FURUNO

Complies with IEC62923-1/2

CHART RADAR (Product Name: MARINE RADAR)

Operator's Guide

English

Model

FAR-3210/3220/3220-NXT/3230S/3230S-SSD/3310/3320/ 3320-NXT/3330S/3330S-SSD/3320W/3330SW/3210-BB/3220-BB/ 3220-NXT-BB/3230S-BB/3230S-SSD-BB/3220W-BB/3230SW-BB

This guide provides the basic operating procedures for this equipment. For detailed information, see the Operator's Manual

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Radar Controls

BRILL

Rotate: Adjusts the brilliance of the monitor. Push: Selects a color palette.



A/C RAIN

Rotate: Suppresses rain clutter. Push: Toggles between manual and automatic rain clutter adjustment.

GAIN

Adjusts the sensitivity of the radar receiver.

A/C SEA

Rotate: Suppresses sea clutter. Push: Toggles between manual and automatic sea clutter adjustment.

Rotary control for VRM

Adjusts the diameter of the active VRM.

VRM1, **VRM2** Activates or deactivates the respective VRM.

Status LED

The color and state of the LED change according to system or alert status.

Power switch

Turns the system on or off. (This switch does control monitor on/off.)

Rotary control for EBL

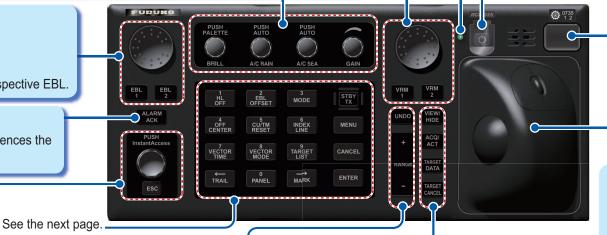
Adjusts the active EBL.

EBL1. EBL2

Activates or deactivates the respective EBL.

ALARM ACK

Acknowledges alerts; silences the audio alarm.



USB port (under cover)

For connection of a USB flash memory. To use the USB port, connect the processor unit to the USB port at the rear side of the control unit, using the optional USB cable.

Trackball module

Operates similar to a PC mouse.

ACQ/ACT

TT: Acquires cursor-selected target, for target tracking.

AIS: Activates cursor-selected sleeping AIS target.

InstantAccess knob

Rotate: Selects the buttons on the InstantAccess bar[™].

Push: Activates functions of the buttons on the InstantAccess bar™.

ESC

Goes back one step in current operating sequence on the InstantAccess bar[™].

UNDO

Undoes edit or text input when creating a radar map, route, user chart.

RANGE

Selects radar range (radar and chart radar modes), chart scale (chart mode).



VIEW/HIDE

Radar mode, chart radar mode: Shows or hides AZ box, Drop mark boxes, Mark box, PI line box, Trial box.

Chart mode: Shows or hides EBLs. InstantAccess bar™, [Overlay/NAV Tools] box, [Route information] box, VRMs.

TARGET DATA

Displays the detailed data for selected TT, AIS target, in the TT/AIS information box.

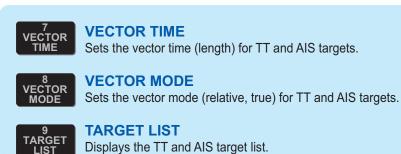
TARGET CANCEL

TT: Stops tracking cursor-selected tracked target.

AIS: Sleeps cursor-selected activated AIS target. Long-press to erase all displayed TT target data.

Radar Controls (con't)





MODE

6 INDEX LINE

9 TARGET LIST

MARK



HL OFF

Temporarily erases everything except radar echoes when pressed and held down.



EBL OFFSET

Activates or deactivates the offset EBL.



MODE

Selects a presentation mode.



STBY TX MENU

CANCEL

ENTER

STBY/TX

Toggles the radar between standby and TX.



MENU

Opens, closes the menu.



CANCEL

Cancels the changes made on the currently selected menu.



ENTER

Confirms selection on menu.



OFF CENTER

Puts sweep origin at the cursor location.



CU/TM RESET

Course-up: Resets heading line to 000°. True motion: Moves own ship position 75% of

the radius in stern direction.



INDEX LINE

Short press: Selects an index line.

Long press: Activates or deactivates selected

index line.



EBL

OFFSET

CU/TM RESET

8 VECTOR MODE

PANEL

HL OFF

OFF CENTER

VECTOR TIME

TRAIL

TRAIL

Short press: Turns the echo trail display on or off.

Long press: Resets all trails.



PANEL

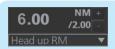
Adjusts the backlighting of the keys.



MARK

Inputs selected mark, at the position selected.

Radar Display Indications



Range/Presentation mode box

- Selects the radar range.
- Selects the presentation mode.



Tuning bar

Shows tuning status except for solid state radar.

REF point box

for measurements

Selects the reference point (antenna or CCRP)

(range, bearing, etc.) and

markers (position, etc.)

InstantAccess bar[™] (see page 6)

Quick access to often-used radar, chart radar functions.

Watch 05:18

Watch box

Counts down the time remaining until the buzzer sounds to alert the operator to view the radar picture.



PI line box

- Adjusts the direction and width of the parallel index lines.
- Activates or deactivates the parallel index lines.



Mark box

Selects the mark to inscribe on the radar display.

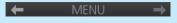
Cursor position box

This box shows

- Latitude and longitude of the cursor position.
- Range and bearing to the cursor position.
- TTG to the cursor position.

Sensor information, datum box

Shows your ship's heading, heading source, ship's speed, water tracking speed, speed source, course over ground, speed over ground, course and speed source, ship's position, position source, chart datum.

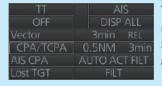


Menu

Drop-down menu with various radar and chart radar functions.

NAV data/Route information box

Provides various navigation data and route information.



TT/AIS setting box (see page 8)

Sets the parameters for TT and AIS targets.



Past POSN. Trail box

Sets the parameters for the past position display and target trails.



Alert box

Shows alert message and alert source.



Drop mark 1 box

Status bar

(see page 5)

Shows the bearing and range to the drop mark 1.

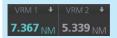


EBL1, 2 boxes

Shows the bearing to EBL1, EBL2.

Drop mark 2 box

Shows the bearing and range to the drop mark 2.



VRM1, 2 boxes

Shows the range and TTG* to VRM1, VRM2.

*: Function activated from menu.



Target List button

Displays the TT and AIS target list.



Trial maneuver box

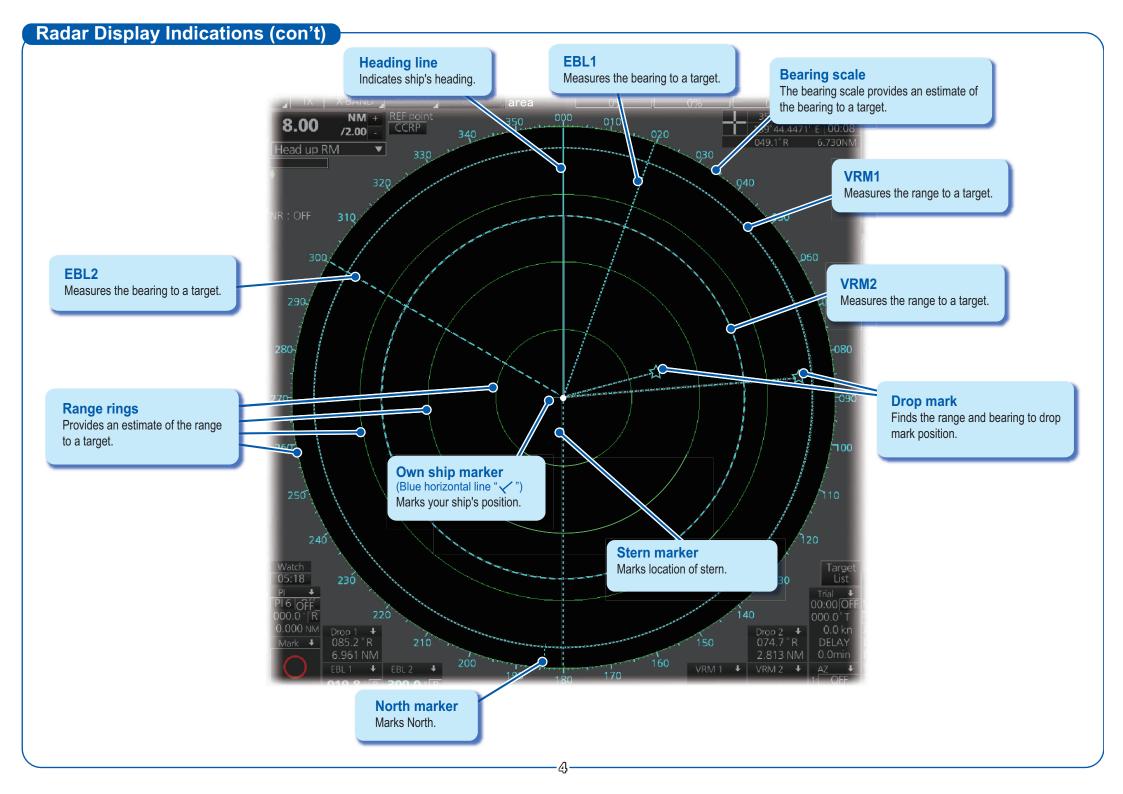
Sets the parameters for the trial maneuver.



Acquisition zone box

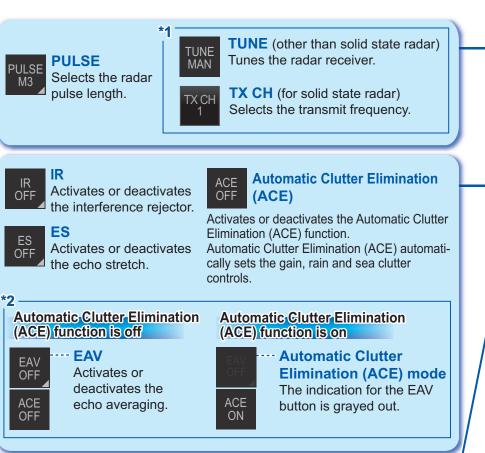
Sets an acquisition zone for TT, AIS.

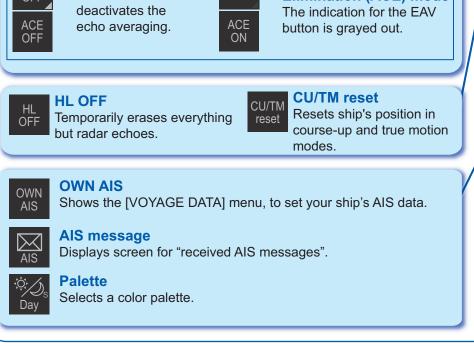


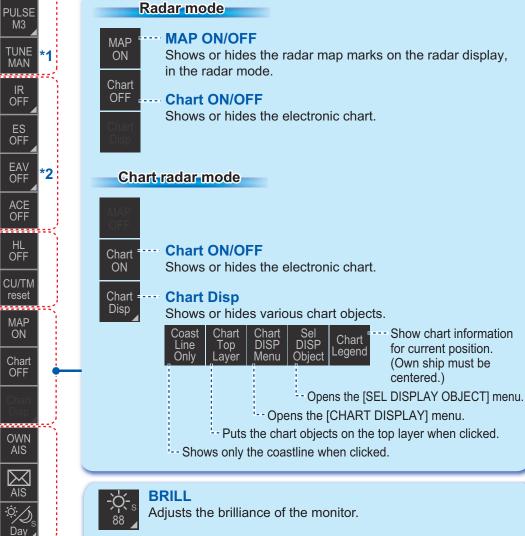


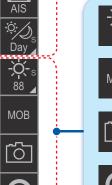
Status Bar (radar, chart radar mode) Operating mode Antenna Selects an operating mode: RADAR, CHART for RADAR or CONNING Selects an antenna. for RADAR* * Optional specification IMO **OCEAN** RADAR Standard Chart database Selects the chart database (IMO base, IMO Primary, IMO **STBY TX** Standard or IMO All). Toggles the radar between stand-by and transmit. Customize Echo Presets the radar controls for specific navigation purpose; for example, set up to use the radar in congested waters. Status Bar IMO **OCEAN** 14:15 **GAIN User profiles, Settings menu Working indicator** Adjusts the gain of Manages user profiles; Rotates clockwise if the **SEA RAIN** opens the Settings menu. system is working properly. the radar receiver. Reduces rain clutter. Reduces sea clutter. 21 Apr 2013 Time Date Displays the date; Displays the time. selects the time to use, local or UTC.

Instant Access Bar™ (radar, chart radar mode) TUNE Tunes the radar receiver. **PULSE** MAN **PULSE**









MOB MOB Enters a MOB mark at the current position.

Capture

Takes a screenshot.



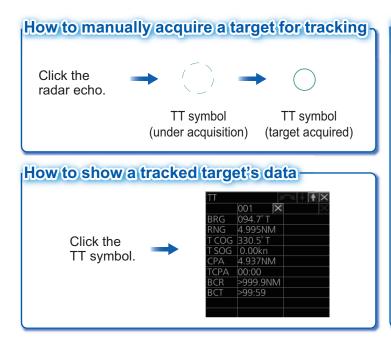
UNDO

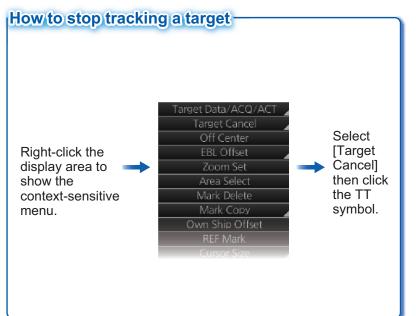
Restores previous condition in radar map and text input.

TT Operations

TT symbols

Symbol	Name	
	Target under manual acquisition (green)	
	Target under automatic acquisition (red)	
\bigcirc	Acquired target (green)	
0	Dangerous target (red)	
X	Lost target (red)	
	Association AIS target (green)	
	Dangerous association AIS target (red)	





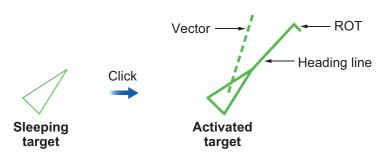
AIS Operations

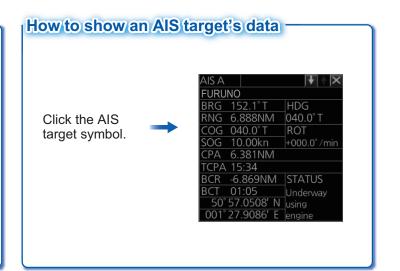
AIS symbols

Symbol	Name	
\triangle	Sleeping AIS target (green)	
Δ	Activated AIS target (green, thick line)	
	Association AIS target (green)	
Δ	Dangerous AIS target (red)	
	Dangerous association AIS target (red)	
X	Lost AIS target (red)	



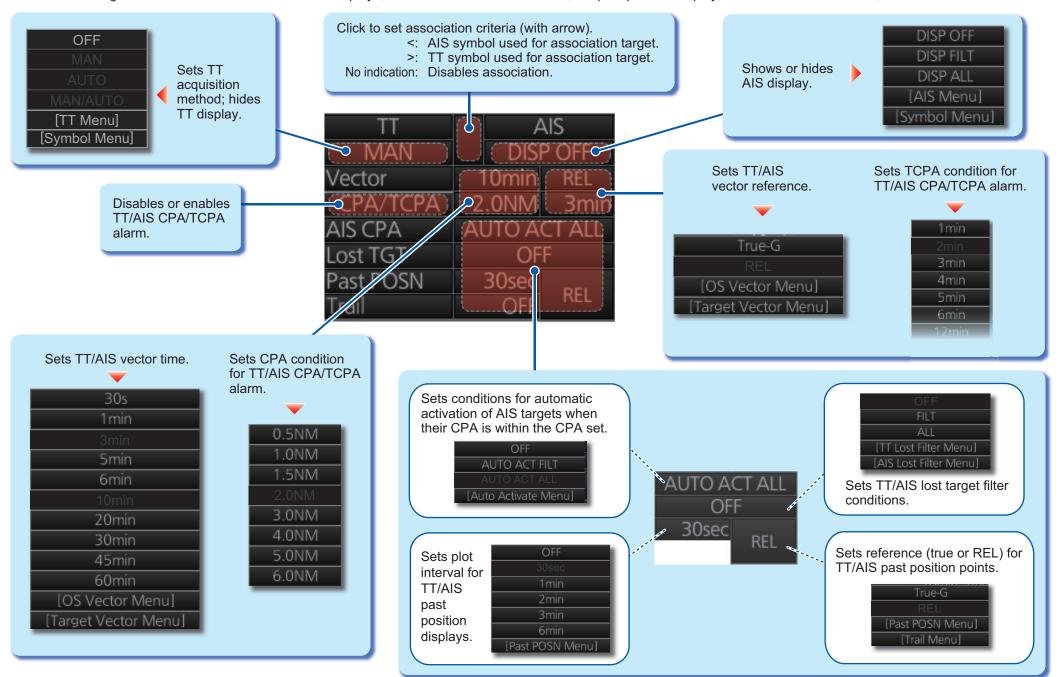
When you convert a sleeping target to an activated target, the activated target's course and speed are shown with a vector. You can easily judge target movement by monitoring the vector.

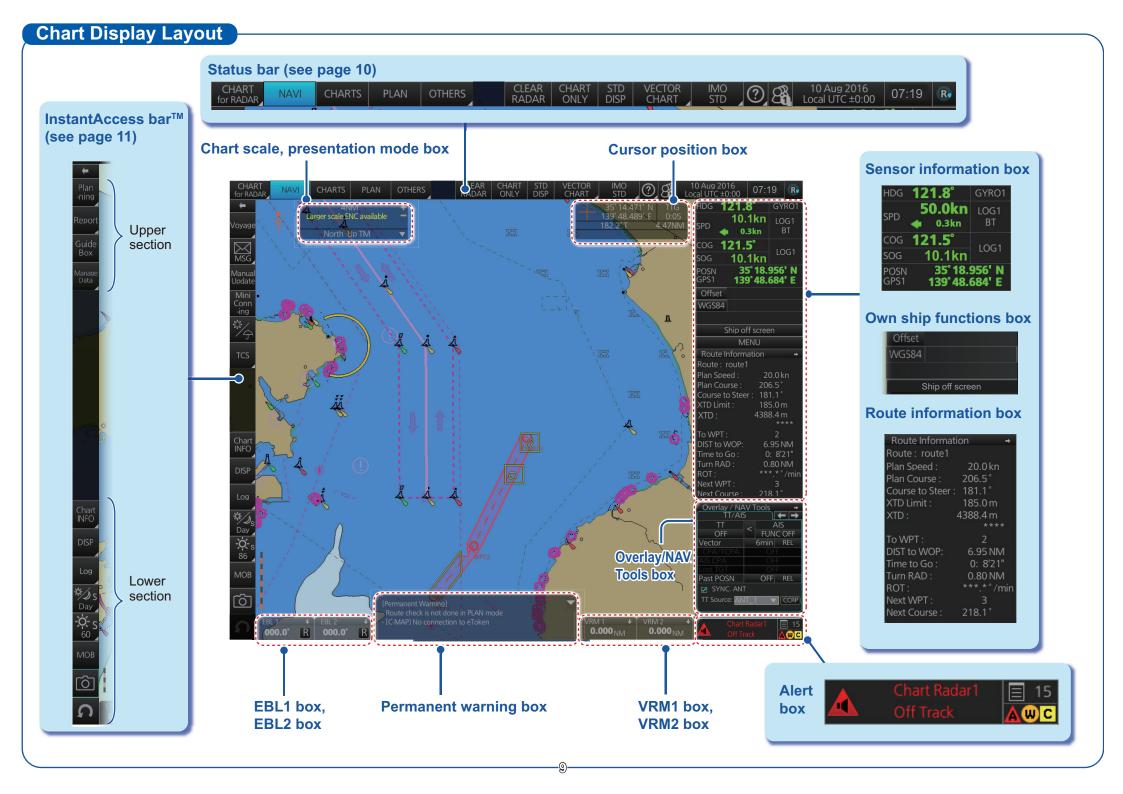




TT/AIS

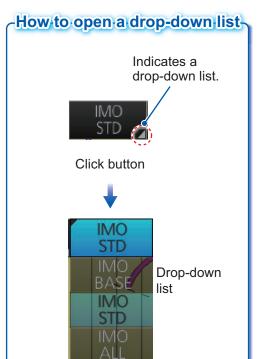
The TT/AIS setting box shows or hides the TT and AIS displays, and sets the CPA/TCPA alarm, the past position display, vector time and reference, etc.

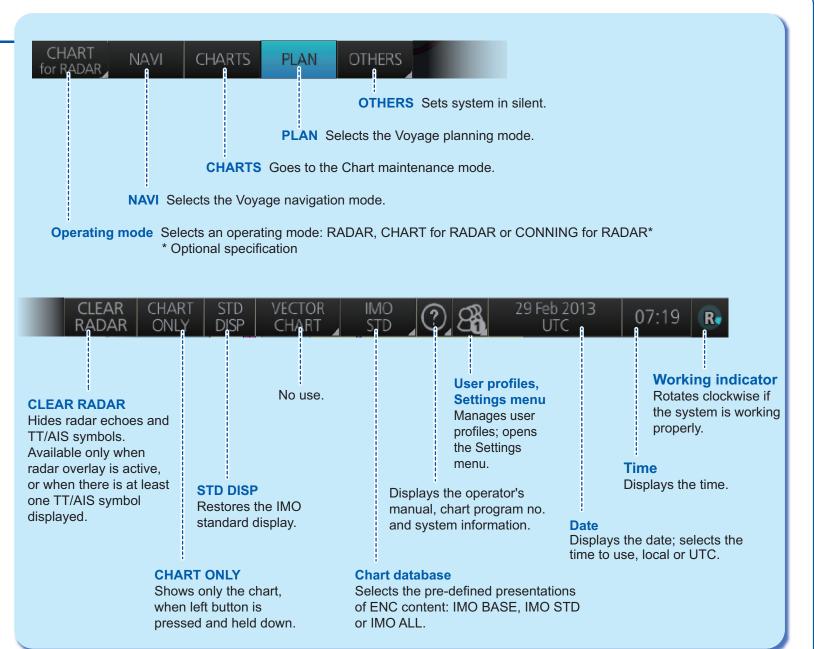


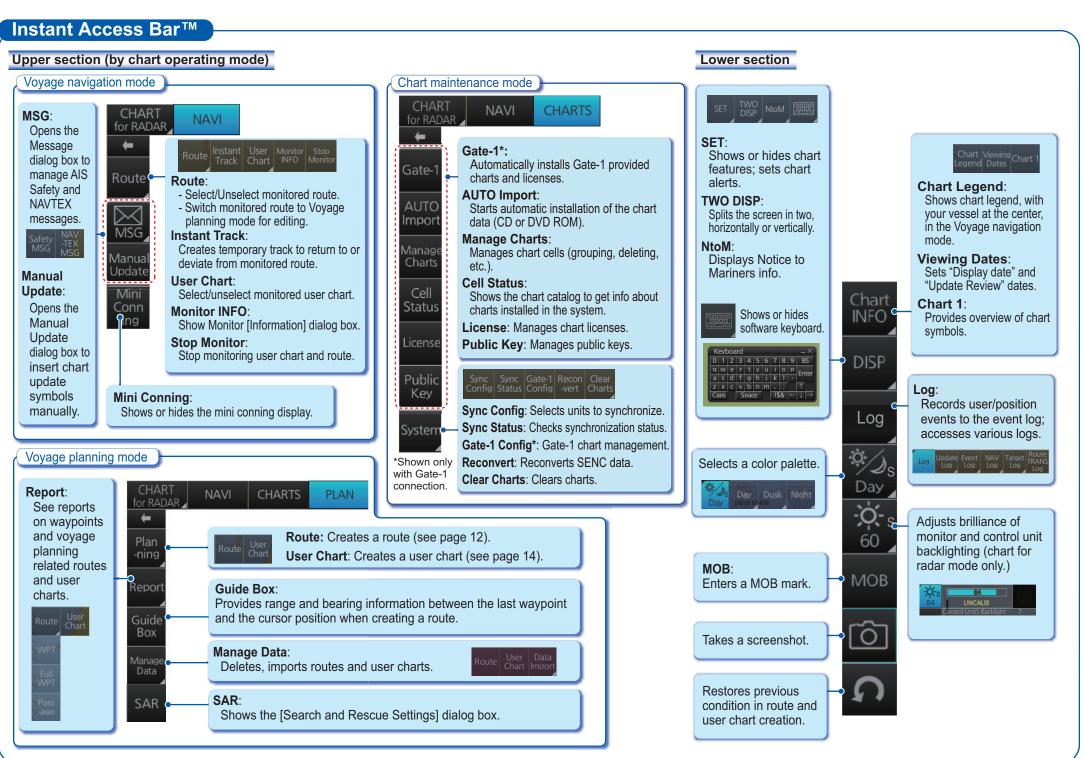


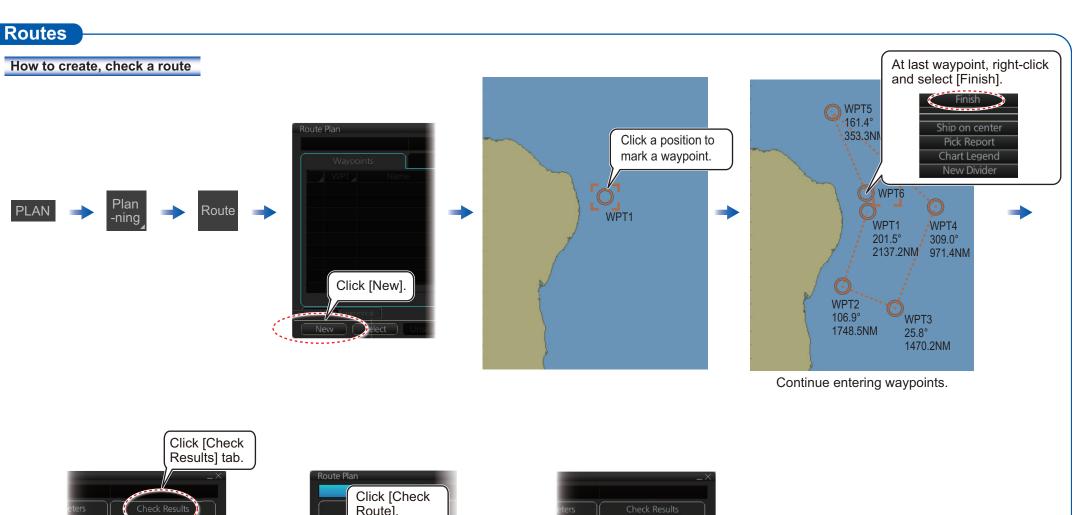
Status Bar (chart for radar mode)

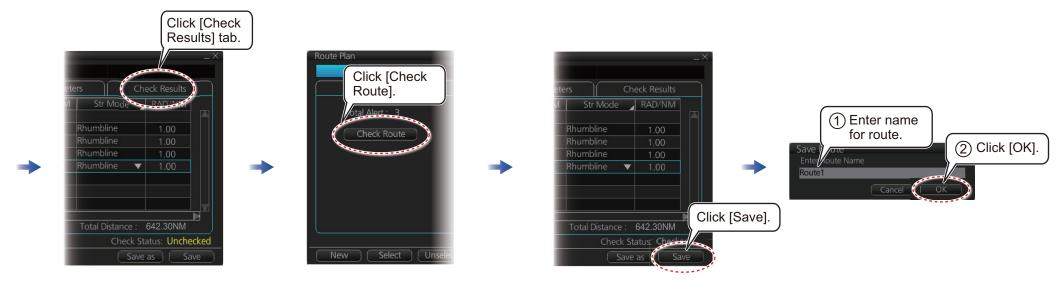






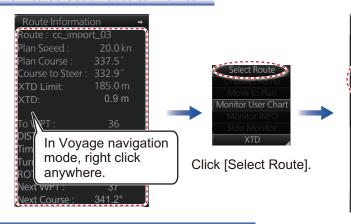


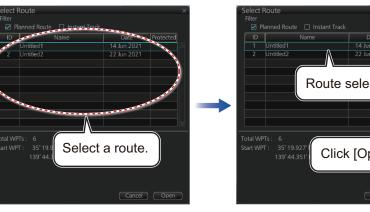


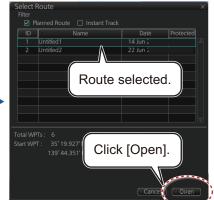


Routes (con't)

How to select a route to monitor







2.82NM

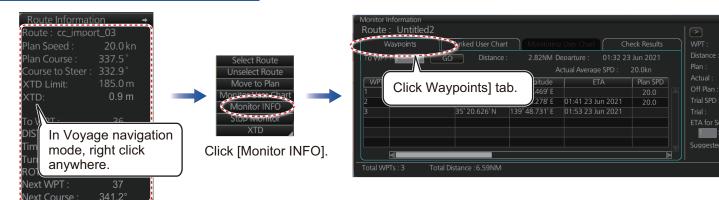
01:41 23 Jun 2021

Close



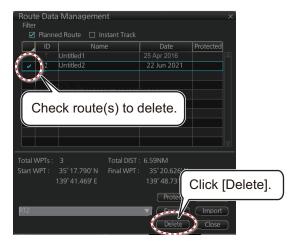


How to view route waypoint information







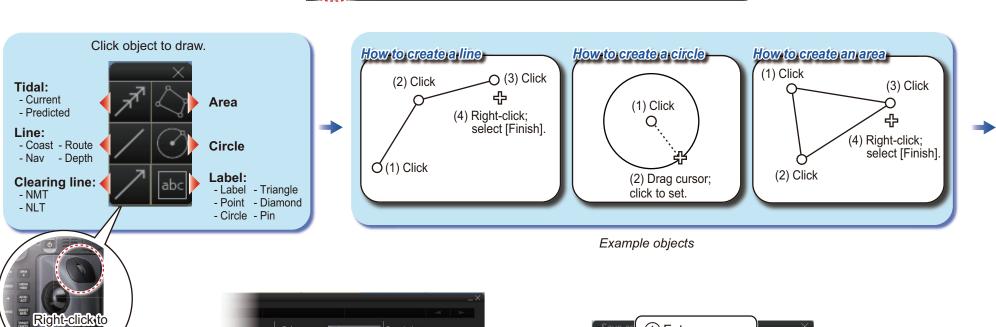


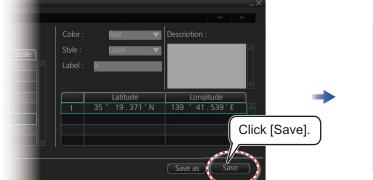
User Charts

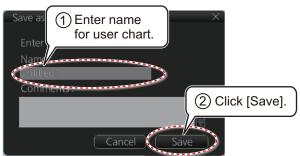
How to create a user chart

open options.









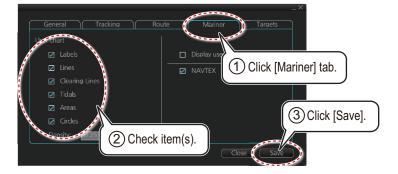
Longitude

Save as Save

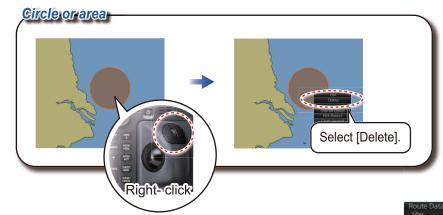
User Charts (con't)

How to select objects to display in user chart

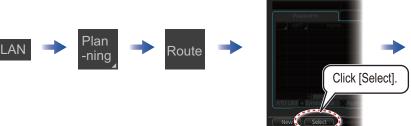




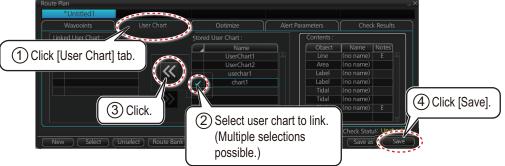
How to delete objects from a user chart

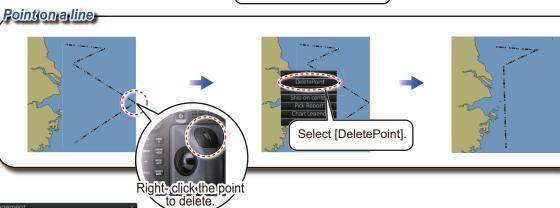


How to link a user chart to a route





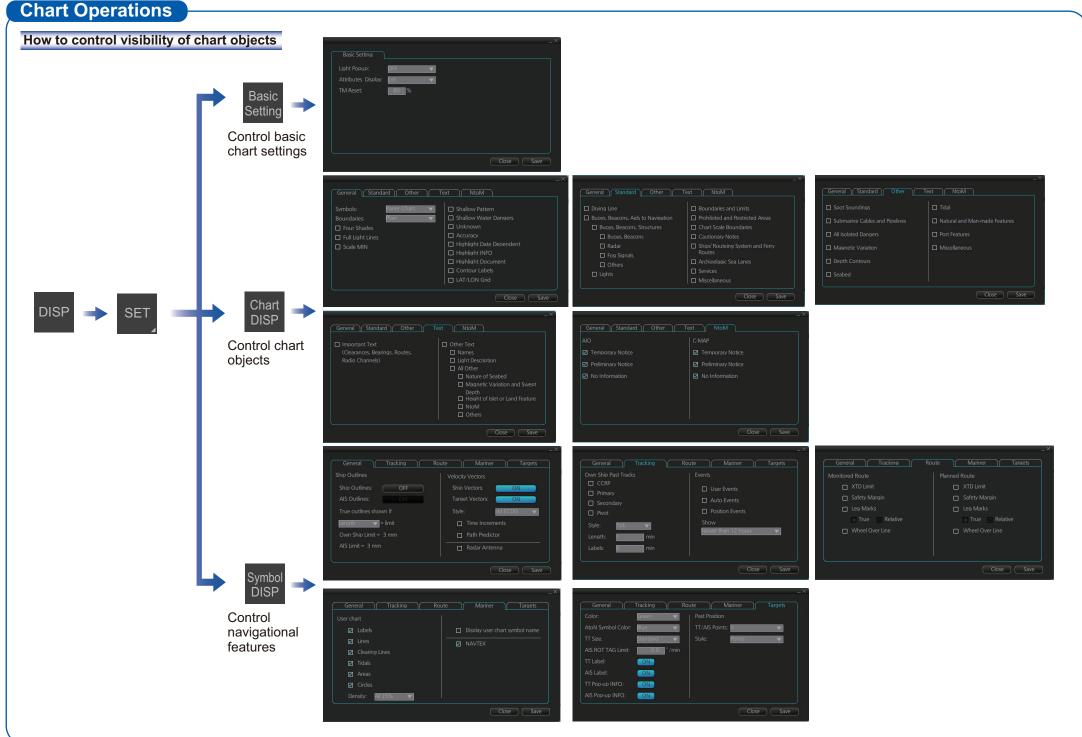




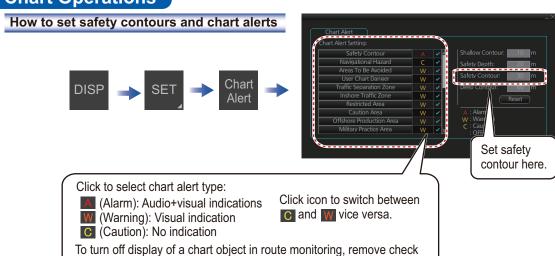






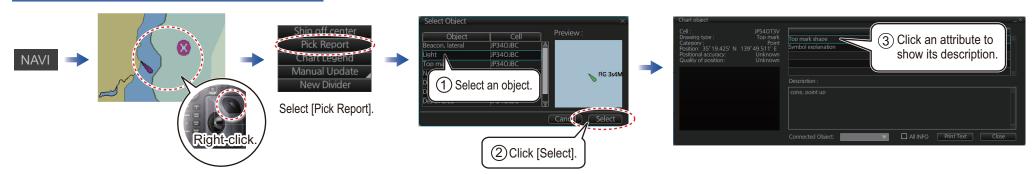




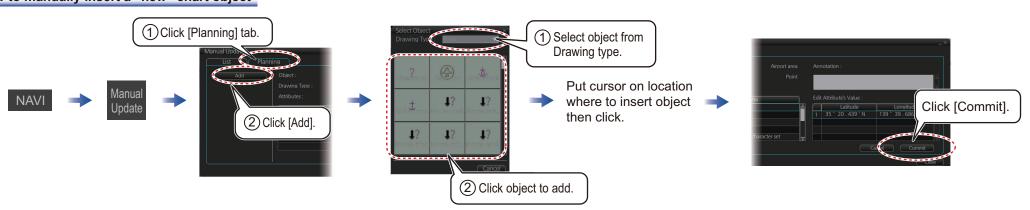


How to find chart object information (ENC chart)

mark from alert (alarm, warning, caution).



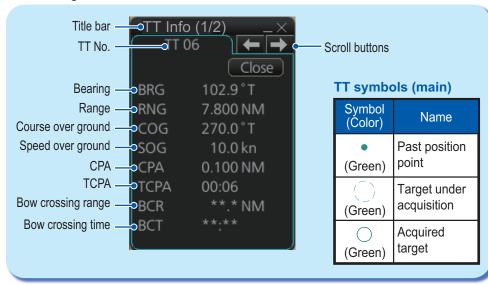
How to manually insert a "new" chart object

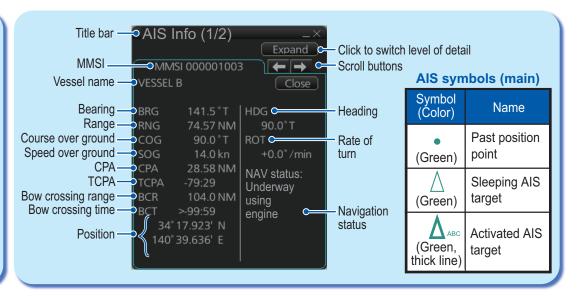


TT/AIS Operations

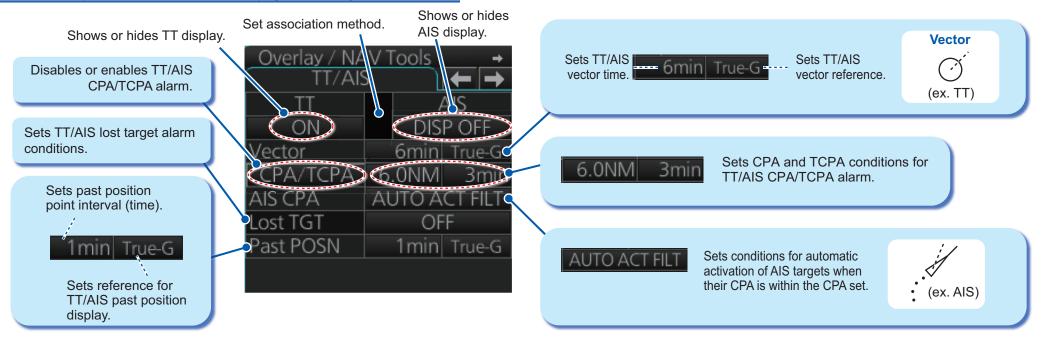
How to find target info

Click a target to show its information.



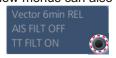


How to set up TT and AIS on the TT/AIS page in Overlay/NAV Tools box

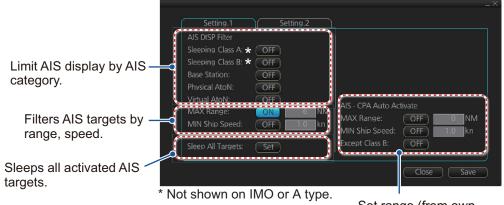


TT/AIS Operations (con't)

Open the chart menu, select TT/AIS Setting and then Setting. The below menus can also be displayed by clicking the radio button on the pop-up menu that appears when an item other than TT/AIS is selected on the Overlay/NAV Tools box.

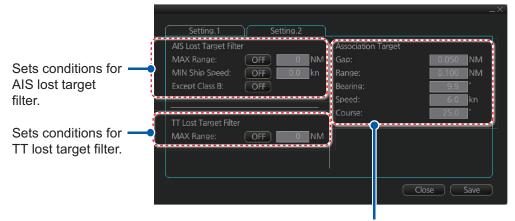


How to filter TT and AIS displays, sleep all targets



Set range (from own ship) to hide vessels beyond the range set.

AIS and TT lost target filters



Sets conditions for association target filter.

Alert Icons and Their Meanings

I	con	Alert state	Visual indication			
Ale	rt prior	rity: Emergency				
1		Not acknowledged/Not rectified	Red, flashing Presented together with alert text.			
Ale	Alert priority: Alarm					
2		Not acknowledged/Not rectified	Red, flashing Presented together with alert text.			
3		Not acknowledged/Not rectified, Buzzer temporarily silenced	Red, flashing Presented together with alert text.			
4	A	Acknowledged/Not rectified	Red Presented together with alert text.			
5	A	Active - responsibility transferred alarm	Red Presented together with alert text.			
6		Not acknowledged/Rectified	Red, flashing Presented together with alert text.			
Ale	Alert priority: Waring					
7	0	Not acknowledged/Not rectified	Yellow-orange, flashing Presented together with alert text.			
8	N/	Not acknowledged/Not rectified, Buzzer temporarily silenced	Yellow-orange, flashing Presented together with alert text.			
9	0	Acknowledged/Not rectified	Yellow-orange Presented together with alert text.			
10	•	Active - responsibility transferred warning	Yellow-orange Presented together with alert text.			
11	②	Not acknowledged/Rectified	Yellow-orange, flashing Presented together with alert text.			
Alert priority: Caution						
12	!	Caution	Yellow Presented together with alert text.			
Ale	Alert priority: Indication					
13	i	Indication	Yellow Presented together with alert text.			
Oth	Other icons					
14		Acknowledge not allowed for alarm	Red. Presented together with icon number 2, 3 and 6.			
15	\times	Acknowledge not allowed for warning	Yellow-orange. Presented together with icon number 7, 8 and 11.			

FURUNO ELECTRIC CO., LTD.

Pub. No. OSE-36160-G1 (2111 REFU) FAR-3xx0 series

