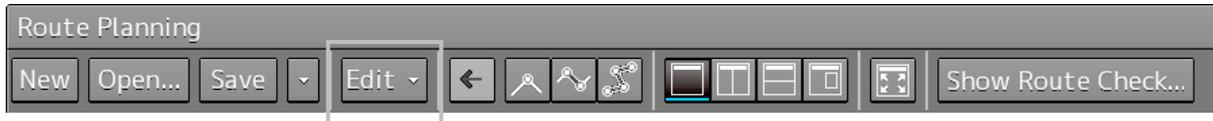
The context menu is displayed.

- 2 **Same as procedures 2 to 4 of **T****

1.5 Reversing the WPT's Order



- 1 When this button is clicked on Edit button, the Edit menu is displayed.



- 2 Select and click [WPT Reverse Order] from the Edit menu.

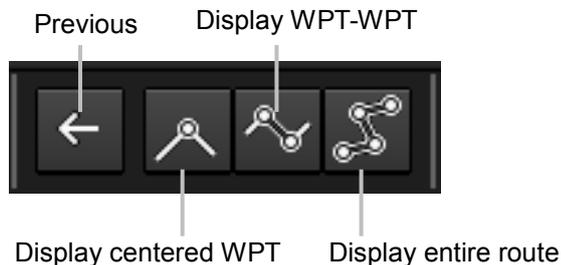
When this item is selected by clicking on the item, the order of the WPT that is currently selected can be reversed.

1.6 Checking the WPT on the Chart



- 1 Click the WPT No. of the row that want to check the WPT.
- 2 Click the [Display centered WPT].

The selected WPT is displayed on the center of chart.



【Switching the chart display to the display area/scale before the chart display was switched】

- 3 Click the [Previous] button.

Switch the chart display to the display area/scale before the chart display was switched.

【Displaying on the chart the WPT that is currently being edited and the previous WPT】

- 3 Click the [Display WPT-WPT] button.

Display on the chart the WPT that is currently being edited and the previous WPT.

【Displaying the entire route that is being edited on the chart】

- 3 Click the [Display entire route] button.

Display the entire route that is being edited on the chart.

1.7 Moving the WPT



- 1 Click on the WPT to be moved.**
The WPT is set to a selected state.
- 2 Move the cursor to the location where want to add, and click.**
A rubber band covering from the WPTs at the front and back to the cursor is displayed.
The move is determined.

1.8 Adding the WPT



- 1 Right-click on WPT0 or the last WPT.**
The context menu is displayed.
- 2 Click [Add WPT] on the context menu.**
The cursor changes to the WPT addition mode.
- 3 Move the cursor on the position of the WPT to be added.**
- 4 Click the mouse button.**
WPT is added.

1.9 Displaying/Modifying Information of the WPT or Leg



- 1 Click the item that wants to modify information.**
- 2 To modify information, enter each value, click the [Enter] button.**
Carry out displaying/modifying of the information as needed.

WPT No.	Name	Position		Leg		Sail	XTD		Arrival Radius	Turning Radius	Planned Speed	ROT	ETA
		LAT	LON	BWW	Distance		PORT	STBD					
2		32°15.000'N	120°10.000'E	090.0°	8.5NM	RL	0.20NM	0.20NM	0.50NM	0.50NM	20.0kn	38.2°/min	2017-08-17 08
3		32°15.000'N	120°20.000'E	090.0°	8.5NM	RL	0.20NM	0.20NM	0.50NM	0.50NM	20.0kn	38.2°/min	2017-08-17 08
4		32°15.000'N	120°30.000'E	090.0°	8.5NM	RL	0.20NM	0.20NM	0.50NM	0.50NM	20.0kn	38.2°/min	2017-08-17 09
5		32°30.000'N	120°30.000'E	000.0°	15.0NM	RL	0.20NM	0.20NM	0.50NM	0.50NM	20.0kn	38.2°/min	2017-08-17 10
6													

1.10 Saving the Creating Route



- 1 Click on the [Save] button on the Route Planning bar.



At creation of a new route, a [Save as Route File] dialog box appears.

Perform Steps 2 to 4 in the [Save as Route File] dialog.

When the existing route file is saved, the [Save as Route File] dialog box does not appear since the file is overwritten.

- 2 Enter [Name] and a comment in [Comment] as required.
- 3 Click on the [Save] button.
The file is saved.
- 4 The file name that is displayed on the Route Planning tab changes to the name that is specified in the [Name] box.

[When a route of the same file name already exists]

- 5 Perform the file saving operation.
A dialog box message appears confirming whether the file is to be overwritten.
- 6 When overwriting the file, save the file by clicking on the [Yes] button.
When not overwriting the file, close the dialog box by clicking on the [No] button and change the file name on the [Save as Route File] dialog box.

1.11 Exiting the Route Planning



- 1 Click on the [X] button on the dialog box.

1.12 Creating the Alternate Route

- 1 Click on the [Menu] button on the left tool bar.**
The menu is displayed.
- 2 Click on the [Route Monitoring] button on the menu.**
The [Route Monitoring] dialog box appears.
Select a required route file.
- 3 Right-click on the WPT of the route or leg that is being monitored.**
The context menu is displayed.
- 4 Click on [Monitoring WPT xxx] or [Monitoring LEG xxx] in the context menu.**
The context menu is displayed.
- 5 Click on [Edit this route] in the context menu.**
The [Route Planning] dialog is displayed.
- 6 The method of creating the alternate route is same as creating the new route and editing the created route.**

1.13 Saving the Alternate Route

[Overwriting without changing a file name]

- 1 Click on the [Save] button.**
A confirmation dialog is displayed.
- 2 Click on the [YES] button.**
The alternate route is displayed and used instead of the original route.
The original route file is cleared since it is overwritten.

[Saving by assigning a name]

- 1 Click on [Save as] of the route plan menu button on the Route Planning bar.**
The [Save as Route File] dialog is displayed.
- 2 Enter a new file name and click on the [Save] button.**
An alternate route is displayed and used instead of the original route.
The original route file remains.

2 Route Monitoring

2.1...Setting the Safety Contour Alarm/ the Dangerous Detection Alert

- 1 Click on the [Menu] button on the left tool bar.

The menu is displayed.

- 2 Click on the [Alert] button on the menu.

The [Alert] dialog box appears.

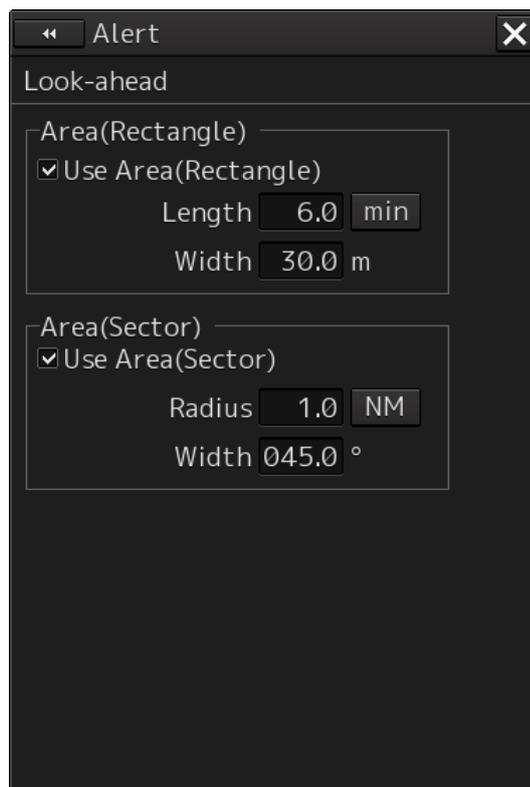
【Setting up Look-ahead】

- 3 Select the [Look-ahead] in the classification pane.

The [Look-ahead] dialog is displayed in the edit pane.

- 4 Select [Use Area(Rectangle)] and/or [Use Area(Sector)] check box.

The alert sounds when the danger detection vector/sector approaches a dangerous object.



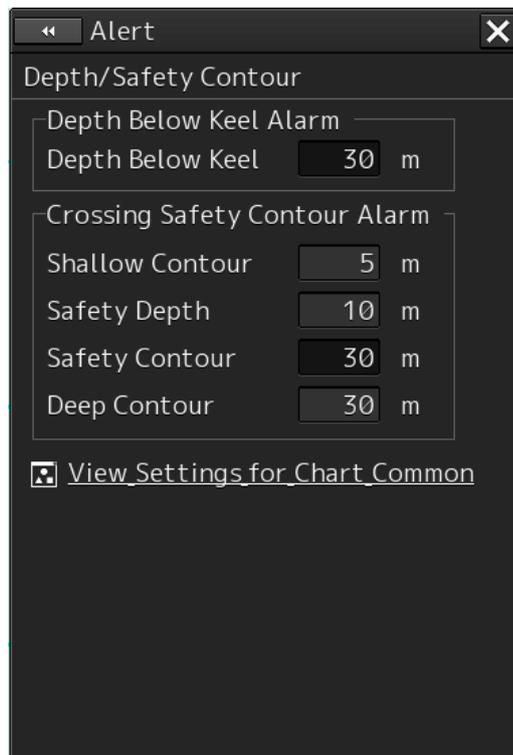
This unit can monitor when own ship tries to cross over the preset safety contour or danger area, or when dangerous objects enter the sector specified around own ship.

【Settings up Safety Contour】

3 Select [Depth/Safety Contour] in the classification pane.

The [Depth/Safety Contour] dialog is displayed in the edit pane.

The threshold values for generating "Depth Below Keel Alarm" and "Crossing Safety Contour Alarm" can be set up.



2.2 Setting up the Arrival Last WPT Alert

1 Click on the [Menu] button on the left tool bar.

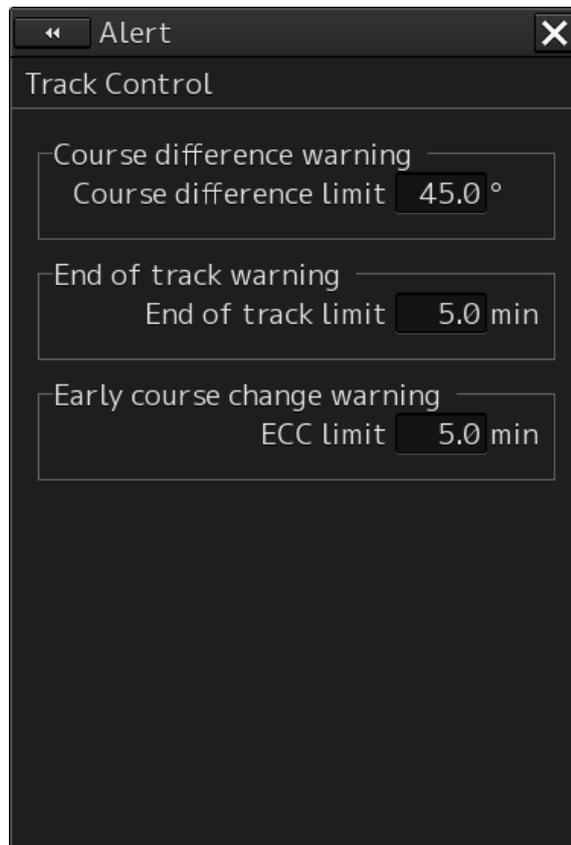
The menu is displayed.

2 Click on the [Alert] button on the menu.

The [Alert] dialog box appears.

3 Select the [Track Control] in the classification pane.

The [Track Control] dialog is displayed in the edit pane.



4 Setting the [End of track limit].

Specify the time remaining to reach the destination so as to generate an alert for approaching to the proximity of the final destination in a range between 1.0 and 5.0 min.

2.3 Setting up the Course difference warning

1 Click on the [Menu] button on the left tool bar.

2 Click on [Alert] - [Track Control] on the menu.

3 Setting the [Course difference limit].

Specify the difference between the planned course and own ship's bearing in angle, within a range between 0.5 and 45.0°.

2.4 Setting up the Cross Track Alarm

1 Start Route Monitoring.

2 The alert sounds when the own ship deviates from the planning course.

When Cross Track Alarm occurs, adjust the course of the own ship.

Or, edit a plan route.

2.5 Setting up the Dragging Anchor Alert

- 1 Click on the [Menu] button on the left tool bar.**

The menu is displayed.

- 2 Click on the [Anchor Watch] button on the menu.**

The [Anchor Watch] dialog box appears.

The preview of dragging anchor monitoring area that was set is displayed (broken line).

When the dialog is displayed, the anchor position is placed at the center of the circle.

- 3 Set dragging anchor monitoring to ON by clicking on the [Monitoring Anchor] button.**

Dragging anchor monitoring starts based on the setting.

The dragging anchor monitoring area on the chart is changed to a solid line.

When own ship exits from the dragging anchor monitoring area, the "Dragging anchor" alert is displayed.

Click on the [Monitoring Anchor] button and turn off button indication.

Finish the dragging anchor monitoring.

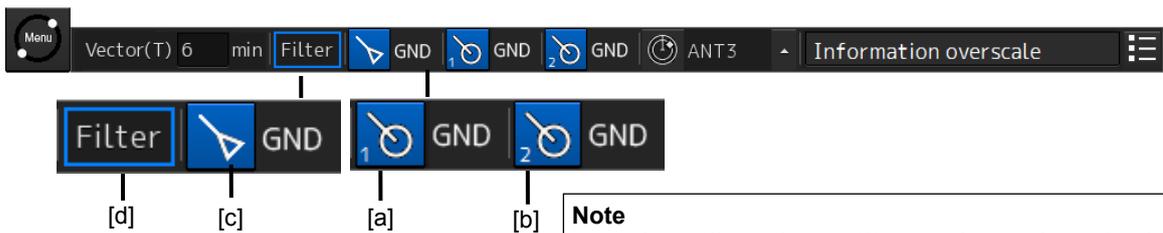
3 AIS/TT

The AIS information received from the AIS and the TT information received from the radar can be displayed on the chart.

3.1.....Displaying the AIS/TT target

- 1 **Click the AIS button on Bottom Bar (Sub Information Area) and enable to display the AIS symbol.**

The AIS symbol is displayed on the chart. To hide AIS symbol, clear it.



Note
When the button is turned Off, even the alerts related to the AIS will not be displayed.

[a] TT1 display button

This button displays the TT1 On/Off status and switches the status. Whenever this button is clicked on, the display is switched to On/Off.



[c] AIS (AIS display) button

This button displays the AIS On/Off status and switches the status. Whenever this button is clicked on, the display is switched to On/Off.



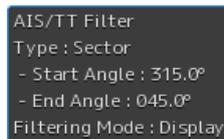
[b] TT2 display button

This button displays the TT2 On/Off status and switches the status. Whenever this button is clicked on, the display is switched to On/Off.



[d] [Filter] status display

When AIS/TT filter is set to On, if placing the cursor on this button, the AIS/TT filter status is displayed.



- 2 **Click the TT1 button on Bottom Bar (Sub Information Area) and enable to display the TT1 symbol.**

The AIS symbol is displayed on the chart. To hide TT1 symbol, clear it.
Set TT2 in the same way.

3.2.....Narrowing down the display of the AIS/TT target

- 1 **Click on the [Menu] button on the left tool bar.**

The menu is displayed.

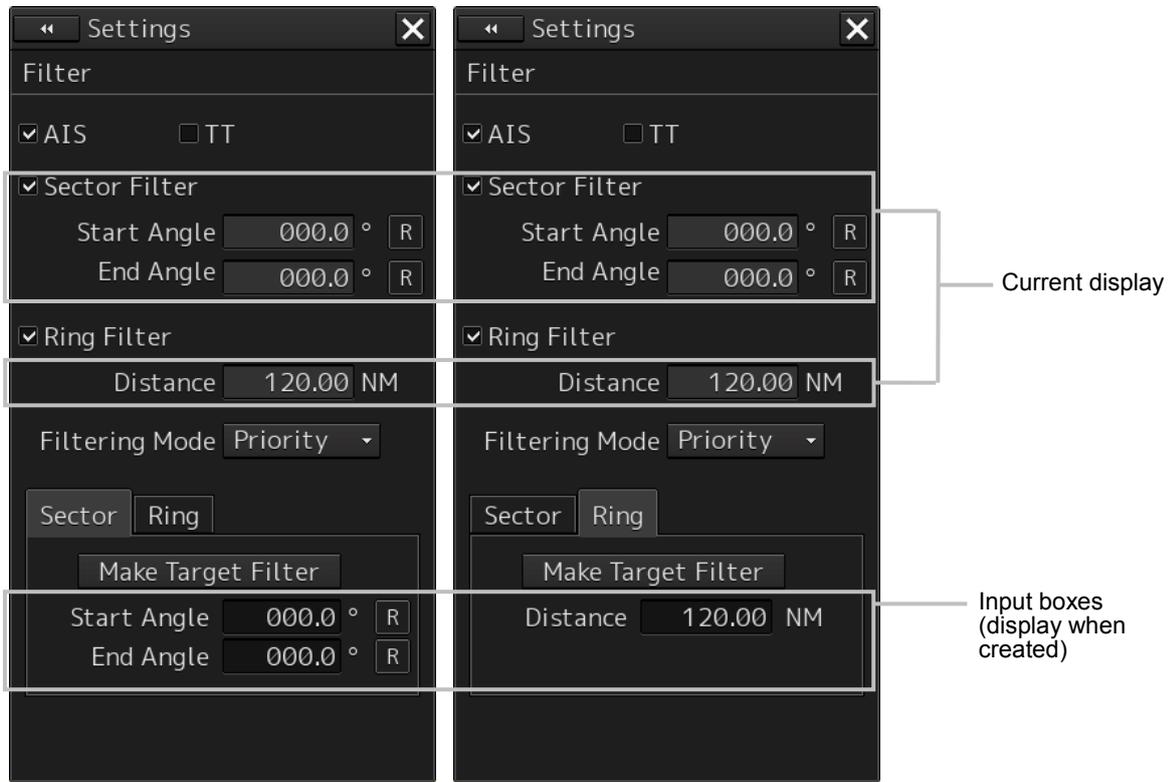
- 2 **Click on the [Settings] button on the menu.**

The [Settings] dialog box appears.

3 Select [Filter] in the classification pane.

Set up AIS/TT filter in the setting dialog of the edit pane.

When an AIS/TT filter is specified, the targets in that area can be displayed with highest priority or only the targets in that area can be displayed.



【Creating the Sector Filter】

4 Click on the [Sector] tab.

5 Click on [Make Target Filter].

The button is highlighted and the cursor mode is set to the Make AIS/TT Filter mode.

6 Move the cursor, place it on the start angle of the Sector filter that want to set up, and then click on it.

7 Move the cursor, place it on the end angle of the Sector filter that want to set up, and then click on it.

【Creating the Ring Filter】

4 Click on the [Ring] tab.

5 Click on [Make Target Filter].

The button is highlighted and the cursor mode is set to the Make AIS/TT Filter mode.

6 Move the cursor, place it on the distance of the Ring filter that want to set up, and then click on it.

3.3 Activating the AIS Target

- 1 Set the cursor mode to the AUTO mode.**
- 2 Place the cursor on the sleeping AIS symbol to be activated and then click on.**
The selected AIS target is activated.

3.4 Deactivating the AIS Target

[Deactivating one AIS target]

- 1 Right-click on the AIS target to be deactivated.**
The setting items for cursor modes are displayed.
- 2 Click on the [Deactivate] on the Context menu.**
The selected AIS target is deactivated.

[Deactivating multiple AIS targets]

- 1 Right-click on the AIS target.**
The setting items for cursor modes are displayed.
- 2 Click on the [Deactivate mode] on the Context menu.**
The cursor changes to the selection cursor.
- 3 Click on the AIS target to be deactivated.**
The selected AIS target is deactivated.

3.5 Displaying Information of the AIS/TT Target

- 1 Click on the [Menu] button on the left tool bar.**
The menu is displayed.
- 2 Click on [TT/AIS] - [TT/AIS List] on the menu.**
The "TT/AIS" list is displayed in the information monitoring window.

3.6 Displaying Information the selected AIS/TT target

[Tracked target information display]

- 1 Set the cursor mode to the AUTO mode.**
- 2 Click on the target of tracking whose numerical value is to be displayed.**

Numeric data for the specified target is displayed in the information monitoring window.

TT ID	T1-12	T1-13	
BRG	107.4	160.1	°
Range	3.33	6.54	NM
COG	057.8	144.0	°
SOG	12.8	10.0	kn
CPA	0.04	0.01	NM
TCPA	0.14	0.15	min
BCR			NM
BCT			min

【Displaying AIS information】

- 1 Set the cursor mode to the AUTO mode.**
- 2 Place the cursor on the AIS target to display the activated AIS target information and then click on.**

The information of the selected AIS target is displayed.

AIS ID 2	
Name:	SHIP1
Call Sign	1234567
MMSI	037747001
COG	000.0 °
SOG	010.0 kn

3.7 Displaying the TT vector

- 1 Click on the [Menu] button on the left tool bar.**
The menu is displayed.
- 2 Click on [View] - [Options] on the menu.**
The [View-Options] dialog box appears.
- 3 Select [Target] in the classification pane.**
The [Target] dialog is displayed in the edit pane.
- 4 Select this enables to display the TT vector.**
The TT Vector is displayed.
To hide the TT vector, clear it.

4 Navigation Calculating

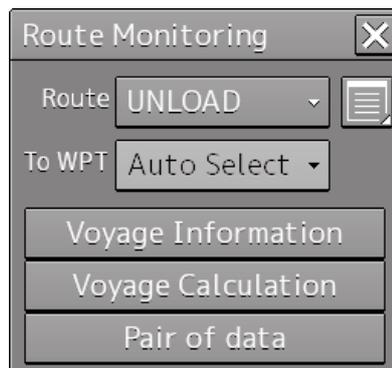
4.1.....Calculating the Distance

- 1 Click on the [Menu] button on the left tool bar.

The menu is displayed.

- 2 Click on the [Route Monitoring] button on the menu.

The [Route Monitoring] dialog box appears.



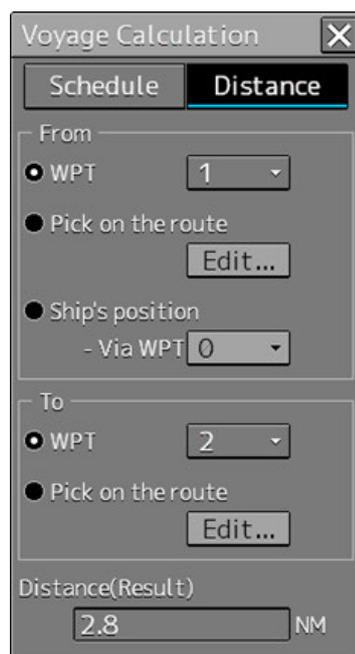
- 3 Select a required route file.

[Selecting from the [Route] combo box]

- 1) Click on the [Route] combo box.
- 2) Select a required route.

- 4 Click on the [Voyage calculation] button.

The [Voyage calculation] dialog box appears.



- 5 Click on the [Distance] button.

6 Select starting point calculation method and enter a value.

Set a starting point for distance calculation by selecting [WPT], [Pick on the route], or [Ship's position].

[WPT]: Click on a WPT used as the starting point from the combo box.

[Pick on the route]: Any position on the routes set in the starting WPT and the end WPT is used as the starting point.

[Ship's position]: The own ship's position is used as the starting point. Click on the WPT to be passed through from the [Via WPT] combo box.

7 Select an ending point calculation method and enter a value.

Set an ending point for distance calculation by selecting [WPT] or [Pick on the route].

[WPT]: Click on a WPT used as the ending point from the combo box.

[Pick on the route]: Any position on the routes set in the starting WPT and the end WPT is used as the end point.

4.2 Calculating the schedule

1 Click on the [Schedule] button.

2 Click on the [Destined WPT] combo box.

The screenshot shows a dialog box titled "Voyage Calculation" with a close button (X) in the top right corner. The dialog has two tabs: "Schedule" (selected) and "Distance".

Under the "Schedule" tab, the following fields are visible:

- Destined WPT:** A dropdown menu showing the value "3".
- DWOL:** A text input field containing "0.1" and the unit "NM".
- Actual:** A section containing:
 - TWOL:** A text input field containing "0:00:25".
 - ETA:** A text input field containing "2017-02-22 07:04" and the unit "UTC".
- Calculation:** A section containing:
 - Average Speed:** A text input field containing "20.0" and the unit "kn".
 - TWOL:** A text input field containing "0h00m25s".
 - ETA:** A text input field containing "2017-02-22 07:04" and the unit "UTC".

Click on the WPT No. whose schedule is to be calculated.

The measured distance from the own ship to the selected WPT, the estimated required time calculated based on the SOG (Speed Over the Ground), and the estimated time of arrival are displayed.

【Using the [Average Speed]】

3 [Average Speed] is selected and a value is entered.

The calculation result of expected traveling time, and expected time of arrival are displayed.

【Using the [TWOL]】

4 [TWOL] is selected and a value is entered.

The calculation result of the ship's speed, and expected time of arrival are displayed.

【Using the [ETA]】

4 [ETA] is selected and a value is entered.

The calculation result of the ship's speed, and expected traveling time are displayed.

5 Radar Overlay

To perform overlay display of radar images, the radar function must be installed and radar images must be received from the radar system.

*The radar function is installed as standard on the ECDIS. It is an optional function for machines dedicated to the ECDIS.

5.1 Overlaying the Radar Image

- 1 Click the Radar Overlay display button on Bottom Bar (Sub Information Area) and enable to display the Radar Overlay.

The Radar Overlay is displayed.



Radar Overlay display button (Displayed when the radar display option is attached.)

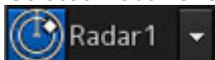
This button displays the Radar Overlay On/Off status and switches the status.

Whenever this button is clicked on, the display is switched to On/Off.



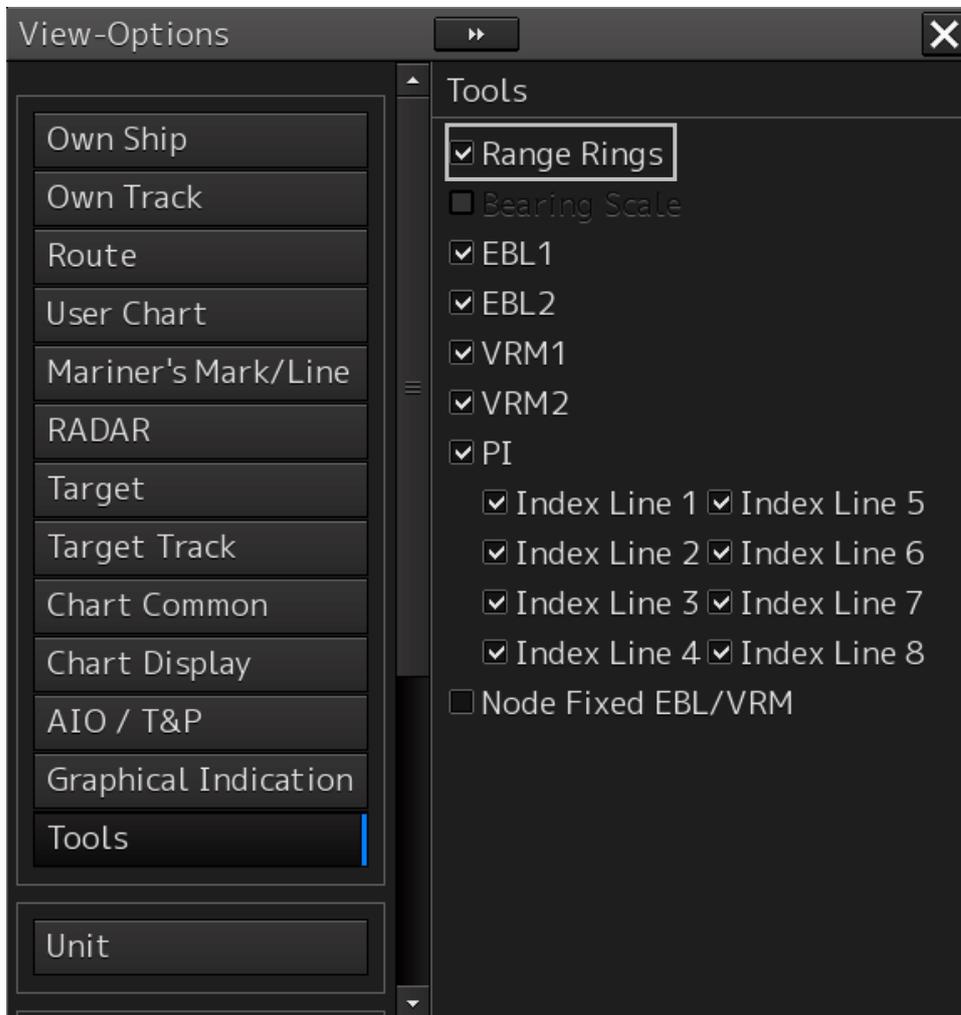
[When there are multiple radars]

Select a Radar Overlay to be used from the combo box.



5.2 Displaying the Range Ring

- 1 Click on the [Menu] button on the left tool bar.
The menu is displayed.
- 2 Select [View] - [Options] - [Tools] on the menu.



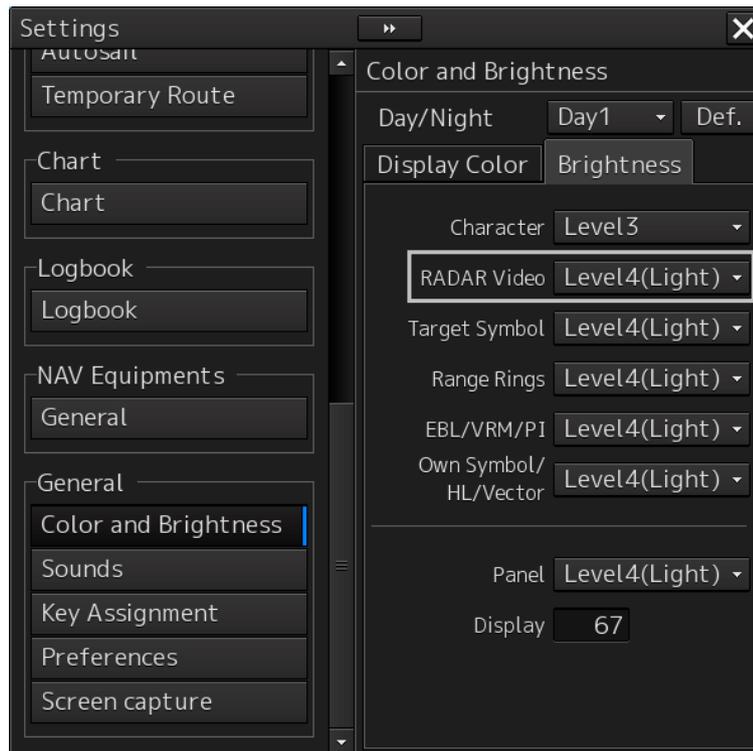
- 3 To show range rings, select [Range Rings].
To hide range rings, clear it.

5.3 Displaying the Bearing Scale

- 1 Click on the [Menu] button on the left tool bar.
- 2 Select [View] - [Options] - [Tools] on the menu.
- 3 To show a bearing scale, check [Bearing Scale].
To hide a bearing scale, clear it.

5.4 Adjusting the Brilliance of the Radar Echo

- 1 Click on the [Menu] button on the left tool bar.
- 2 Click on the [Settings] button.
- 3 Select [Color and Brightness] in the classification pane.
- 4 Click on the [Brightness] tab.
Set the brightness of the display contents.



- 5 Set up the brilliance of radar video from the [RADAR Video] combo box.
Set it to Level1 - 4. Increase the level to increase the brilliance.

5.5... Suppressing the Rain and Snow Clutter

- 1 Click on the [Menu] button on the left tool bar.
The menu is displayed.
- 2 Click on the [Settings] button on the menu.
The [Settings] dialog box appears.
- 3 Select [Signal Process(Basic)] in the classification pane.
Set a basic processing method of radar signal.



4 Suppress the Rain and Snow Clutter.

Move the [Rain] slider to the right to enhance the effect of rain and snow anti-clutter.

By clicking on the button next to the slider, the mode can be switched between manual (MAN) and automatic (AUTO).

Note

[RAIN] dial of Keyboard operation unit (Option) is be able to perform the following adjustment.

- When this dial is turned, the level of rain/snow clutters on the radar image is adjusted.
- When this dial is pressed, the function mode is switched to manual/automatic.

5.6... Suppressing the Sea Clutter

- 1 Click on the [Menu] button on the left tool bar.
The menu is displayed.
- 2 Click on the [Settings] button on the menu.
The [Settings] dialog box appears.
- 3 Select [Signal Process (Basic)] in the classification pane.
Set a basic processing method of radar signal.

4 **Suppress the Sea Clutter.**

Move the [Sea] slider to the right to enhance the effect of sea anti-clutter.

By clicking on the button next to the slider, the mode can be switched between manual (MAN) and automatic (AUTO).

Note

[SEA] dial of Keyboard operation unit (Option) is be able to perform the following adjustment.

- When this dial is turned, the level of sea clutters on the radar image is adjusted.
- When this dial is pressed, the function mode is switched to manual/automatic.

5.7 Adjusting the Gain

1 **Click on the [Menu] button on the left tool bar.**

The menu is displayed.

2 **Click on the [Settings] button on the menu.**

The [Settings] dialog box appears.

3 **Select [Signal Process (Basic)] in the classification pane.**

Set a basic processing method of radar signal.

4 **Adjust the Gain.**

Move the [Gain] slider to the right to increase the gain.

Note

[GAIN] dial of Keyboard operation unit (Option) is be able to perform the following adjustment.

- When this dial is turned, the gain of the radar image is adjusted.

5.8 Rejecting the Interference from Other Radar

1 **Click on the [Menu] button on the left tool bar.**

The menu is displayed.

2 **Click on the [Settings] button on the menu.**

The [Settings] dialog box appears.

3 **Select [Signal Process (Basic)] in the classification pane.**

Set a basic processing method of radar signal.

4 **Select the effect of Interference Rejection (IR).**

[Off] : IR - OFF

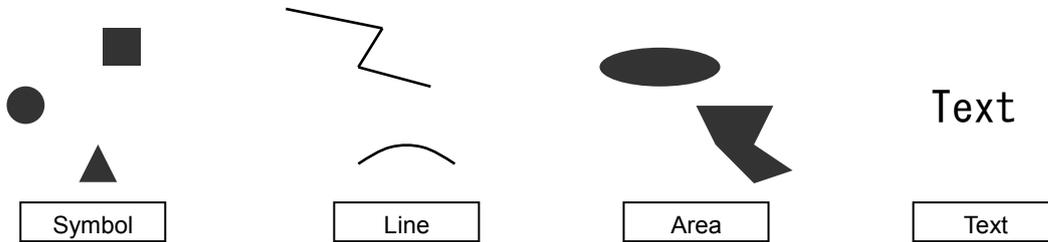
[IR Low] : IR effect - LOW

[IR Middle] : IR effect - MIDDLE

[IR High] : IR effect - HIGH

6 User Chart Editing

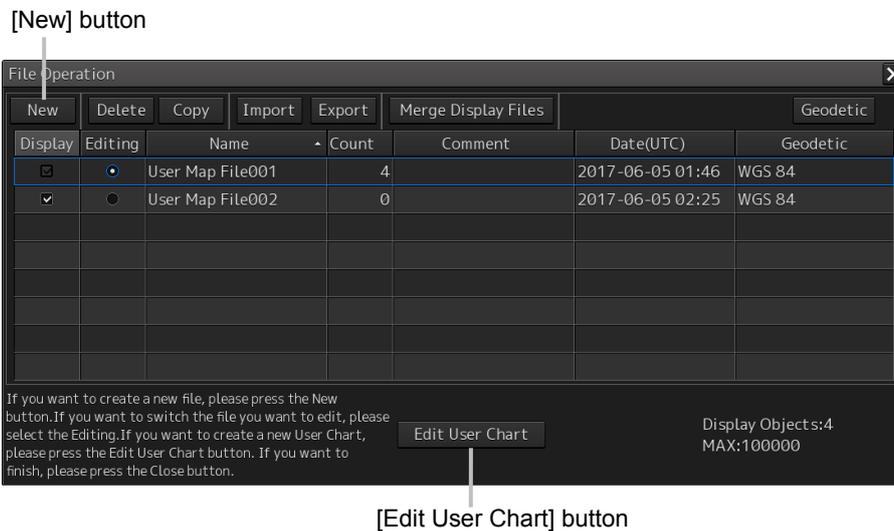
The user chart can be created and overlaid with other charts.
The user chart information contains various objects (symbols, lines, areas, texts).



6.1 Starting the User Chart Editing

[Creating a new user chart]

- 1 Click on the [Menu] button on the left tool bar.
The menu is displayed.
- 2 Click on the [User Chart] button on the menu.
- 3 Click on the [File Operation] button on the submenu.
The [File Operation] operation dialog box appears.



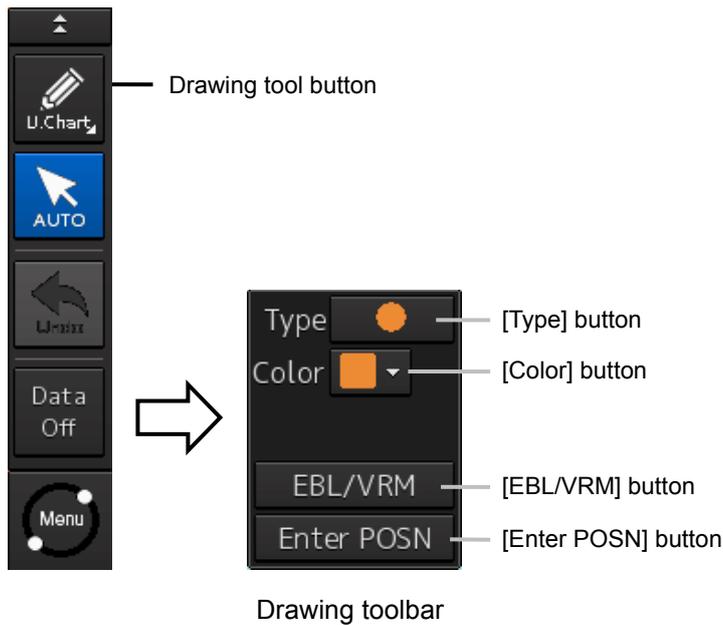
- 4 Click on the [New] button.
The new user chart file is registered in the file list.
The file name can be changed by clicking on the file name that is displayed in the [Name] column in the file list.

[Editing the existing user chart]

- 1 Click on the [Menu] button on the left tool bar.**
The menu is displayed.
- 2 Click on the [User Chart] button on the menu.**
- 3 Click on the [File Operation] button on the submenu.**
The [File Operation] operation dialog box appears.
- 4 Click on the [Editing] button of the user chart file to be edited.**
The user chart file to be edited is displayed.

[Editing the user chart that is currently displayed]

- 1 Display a user chart.**
- 2 Click on the Drawing tool button on the left tool bar.**
Map creation tools (drawing toolbar and user chart information bar) are displayed and the cursor changes to the mark cursor from the cross-hair cursor.



- 3 Edit the user chart by using the map creation tools.**

6.2...Entering the Symbol

- 1 Click on the [Type] button on the drawing toolbar.

An icon list is opened.

Select a symbol or an icon of the Alert symbol.

- 2 Click on the position on which the symbol is to be created with the cursor.



The symbol is displayed on the position on which the button is clicked and the parameters of the symbol that was created are displayed on the object property dialog box.

6.3...Drawing the Line

- 1 Click on the [Type] button on the drawing toolbar.

An icon list is opened.

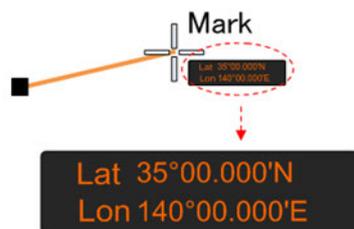
Select an icon of a simple line or an Alert line.

- 2 Click on the starting point with the cursor.

A vertex is created and the property information of the vertex is displayed on the object property dialog box.

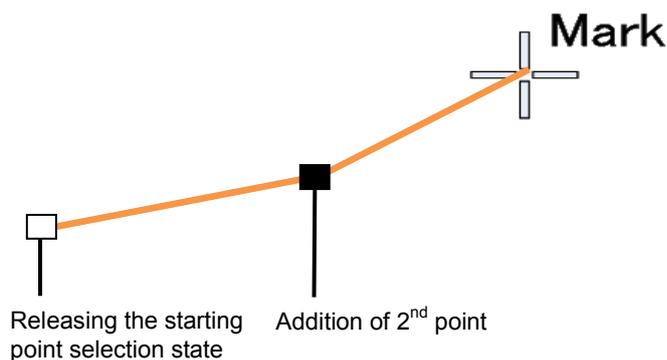
- 3 Move the cursor to the next vertex.

The latitude and longitude of the cursor are displayed near the cursor.

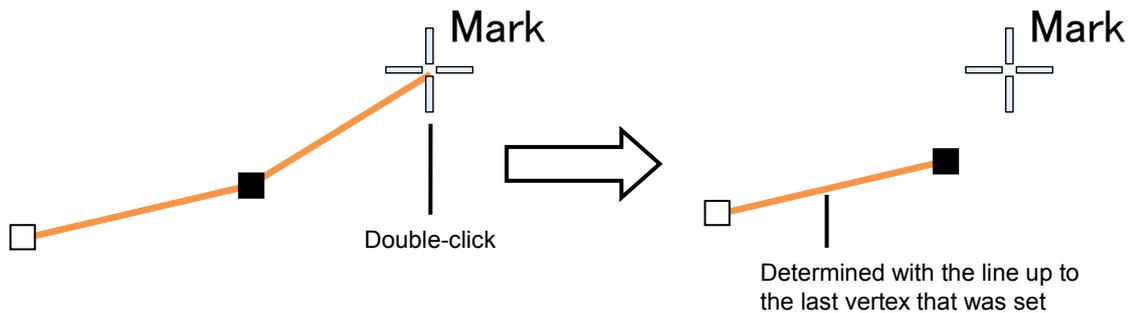


- 4 Click on the position on which the 2nd vertex is to be created.

A vertex is created and the parameters of the 2nd vertex are displayed on the object property dialog box.



5 Determine the line by double-click or right-click.



6.4 Drawing the Area

1 Click on the [Type] button on the drawing toolbar.

An icon list is opened.
Select an icon of a polygon or an Alert area.

2 Click on the starting point position with the cursor.

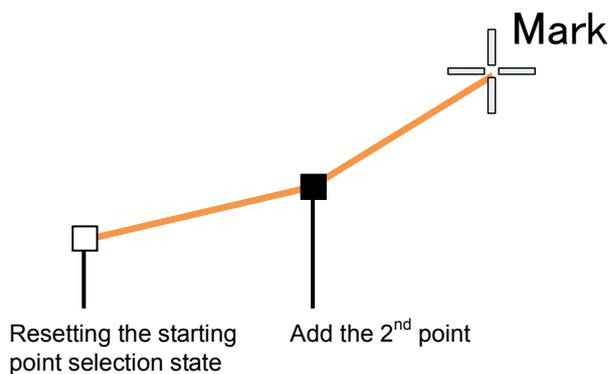
The starting point is created and the property information of vertex 1 is displayed on the object property dialog box.

3 Move the cursor to the next vertex.

The latitude and longitude of the cursor are displayed near the cursor.

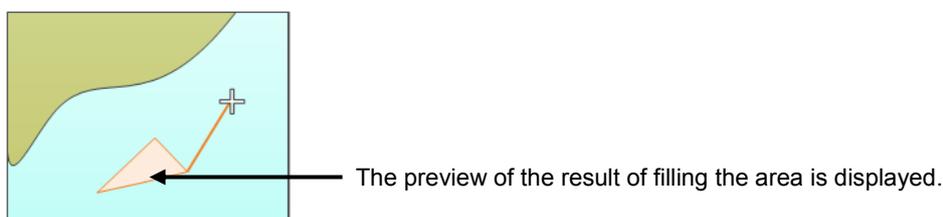
4 Click on the position on which the 2nd vertex is to be created.

A vertex is created and the latitude and the longitude of the 2nd vertex are displayed on the object property dialog box



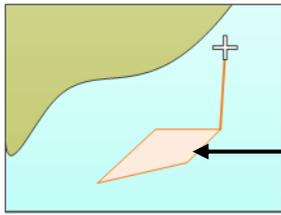
5 Click on the position on which the 3rd vertex is to be created.

A triangle is created by connecting the three vertices. A preview screen is displayed, enabling the checking of the fill statuses of the polygon and the Warning area.



The latitude and longitude of the 3rd vertex are displayed on the object property dialog box.

- To add another vertex continuously, click on the position on which the vertex is to be created.**



When the 4th vertex is determined, the preview display is updated.

When not adding any further vertices, determine the polygon or the Warning area by double-click or right-click.

6.5 Entering the Text

- Click on the [Type] button on the drawing toolbar.**
An icon list is opened. Select a text (Txt) icon.
- With the cursor, click on the position on which an object is to be created.**
A text box is created at the position on which the button was clicked and a text is displayed.

Text

[Editing a text]

- Click on the [Text] input box**
A character input full keyboard is displayed.
- Create a text.**
- Close the character input full keyboard by clicking on the [Enter] key.**
- To change a character color, select a required character color from the [Color] combo box.**
- To change a character size, select a required character size from the [Font size] combo box.**

6.6 Moving the Object

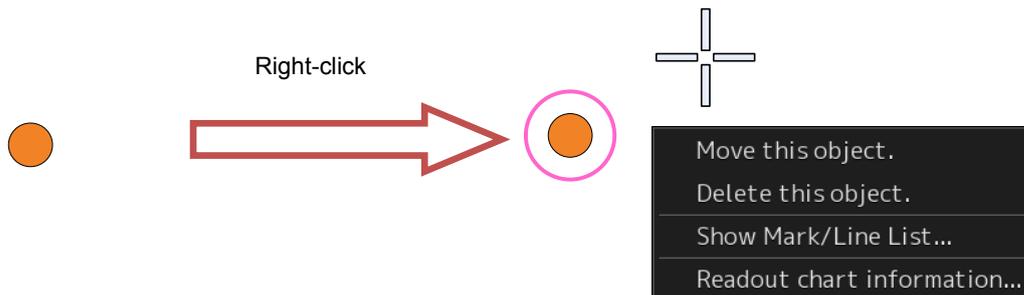
- 1 **When the object to be moved is in the selected state, unselect the object.**

To unselect the object, click on a section without display or another object.



- 2 **Right-click on the object.**

The object is selected and the context menu is displayed.



- 3 **Click on [Move this object].**

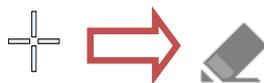
- 4 **Click on the position to which the object is to be moved.**

The selected object moves to the position on which the button was clicked.

6.7 Deleting the Object

- 1 **Click on the eraser tool button on the left tool bar.**

The cursor changes to the eraser cursor.



- 2 **Place the cursor on the eraser cursor and click the mouse button.**

When the right-click on any position with the eraser cursor, the cursor mode is reset to the cross-hair cursor.

6.8 Displaying/Modifying Information of the Object

- 1 **Click on the object to be selected with the cross-hair cursor.**

The object is selected and the object property dialog box appears.



Parameter settings of the object can be verified/changed.

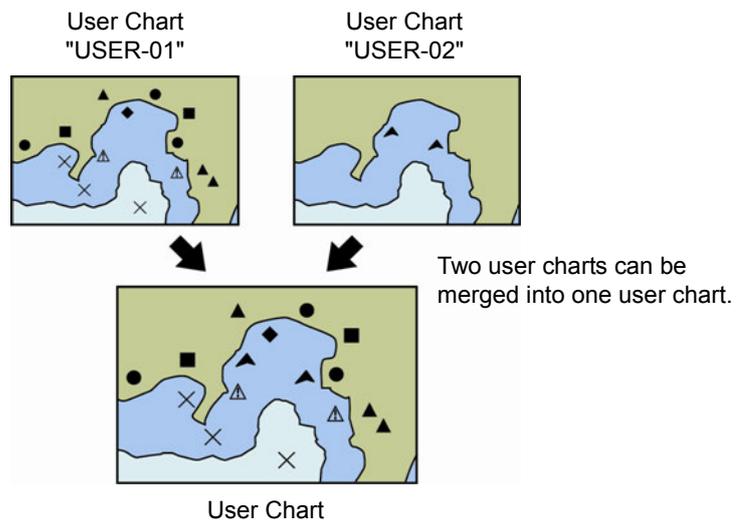
6.9 Merging the User Chart

- 1 Select the [Display] check boxes of the files to be merged in the file list.

The user chart files to be merged are displayed.

- 2 Click on the [Merge Display Files] button.

A user chart file is created by merging the user charts that are being displayed. The user chart file is named under "Merged User Map Filexxx" (xxx: serial number starting from 001).

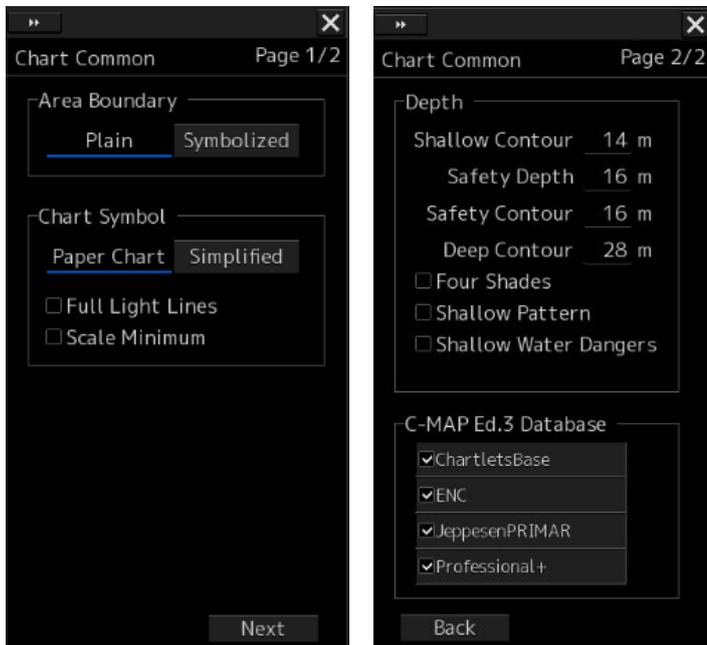


7 Setting the Chart display

Chart display detail is set through the [View] menu.
The display procedure of the Chart display setup dialog box is as follows.

7.1 Setting up the display of Chart Common

- 1 **Click on the [Menu] button on the left tool bar.**
The menu is displayed.
- 2 **Click on [View] - [Options] on the menu.**
The [View-Options] dialog box appears.
- 3 **Select [Chart Common] in the classification pane.**
The [Chart Common] dialog is displayed in the edit pane.
The edit pane is divided into two dialogs.
To advance to the next dialog: Click on the [Next] button.
To return to the previous dialog: Click on the [Back] button.



Setting Item	Description of Setting
Area Boundary	Select a display method of area boundary.
Chart Symbol	Select a type of chart symbols that want to use on the chart.
Depth	Use [Depth] items to set up the depth.
C-MAP Ed.3 Database	Select this to show a chart database chart.

7.2 Setting up the display of Chart

1 Click on the [Menu] button on the left tool bar.

The menu is displayed.

2 Click on [View] - [Options] on the menu.

The [View-Options] dialog box appears.

3 Select [Chart Display] in the classification pane.

The [Chart Display] dialog is displayed in the edit pane.

The edit pane is divided into three dialogs.

To advance to the next dialog: Click on the [Next] button.

To return to the previous dialog: Click on the [Back] button.

You can set up the same values on both the [View1] and [View2] tabs.



Setting Item	Description of Setting
Chart Type	Select a type of charts to be displayed.
Text Size	Drag the control on the slider and set up the text size (7 levels).
Chart Load	Select a display switching mode for the S-57 chart.
Layer	Select the objects that want to display by selecting the check boxes of desired objects.
Text	Select the texts that want to display by selecting the check boxes of desired texts.

アスベストは使用していません
Not use the asbestos

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