

Controls

The system can be operated with the controls or the trackball module. The procedures in this operator's guide use the trackball module.

BRILL knob

Rotate: Adjusts the brilliance of the monitor.

Push: Selects a color palette.



A/C RAIN knob

Rotate: Suppresses rain clutter.

Push: Toggles between manual and automatic rain clutter adjustment.

A/C SEA knob

Rotate: Suppresses sea clutter.

Push: Toggles between manual and automatic sea clutter adjustment.

GAIN knob

Rotate: Adjusts the sensitivity of the radar receiver.

Push: Takes screenshot.

Status LED

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

OFF: Heater on CPU board is on.

Green, lighting: Normal operation status; no alerts generated.

Red, flashing rapidly: Alert not acknowledged nor rectified.

Red, flashing slowly: Alert not acknowledged, but rectified.

Red, lighting: SYSTEM FAIL, or acknowledged but not rectified alert.

Rotary encoder for VRM

Adjusts the active VRM.

VRM1, VRM2

Activates, deactivates respective VRM.

POWER key

Turns the system on or off. (This key may or may not control monitor on/off depending on monitor setting.)

USB port (under cover)

Connects a USB flash drive.

Trackball module

Operates like a PC mouse.

Rotary encoder for EBL

Adjusts the active EBL.

EBL1, EBL2

Activates, deactivates respective EBL.

ALARM ACK key

Acknowledges alerts; silences the audio alarm.

InstantAccess knob

Accesses functions on the InstantAccess bar™.

Rotate: Selects item.

Push: Confirms selection.

ESC key

Goes back one step in current InstantAccess bar™ operation.

Keyboard

A keyboard for entering alphanumeric data.

MFD key

Toggles operating modes.

UNDO key

Undoes the last operation, when creating a route or user chart.

RANGE key

Selects a chart scale.

VIEW/HIDE key

Shows, hides EBLs, Instant Access bar™, Overlay/NAV Tools box, VRMs, Route Information box.

VIEW/
HIDE

ACQ/
ACT

ACQ/ACT key

Activates selected sleeping AIS target.

TARGET
DATA

TARGET DATA key

Displays detailed data for selected TT, AIS object.

TARGET
CANCEL

TARGET CANCEL key

Sleeps selected activated AIS target.

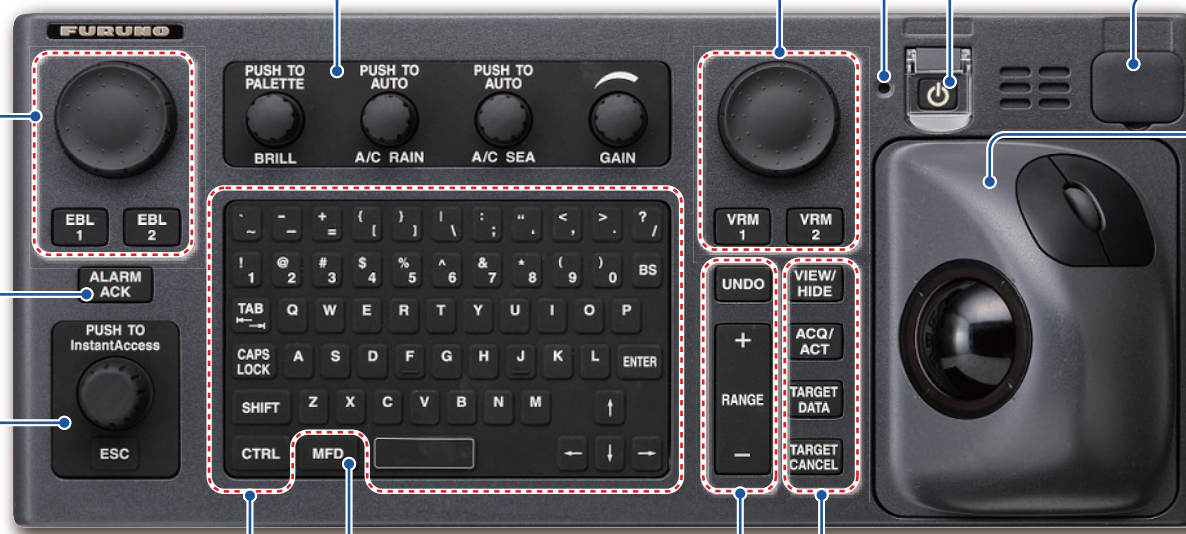
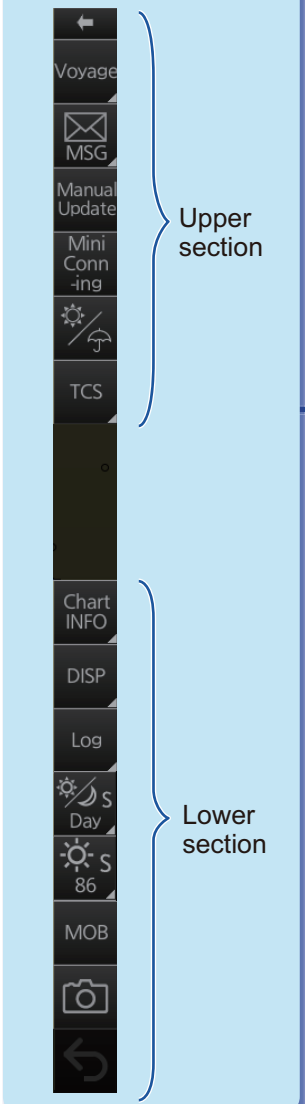


Chart Display Layout

Status bar (see page 3)



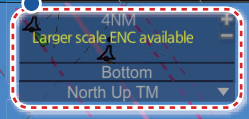
InstantAccess bar™
(see page 4)



Upper section

Lower section

Chart scale/stabilization mode/
presentation mode box



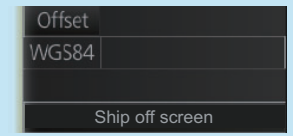
Cursor position box



Sensor information box

HDG	121.8°	GYRO1
SPD	10.1kn	GPS1
	0.3kn	BT
COG	121.5°	GPS1
SOG	10.1kn	
POSN	35°18.956' N	
DGPS1	139°48.684' E	

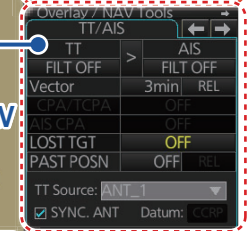
Own ship functions box



Route information box

Route Information	
Route :	route1
Plan Speed :	20.0kn
Plan Course :	206.5°
Course to Steer :	181.1°
XTD Limit :	185.0m
XTD :	4388.4m
TC :	AUTO
To WPT :	2
DIST to WOP:	6.95 NM
Time to Go :	0: 8'21"
Turn RAD :	0.80 NM
ROT :	***.*/min
Next WPT :	3
Next Course :	218.1°

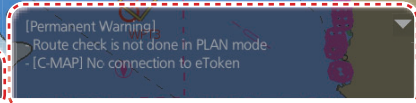
Overlay/NAV
Tools box



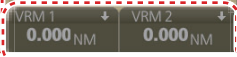
EBL1 box,
EBL2 box



Permanent warning box



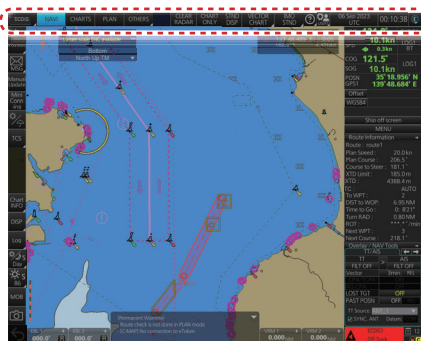
VRM1 box,
VRM2 box



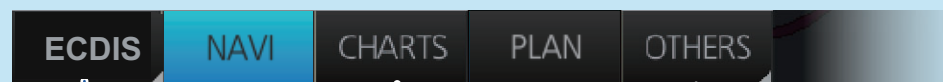
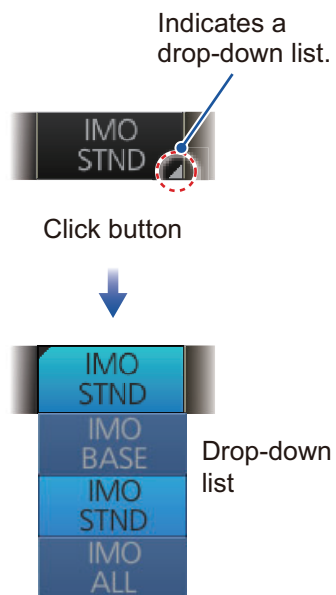
Alert
box



Status Bar



How to open a drop-down list



OTHERS Sets system in harbour mode; plays back data (AMS* connection must be off).

PLAN Selects the Voyage planning mode.

CHARTS Selects the Chart maintenance mode.

NAVI Selects the Voyage navigation mode.

Operating mode Selects the operating mode: ECDIS, RADAR, CONNING, or AMS*.

* Optional specification



CLEAR RADAR

Hide radar overlay, AIS symbols and TT symbols, when any of the above-mentioned items are displayed. Greyed out otherwise.

Chart type selection

Selects which chart type to display (vector or raster), when both are available.

STND DISP

Restores the standard display for the chart object display mode.

CHART ONLY

Shows only the chart, when left button is pressed and held down.

Chart database

Selects the chart database (IMO BASE, IMO STND, IMO ALL or CUSTOM) for displayed ENC.

User profiles, Settings menu

Manages user profiles; opens the Settings menu.

Working indicator

Rotates clockwise if the system is working properly.

Time

Displays the time.

Date

Displays the date; selects the time to use, local or UTC.

Upper section (by chart operating mode)

Voyage navigation mode

Safety MSG
NAV-TEX MSG

Opens the Message dialog box for managing AIS Safety and NAVTEX messages.

Manual Update:
Inserts chart update symbols manually.

Mini Conning:
Shows, hides the mini conning display.

Weather Overlay:
Shows, hides the weather overlay.

ECDIS NAVI

Voyage

Route Instant Track User Chart Monitor INFO Stop Monitor

MSG

Manual Update

Mini Conning

TCS

Route:

- Select/Unselect monitored route.
- Switch monitored route to Voyage planning mode for editing.

Instant Track:
Creates temporary track to return to or deviate from monitored route.

User Chart:
Select/unselect monitored user chart.

Monitor INFO:
Show Monitor [Information] dialog box.

Stop Monitor:
Stop monitoring user chart and route.

FAP-3000, PR-9000 NP-5400, PT-900

TCS TCS TCS TCS OP TCS State

Go AW Go SEA Go AW Go SEA

TCS State: Shows or hides the Track Control Status window.

GoAW, GoSEA: Activates respective autopilot steering mode.

Voyage planning mode

ECDIS NAVI CHARTS PLAN

Plan-ning

Report

Guide Box

Manage Data

SAR

Route: Creates a route (see page 5).

User Chart: Creates a user chart (see page 7).

Guide Box:
Provides range and bearing information between the last waypoint and the cursor position when creating a route.

Manage Data:
Deletes, imports routes and user charts.

SAR:
Shows the Search and Rescue Settings dialog box.

Route User Chart

WPT Full WPT Pass-age

Report:
See reports on waypoints and voyage planning related routes and user charts.

Chart maintenance mode

ECDIS NAVI CHARTS

Gate-1

AUTO Import

Manage Charts

Cell Status

License

Public Key

System

Gate-1*:
Automatically installs Gate-1 provided charts and licenses.

AUTO Import:
Starts automatic installation of the chart data (CD or DVD ROM).

Manage Charts:
Manages chart cells (grouping, deleting, etc.).

Cell Status:
Shows the chart catalog to get info about charts installed in the system.

License: Manages chart licenses.

Public Key: Manages public keys.

SYNC Config: Selects units to synchronize.

SYNC Status: Checks synchronization status.

Gate-1 Config*: Gate-1 chart management.

Reconvert: Reconverts SENC data.

Clear Charts: Clears charts.

SYNC Config SYNC Status Gate-1 Recon Clear Charts

Config Status Config -vert Charts

*Shown only with Gate-1 connection.

Lower section

SET TWO DISP NtoM

SET:
Shows or hides chart features; sets chart alerts.

TWO DISP:
Splits the screen in two, horizontally or vertically.

NtoM:
Displays Notice to Mariners info.

Shows or hides software keyboard.

Keyboard

Selects a color palette.

Day Day Dusk Night

MOB:
Enters a MOB mark.

Takes a screenshot.

Restores previous condition in route and user chart creation.

Chart Viewing Legend Dates Chart 1

Chart Legend:
Displays chart info when own ship is at center of screen.

Viewing Dates:
Shows "display date" dialog box.

Chart 1:
Provides overview of chart symbols.

Log:
Records user/position events to the event log; accesses various logs.

Log Update Event NAV Target Route Log Log Log Log Log

Adjusts brilliance of monitor and backlighting for control unit.

86 CALIB Control Unit's Backlight 0

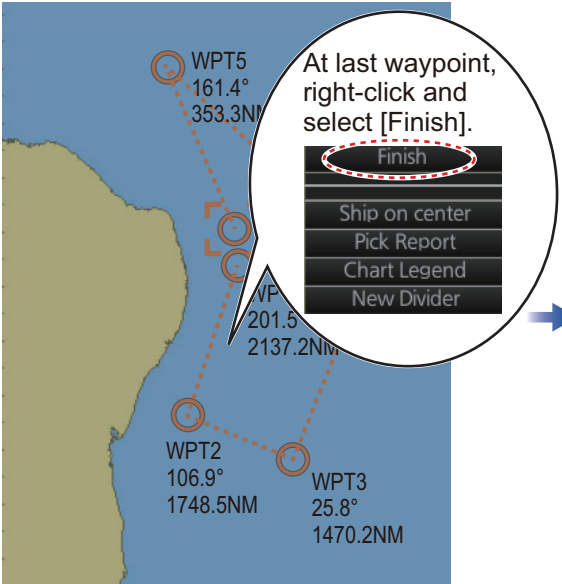
Routes

How to create, check a route

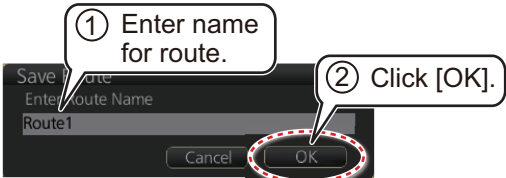
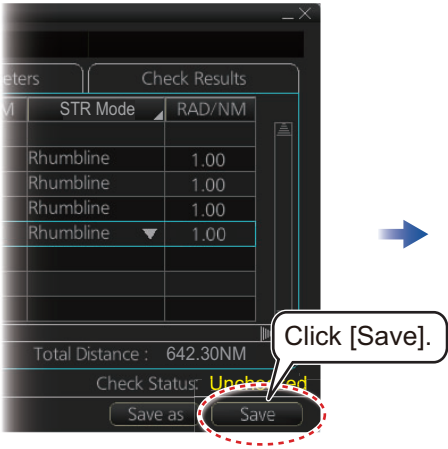
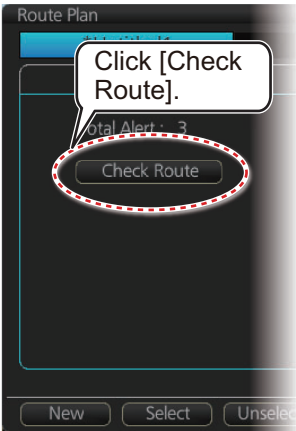
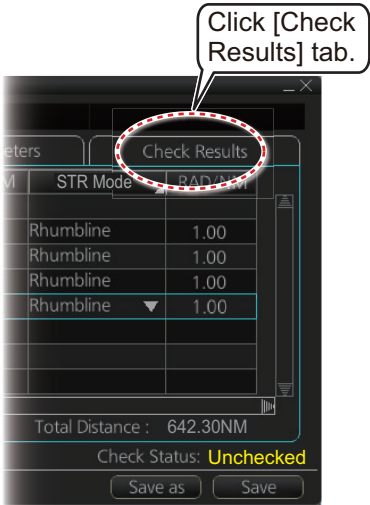
PLAN

Plan-ning

Route



Continue entering waypoints.



Routes (continued)

How to select a route to monitor

Route Information
Route : cc_import_03
Plan Speed : 20.0 kn
Plan Course : 337.5°
Course to Steer : 332.9°
XTD Limit: 185.0 m
XTD: 0.9 m
TC:
To WPT:
DIST to:
Time:
Turn:
ROT:
Next WPT:
Next Course : 341.2°

In Voyage navigation mode, right click anywhere.

Select Route
Move to Plan
Monitor User Chart
Monitor INFO
Stop Monitor
XTD

Click [Select Route].

Select a route.

Select Route
Filter
☒ Planned Route ☐ Instant Track
Name Date Protected
11 Untitled1 29 Jul 2021
12 Untitled222 04 Aug 2021
9 furuno 01 Jul 2021
8 route1 17 Aug 2021
10 route2 01 Jul 2021
Total WPTs :
Start WPT :
Cancel Open

Route selected.

Click [Open].

To stop monitoring a route:



How to view route waypoint information

Route Information
Route : cc_import_03
Plan Speed : 20.0 kn
Plan Course : 337.5°
Course to Steer : 332.9°
XTD Limit: 185.0 m
XTD: 0.9 m
TC:
To WPT:
DIST to:
Time:
Turn:
ROT:
Next WPT:
Next Course : 341.2°

In Voyage navigation mode, right click anywhere.

Select Route
Unselect Route
Move to Plan
Monitor User Chart
Monitor INFO
Stop Monitor
XTD

Click [Monitor INFO].

Monitor Information
Route : Untitled1
Waypoints
To WPT :
WPT Name Longitude Latitude ETA Plan SPD
1 0003' E
2 39.362' E 00:04 18 Aug 2021 20.0
3 140' 12.017' E 00:36 18 Aug 2021
Total WPTs : 3 Total Distance : 14.58NM
Route check is not done in PLAN mode

Click [Waypoints] tab.

Waypoints
To WPT :
WPT Name Longitude Latitude ETA Plan SPD
1 0003' E
2 39.362' E 00:04 18 Aug 2021 20.0
3 140' 12.017' E 00:36 18 Aug 2021
Total WPTs : 3 Total Distance : 14.58NM
Route check is not done in PLAN mode

Waypoints
To WPT :
WPT Name Longitude Latitude ETA Plan SPD
1 0003' E
2 39.362' E 00:04 18 Aug 2021 20.0
3 140' 12.017' E 00:36 18 Aug 2021
Total WPTs : 3 Total Distance : 14.58NM
Route check is not done in PLAN mode

How to delete a route

PLAN

Manage Data

Route

Route Data Management
Filter
☒ Planned Route ☐ Instant Track
ID Name Date Protected
3 Kob 20 Sep 2022
2 2022
Total WPTs : 2 Total DIST : 10.62NM
Start WPT : 34° 27.528' N 135° 08.308' E
Final WPT : 34° 37.807' N 135° 11.611' E
RTZ:RTZP
Protect
Delete Import
Close

Check route(s) to delete.

Click [Delete].

User Charts

How to create a user chart

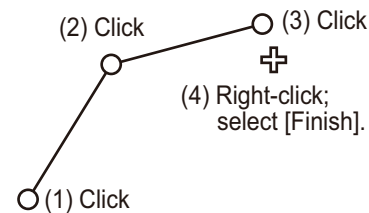


Click object to draw.

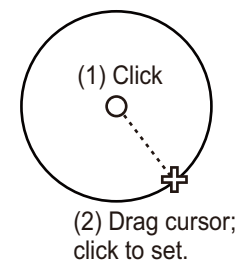
Tidal: - Current - Predicted			Area
Line: - Coast - Route - Nav - Depth			Circle
Clearing line: - NMT - NLT			Label: - Label - Triangle - Point - Polygon - Circle - Pin



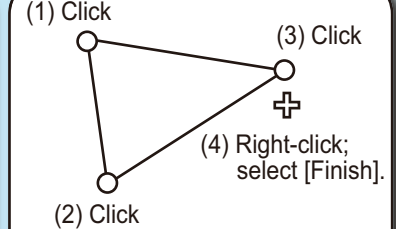
How to create a line



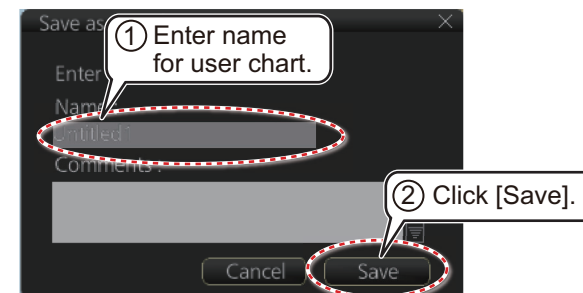
How to create a circle



How to create an area

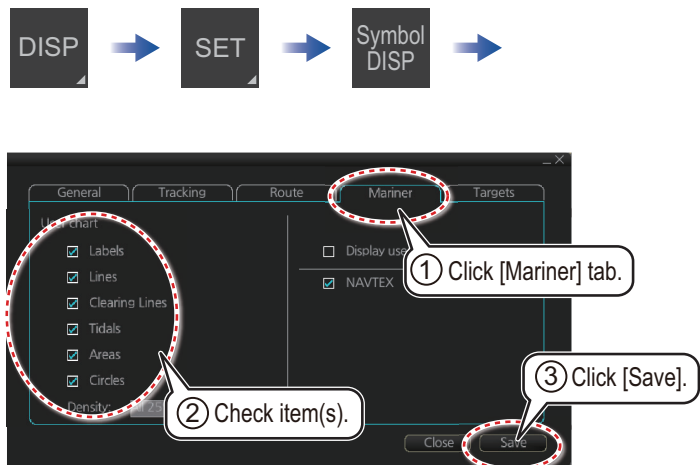


Example objects

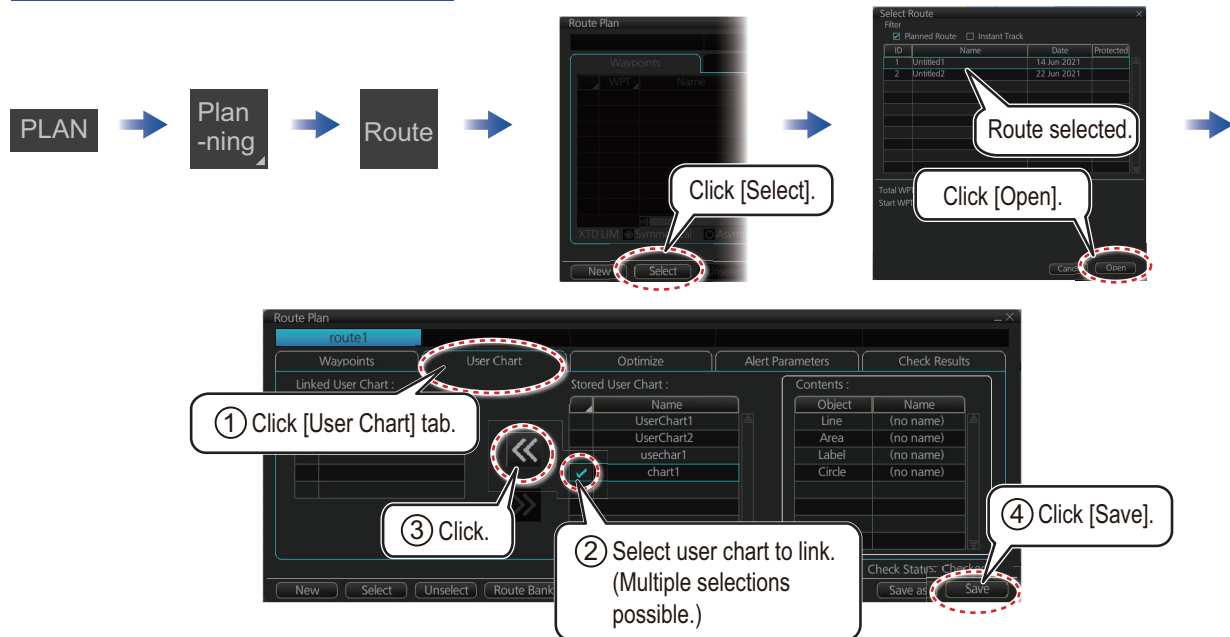


User Charts (continued)

How to select objects to display in user chart

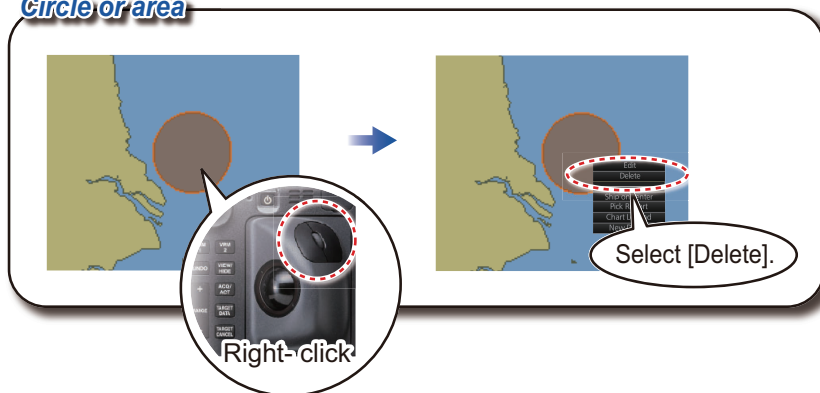


How to link a user chart to a route

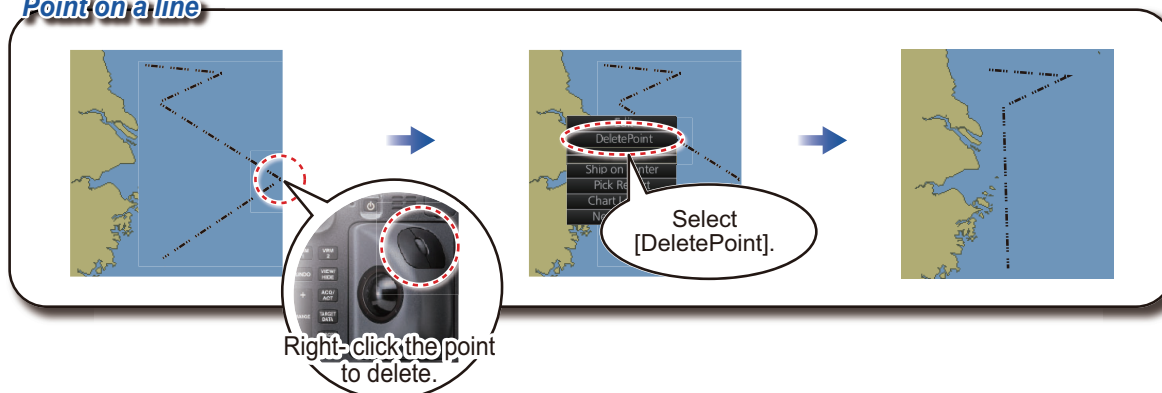


How to delete objects from a user chart

Circle or area



Point on a line



How to delete user charts

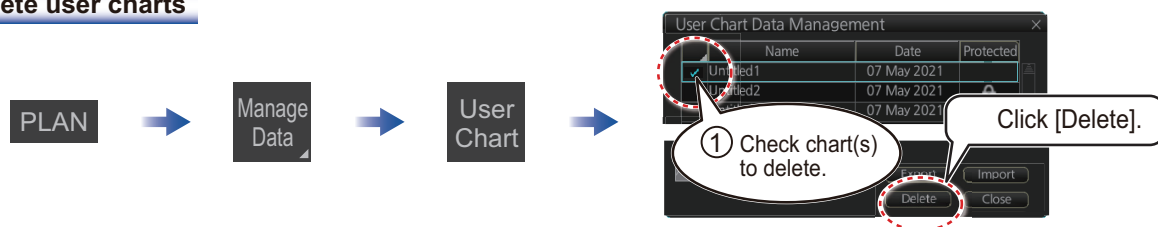


Chart Operations

How to control visibility of chart objects

DISP

SET

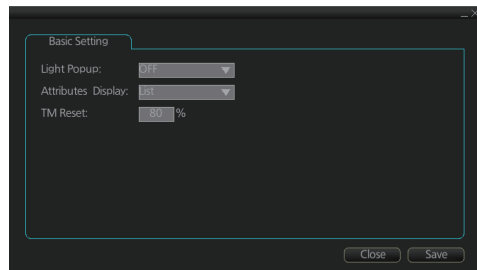
Chart DISP

Symbol DISP

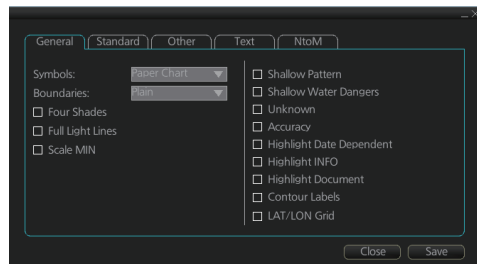
Basic Setting
Control basic chart settings

Control chart objects

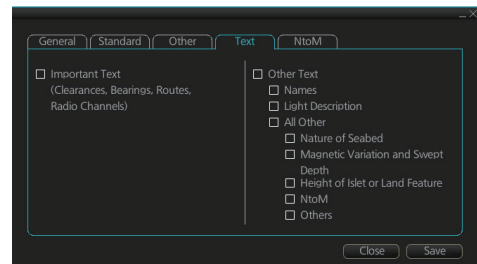
Control navigational features



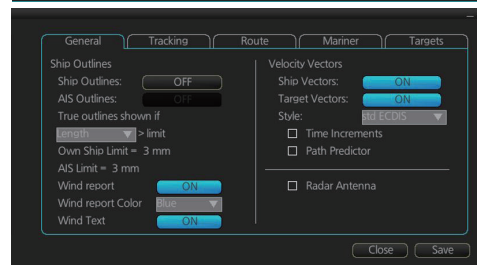
Basic Setting dialog box. Fields include: Light Popup: OFF, Attributes Display: List, TM Reset: 80%.



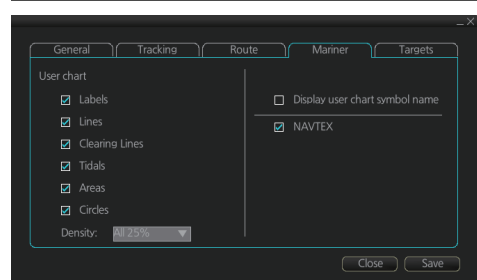
General tab of Chart DISP dialog box. Includes sections for Symbols (Paper Chart, Plain), Boundaries (Four Shades, Full Light Lines, Scale MIN), and various checkboxes for chart features like Shallow Pattern, Shallow Water Dangers, Unknown, Accuracy, Highlight Date Dependent, Highlight INFO, Highlight Document, Contour Labels, and LAT/LON Grid.



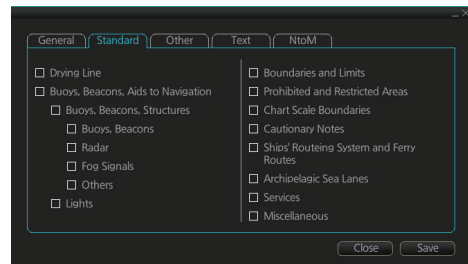
Text tab of Chart DISP dialog box. Includes sections for Important Text (Clearances, Bearings, Routes, Radio Channels) and Other Text (Names, Light Description, All Other, Nature of Seabed, Magnetic Variation and Sweep, Depth, Height of Islet or Land Feature, NtoM, Others).



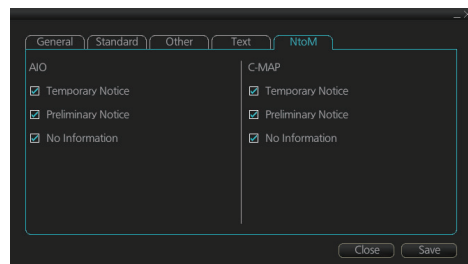
Tracking tab of Chart DISP dialog box. Includes sections for Ship Outlines (Ship Outlines: OFF, AIS Outlines: OFF, True outlines shown if Length > limit, Own Ship Limit = 3 mm, AIS Limit = 3 mm, Wind report: ON, Wind report Color: Blue, Wind Text: ON) and Velocity Vectors (Ship Vectors: ON, Target Vectors: ON, Style: Red ECDIS, Time Increments, Path Predictor, Radar Antenna).



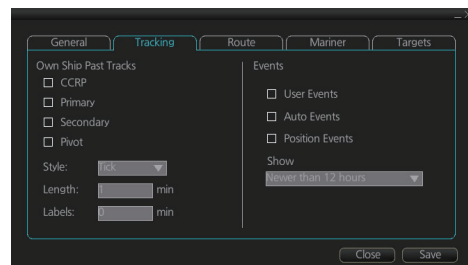
Targets tab of Chart DISP dialog box. Includes sections for User chart (Labels, Lines, Clearing Lines, Tidal, Areas, Circles, Density: All 25%) and Display user chart symbol name (NAVTEX).



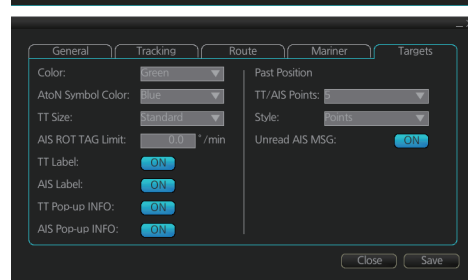
Standard tab of Chart DISP dialog box. Includes sections for Drying Line, Buoy, Beacons, Aids to Navigation, Buoy, Beacons, Structures, Buoy, Beacons, Radar, Fog Signals, Others, Lights, Boundaries and Limits, Prohibited and Restricted Areas, Chart Scale Boundaries, Cautionary Notes, Ships' Routing System and Ferry Routes, Archipelagic Sea Lanes, Services, and Miscellaneous.



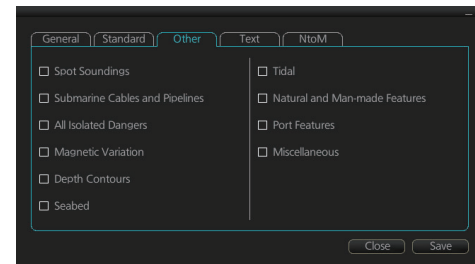
NtoM tab of Chart DISP dialog box. Includes sections for AIO (Temporary Notice, Preliminary Notice, No Information) and C-MAP (Temporary Notice, Preliminary Notice, No Information).



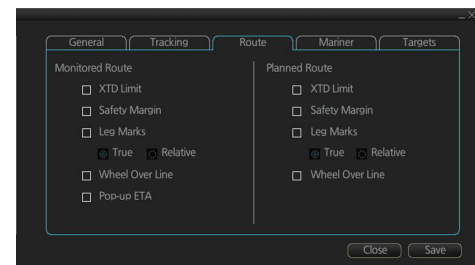
Route tab of Chart DISP dialog box. Includes sections for Own Ship Past Tracks (CCRP, Primary, Secondary, Pivot, Style: Red, Length: 1 min, Labels: 1 min) and Events (User Events, Auto Events, Position Events, Show: Newer than 12 hours).



Mariner tab of Chart DISP dialog box. Includes sections for Color: Green, AtoN Symbol Color: Blue, TT Size: Standard, AIS ROT TAG Limit: 0.0 /min, TT Label: ON, AIS Label: ON, TT Pop-up INFO: ON, AIS Pop-up INFO: ON, Past Position (TT/AIS Points: 5, Style: Points), and Unread AIS MSG: ON.



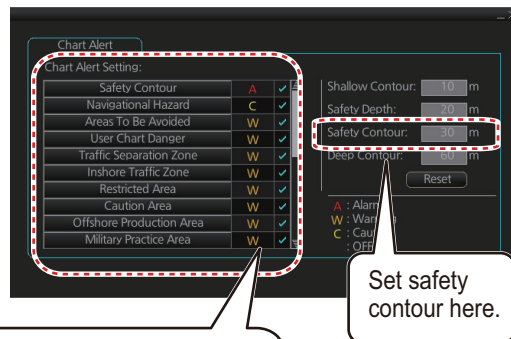
Other tab of Chart DISP dialog box. Includes sections for Spot Soundings, Submarine Cables and Pipelines, All Isolated Dangers, Magnetic Variation, Depth Contours, Seabed, Tidal, Natural and Man-made Features, Port Features, and Miscellaneous.



Targets tab of Chart DISP dialog box. Includes sections for Monitored Route (XTD Limit, Safety Margin, Leg Marks, True/Relative, Wheel Over Line, Pop-up ETA) and Planned Route (XTD Limit, Safety Margin, Leg Marks, True/Relative, Wheel Over Line).

Chart Operations (continued)

How to set safety contours and chart alerts



Click to select chart alert type:

A (Alarm): Audio+visual indications

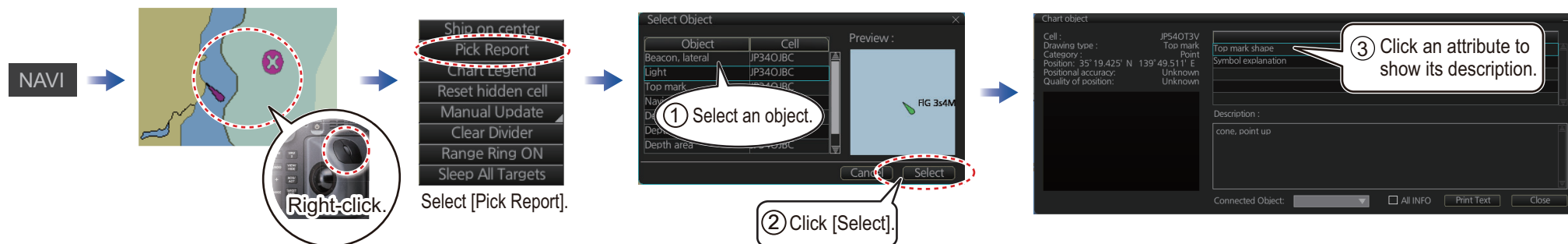
W (Warning): Visual indication

C (Caution): No indication

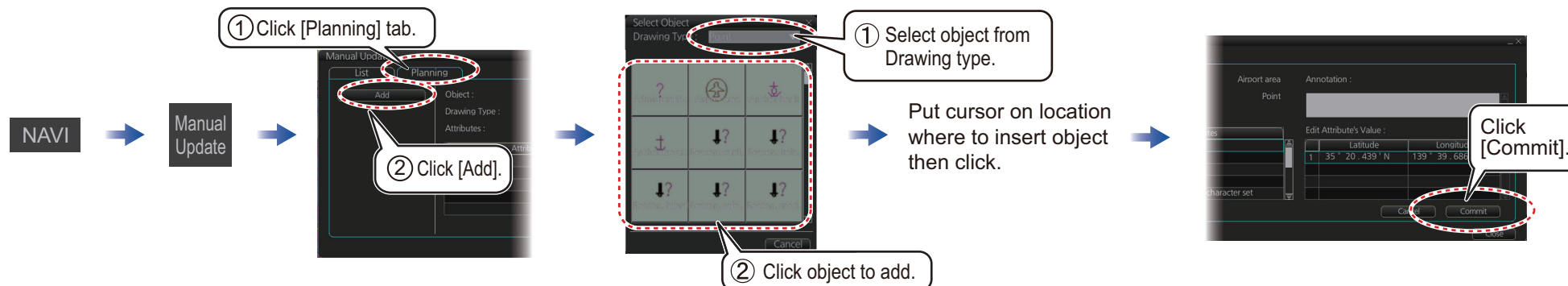
Click icon to switch between **C** and **W** vice versa.

To turn off display of a chart object in route monitoring, remove check mark from alert (alarm, warning, caution).

How to find chart object information (ENC chart)



How to manually insert a "new" chart object



TT/AIS Operations

How to find object info

Click a symbol to show its information.

Title bar: TT Info(2/2)

TT No.: TT 15

Close

Scroll buttons

Bearing: BRG 225.0 °T

Range: RNG 8.000 NM

Course over ground: COG 45.0 °T

Speed over ground: SOG 8.00 kn




CPA: CPA 4.000 NM

TCPA: TCPA 03'00"

Bow crossing range: BCR **.* NM

Bow crossing time: BCT *****

TT symbols (main)

Symbol (Color)	Name
 (Green)	Past position point
 (Green)	Target under acquisition
 (Green)	Acquired target

Title bar: AIS Info(1/2)

Expand

MMSI: MMSI 000000043

Vessel name: missing

Close

Scroll buttons

Bearing: BRG 265.0 °T

Range: RNG 8.832 NM

Course over ground: COG 122.0 °T

Speed over ground: SOG 0.50 kn

CPA: CPA 1.346 NM

TCPA: TCPA -26'33"

Bow crossing range: BCR 18.96 NM

Bow crossing time: BCT -84'35"

Position: L/L

35° 18.550' N

139° 36.650' E

HDG: 122.0 °T




ROT: +000.0 °/min

CTW: 127.0 °T

STW: 0.57 kn

NAV status: Not defined

AIS symbols (main)

Symbol (Color)	Name
 (Green)	Past position point
 (Green)	Sleeping AIS target
 (Green, thick line)	Activated AIS target

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

Shows or hides TT symbols.

Set AIS lost target alert.

Sets past position point interval (time).

Setting cannot be changed from this equipment.

Set association method.

Shows or hides AIS symbols.

Sets vector time (shared AIS/TT).

Sets vector mode (shared AIS/TT).

No use.

Selected TT data source.

[CCRP/ANT] button (available only when an antenna not compliant with IEC 62388 Ed.2 is connected.)

Selects the reference position (CCRP or ANT) for use in the TTM sentence.

Checked when the antenna that displays radar echoes automatically feeds TT data.

Overlay / NAV Tools

TT/AIS

TT: FILT OFF

AIS: FILT OFF

Vector: 6min REL

CPA/TCPA: OFF

AIS CPA: OFF

LOST TGT: OFF

PAST POSN: OFF REL

TT Source: ANT_1

☒ SYNC. ANT Datum: CCRP

Vector

(ex. TT)

TT Source:

☐ SYNC. ANT Datum:

Note: For systems which have the optional RADAR function, this section of the TT/AIS page appears blank.

TT/AIS Operations (continued)

Open the menu, and select [TT/AIS], [Setting], [Setting. 1] in this sequence. 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.

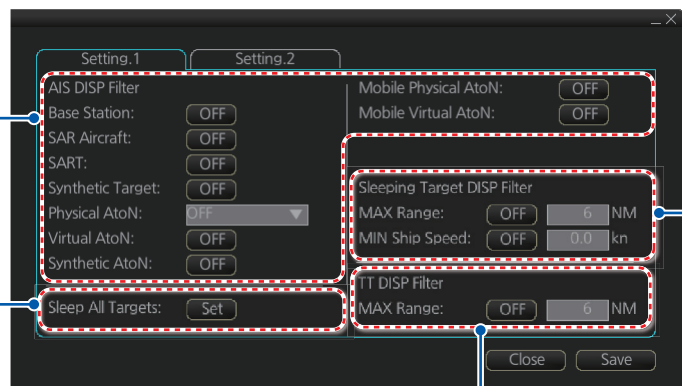


How to filter TT and AIS displays, sleep all targets

Filters AIS targets by range, speed.

Limit AIS display by AIS category.

Sleeps all activated AIS targets.



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

Radar Overlay

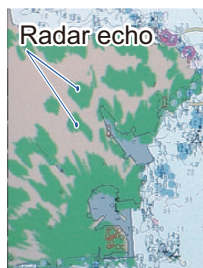
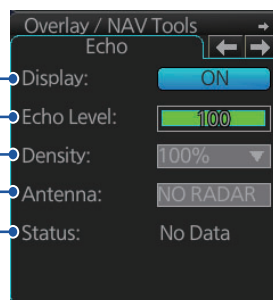
Activates, deactivates the radar overlay.

Adjusts the picture gain.

Sets the degree of transparency for the overlay.

Selects the antenna to feed the radar echo data.

Status of the radar echo data, "OK" or "No Data".



Pub. No. OSE-45220-A
(2507, YOSH) FMD-3005/3200/3300



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Alert Icons and Their Meanings

Icon	Alert State	Icon Description
Alert Priority: Emergency		
1	Cause not rectified	Display color: red, Display: flashing Displayed together with alert message.
Alert Priority: Alarm		
2	Not acknowledged/Not rectified	Display color: red, Display: flashing Displayed together with alert message.
3	Not acknowledged/Not rectified Buzzer temporarily silenced	Display color: red, Display: flashing Displayed together with alert message.
4	Acknowledged/Not rectified	Display color: red, Display: lit Displayed together with alert message.
5	Acknowledged/Not rectified Acknowledged by external device	Display color: red, Display: lit Displayed together with alert message.
6	Not acknowledged/Rectified	Display color: red, Display: flashing Displayed together with alert message.
Alert Priority: Warning		
7	Not acknowledged/Not rectified	Display color: yellow-orange, Display: flashing Displayed together with alert message.
8	Not acknowledged/Not rectified Buzzer temporarily silenced	Display color: yellow-orange, Display: flashing Displayed together with alert message.
9	Acknowledged/Not rectified	Display color: yellow-orange, display: lit Displayed together with alert message.
10	Acknowledged/Not rectified Acknowledged by external device	Display color: yellow-orange, Display: lit Displayed together with alert message.
11	Not acknowledged/Rectified	Display color: yellow-orange, Display: flashing Displayed together with alert message.
Alert Priority: Caution, Indication		
12	Caution	Display color: yellow, Display: lit Displayed together with alert message.
13	Indication	Display color: yellow, Display: lit Displayed together with alert message.
Other		
14	Non-acknowledgeable alarm	Display color: red Displayed together with alarm icon (2, 3, 6).
15	Non-acknowledgeable warning	Display color: yellow-orange Displayed together with warning icon (7, 8, 11).
16	Aggregate (AMS only)	Display color: red, yellow-orange, yellow Displayed together with emergency, alarm, warning, caution icon (1 - 12).
17	Functional alert group (AMS only)	Display color: red, yellow-orange, yellow Displayed together with emergency, alarm, warning, caution icon (1 - 12).