

**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.

**Rotary encoder for EBL**

Adjusts the active EBL.  
**EBL1, EBL2**  
Activates, deactivates respective EBL.

**ALARM ACK key**

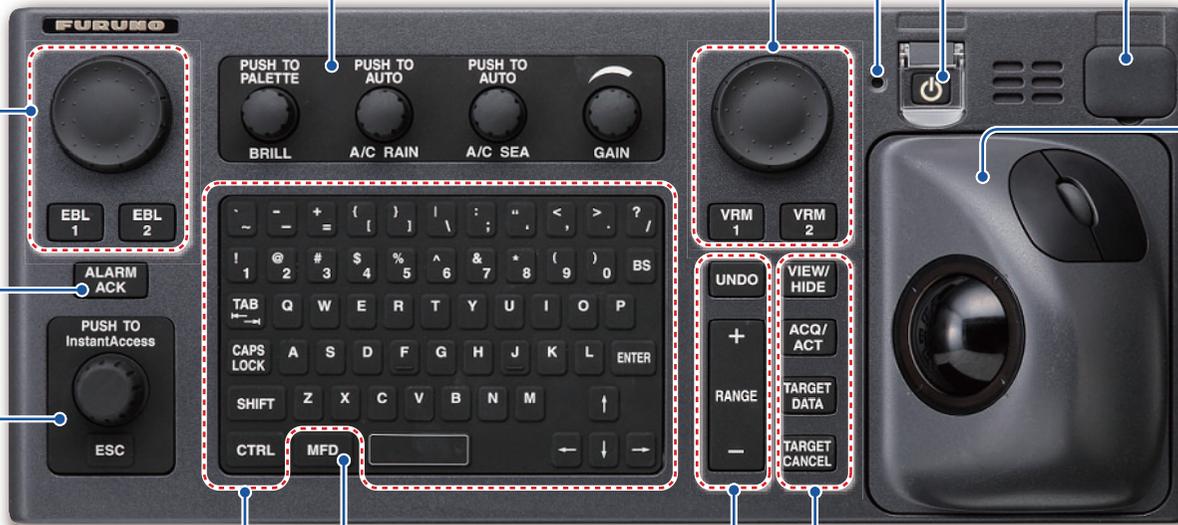
Acknowledges alerts; silences the audio alarm.

**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.

**Trackball module**

Operates like a PC mouse.

**VIEW/HIDE**

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

**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)

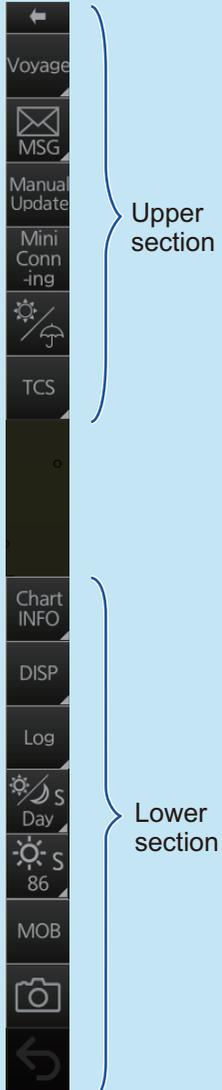


Chart scale/stabilization mode/  
presentation mode box



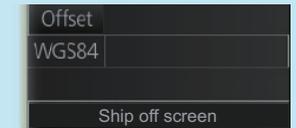
Cursor position box



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	

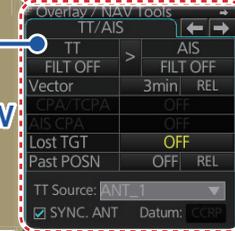
Own ship functions box



Route information box

Route Information	
Route :	route1
Plan Speed :	20.0 kn
Plan Course :	206.5°
Course to Steer :	181.1°
XTD Limit :	185.0 m
XTD :	4388.4 m
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



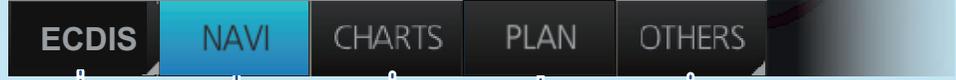
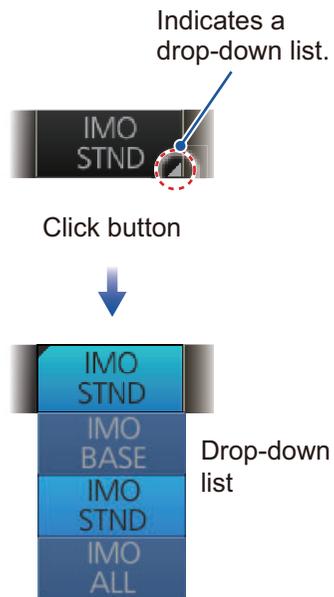
Alert  
box



# Status Bar



## How to open a drop-down list



- ECDIS** Selects the operating mode: ECDIS, RADAR, CONNING, or AMS\*.
- NAVI** Selects the Voyage navigation mode.
- CHARTS** Selects the Chart maintenance mode.
- PLAN** Selects the Voyage planning mode.
- OTHERS** Sets system in harbour mode; plays back data (AMS\* connection must be off).

\* 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 ONLY** Shows only the chart, when left button is pressed and held down.
- STND DISP** Restores the standard display for the chart object display mode.
- Chart type selection** Selects which chart type to display (vector or raster), when both are available.
- 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.
- Date** Displays the date; selects the time to use, local or UTC.
- Time** Displays the time.
- Working indicator** Rotates clockwise if the system is working properly.

# Instant Access Bar™

## Upper section (by chart operating mode)

### Voyage navigation mode



**MSG** 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.

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

**GoAW, GoSEA:** Activates respective autopilot steering mode.

**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.

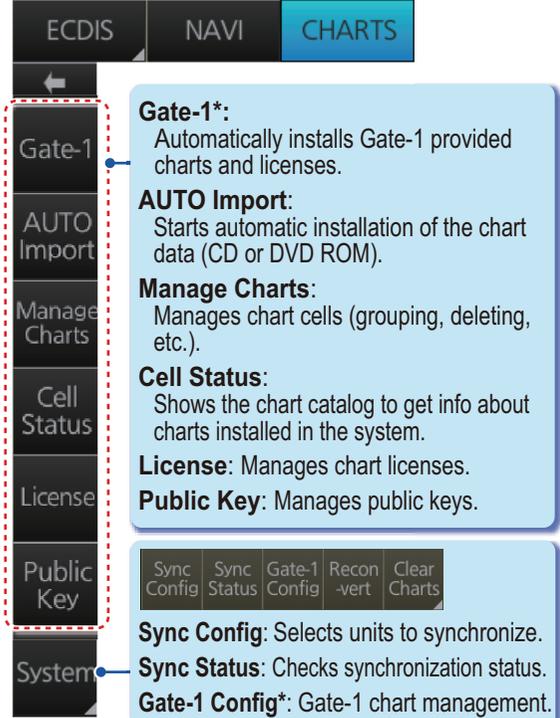
**Stop Monitor:** Stop monitoring user chart and route.

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

TCS TCS Setting TCS State TCS OP TCS State

Go AW Go SEA

### Chart maintenance mode



**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.

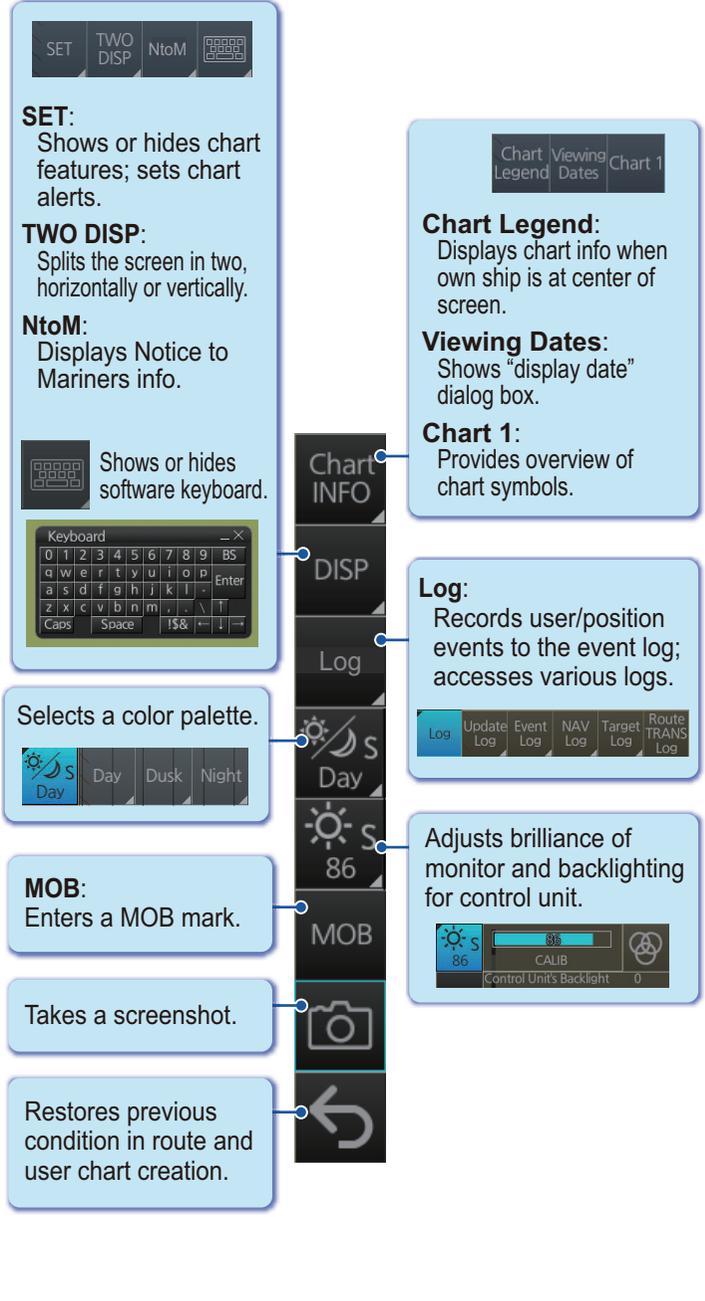
**Reconvert:** Reconverts SENC data.

**Clear Charts:** Clears charts.

\*Shown only with Gate-1 connection.

Sync Config Sync Status Gate-1 Config Recon -vert Clear Charts

## Lower section



**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.

**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.

**Adjusts brilliance of monitor and backlighting for control unit.**

**MOB:** Enters a MOB mark.

**Takes a screenshot.**

**Restores previous condition in route and user chart creation.**

SET TWO DISP NtoM

Chart Viewing Legend Dates Chart 1

Keyboard

Chart INFO

DISP

Log

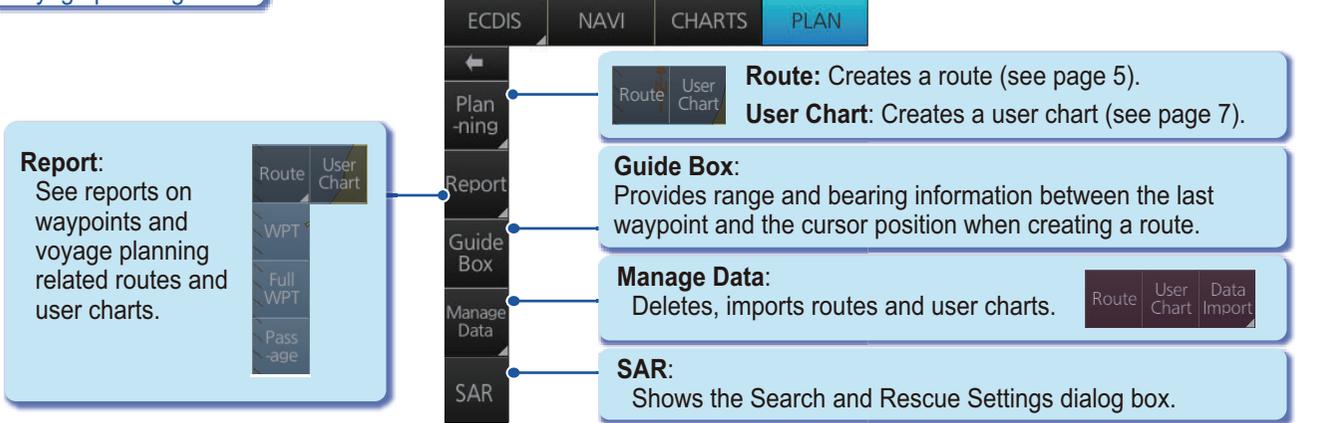
Day

86

MOB

Control Unit's Backlight 0

### Voyage planning mode



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

**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.

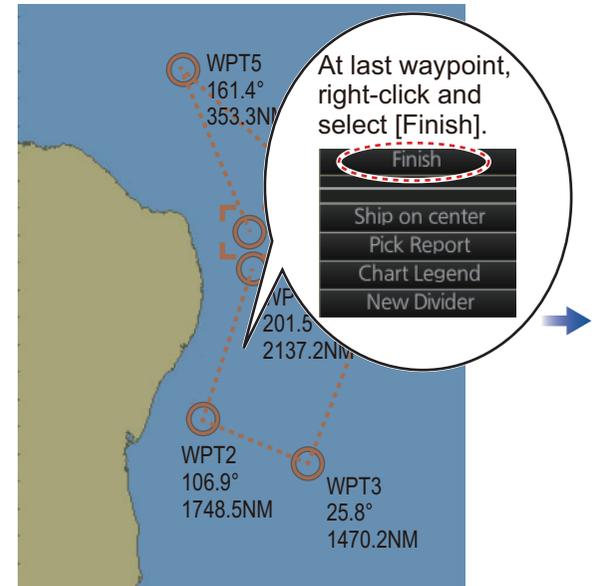
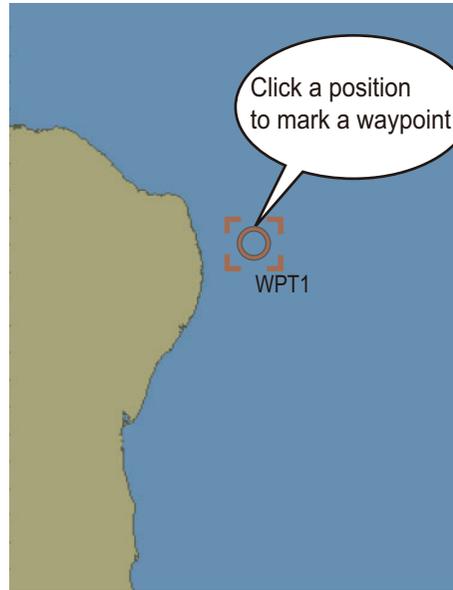
Route User Chart

WPT Full WPT Passage

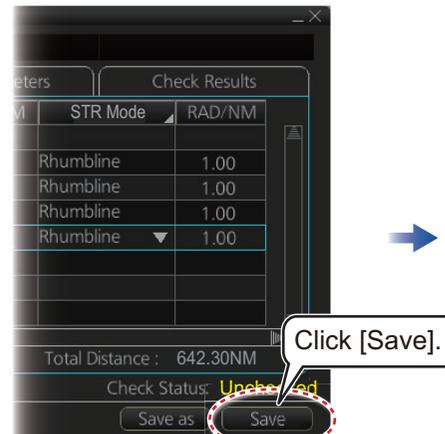
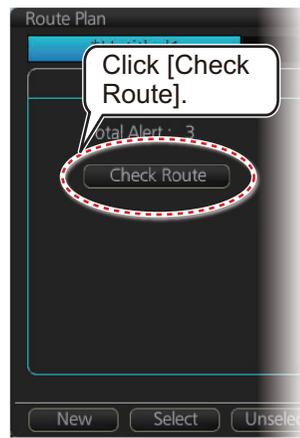
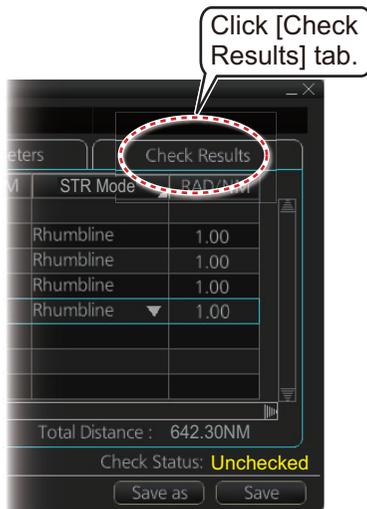
Route User Chart Data Import

# Routes

## How to create, check a route



Continue entering waypoints.



## Routes (con't.)

### 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°

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

Select a route.

Select Route  
Filter  
 Planned Route  Instant Track  
Table:  
ID 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 :  
Route selected.  
Click [Open].

Voyage → Stop Monitor

### 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°

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 :  
9.53NM Departure: 23:35 17 Aug 2021  
Actual Average SPD : 20.0kn  
Table:  
WPT Name Longitude Latitude ETA Plan SPD  
1 003' 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.

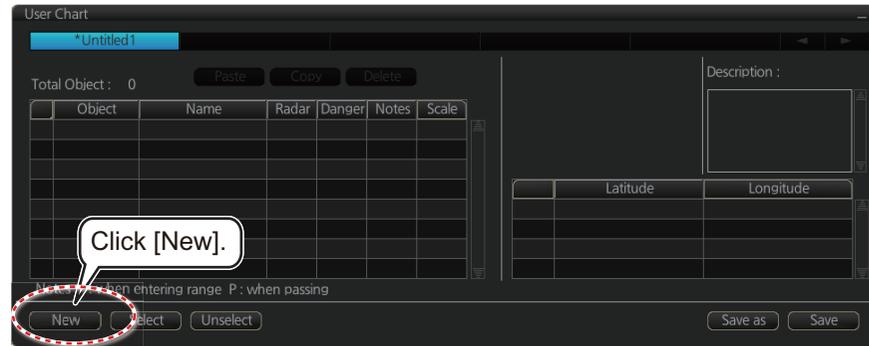
### How to delete a route

PLAN → Manage Data → Route

Route Data Management  
Filter  
 Planned Route  Instant Track  
Table:  
ID Name Date Protected  
3 Kob... 20 Sep 2022  
4 ... 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° 11.61...  
Click [Delete].

# User Charts

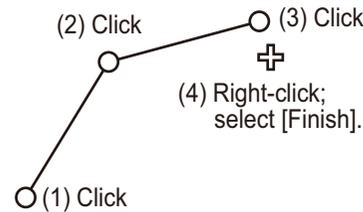
## How to create a user chart



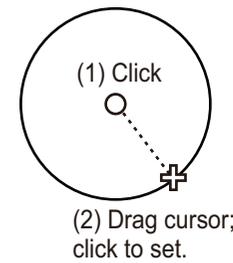
Click object to draw.

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

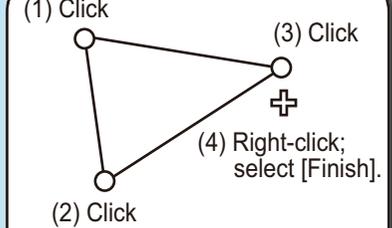
### How to create a line



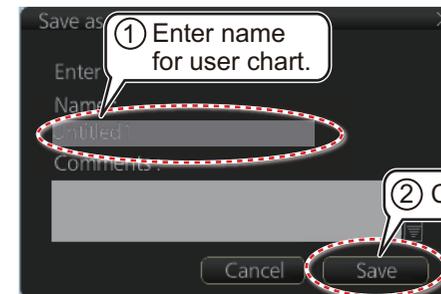
### How to create a circle



### How to create an area



Example objects



## User Charts (con't)

### How to select objects to display in user chart

DISP → SET → Symbol DISP →

① Click [Mariner] tab.

② Check item(s).

③ Click [Save].

### How to link a user chart to a route

PLAN → Plan-ning → Route →

Click [Select].

Route selected.

Click [Open].

① Click [User Chart] tab.

② Select user chart to link. (Multiple selections possible.)

③ Click.

④ Click [Save].

### How to delete objects from a user chart

#### Circle or area

Right-click

Select [Delete].

#### Point on a line

Right-click the point to delete.

DeletePoint

Select [DeletePoint].

### How to delete user charts

PLAN → Manage Data → User Chart →

① Check chart(s) to delete.

Click [Delete].

Name	Date	Protected
Untitled1	07 May 2021	
Untitled2	07 May 2021	

# Chart Operations

## How to control visibility of chart objects

DISP

SET

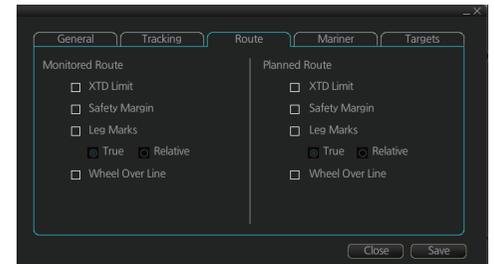
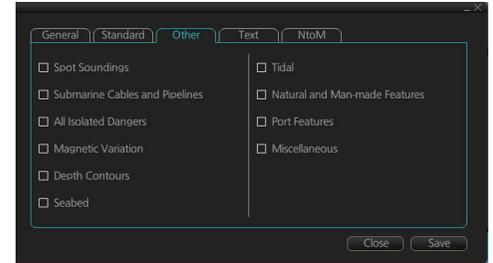
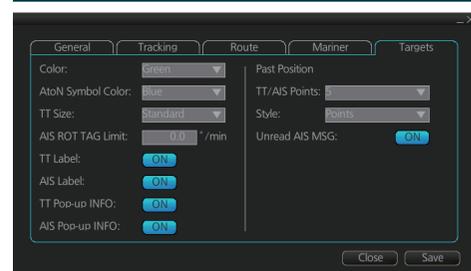
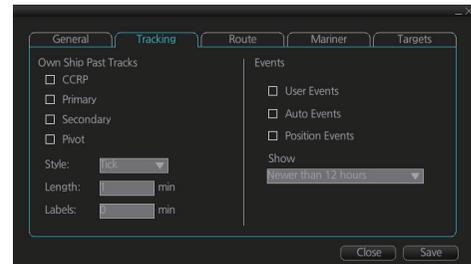
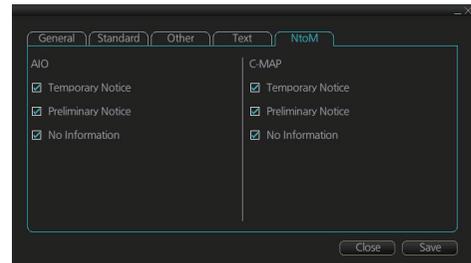
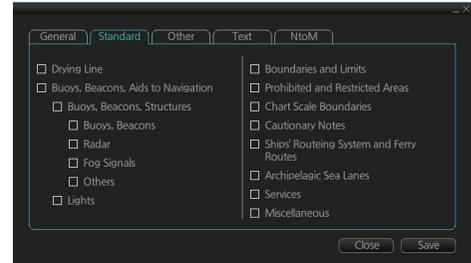
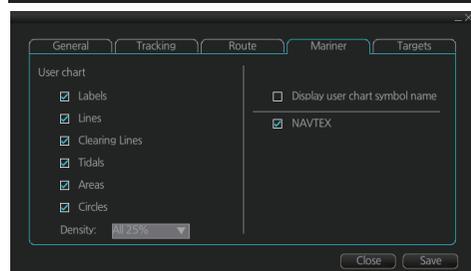
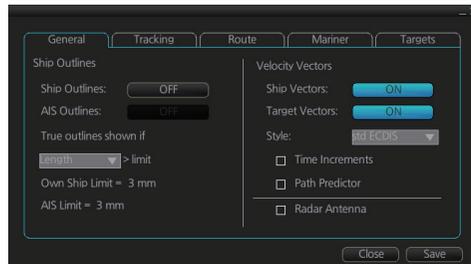
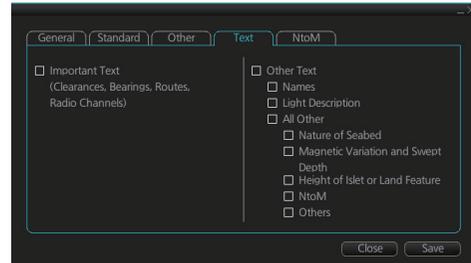
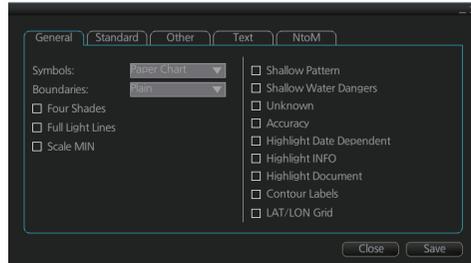
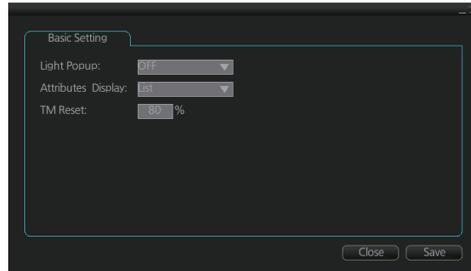
Chart DISP

Symbol DISP

Basic Setting  
Control basic chart settings

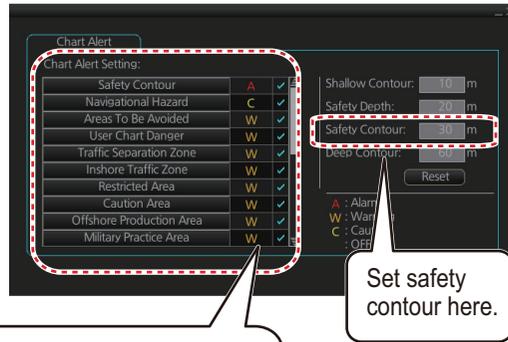
Control chart objects

Control navigational features



## Chart Operations (con't.)

### How to set safety contours and chart alerts



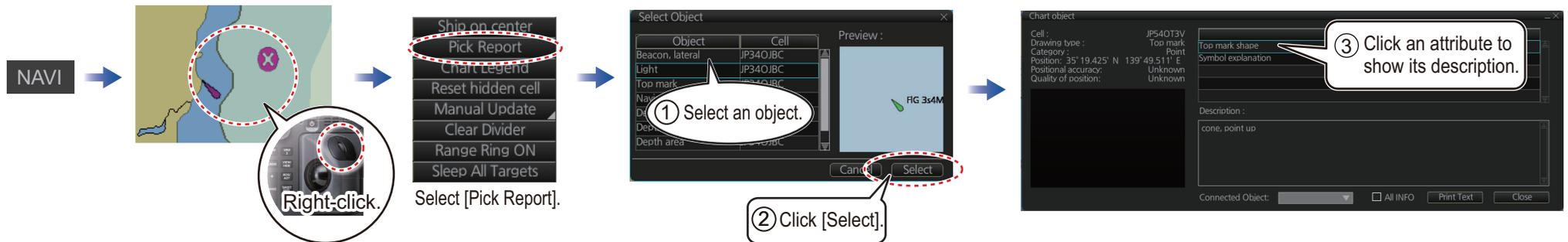
Click to select chart alert type:

- A** (Alarm): Audio+visual indications
- W** (Warning): Visual indication
- C** (Caution): No indication

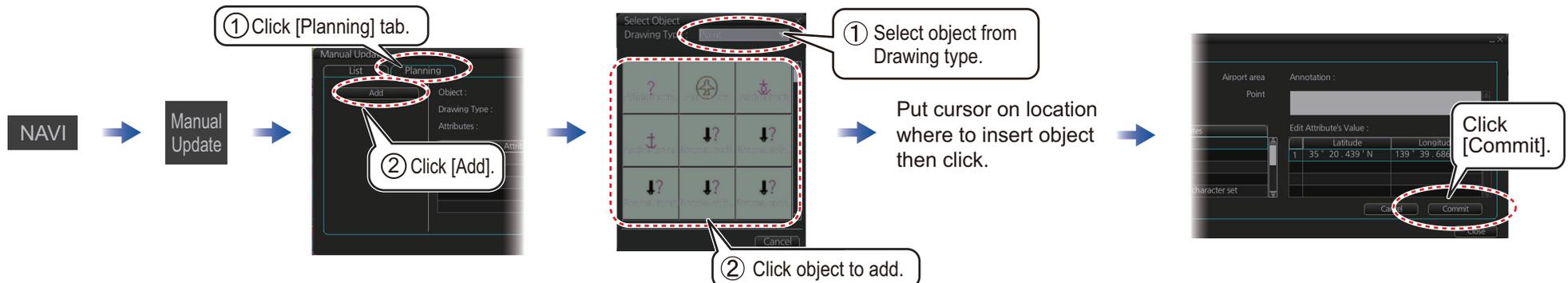
Click icon to switch between **C** and **W** vice versa.

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.

TT Info(2/2) window showing parameters for TT 15:

- 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

AIS Info(1/2) window showing parameters for MMSI 000000043:

- 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
- Heading: HDG 122.0 °T
- Rate of turn: ROT +000.0 °/min
- Course through water: CTW 127.0 °T
- Speed through water: 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

Overlay / NAV Tools TT/AIS page settings:

- Shows or hides TT symbols: TT FILT OFF
- Shows or hides AIS symbols: AIS FILT OFF
- Set AIS lost target alert: Lost TGT OFF
- Set vector time (shared AIS/TT): 6min
- Set vector mode (shared AIS/TT): REL
- TT Source: ANT\_1
- Checked when the antenna that displays radar echoes automatically feeds TT data: SYNC. ANT
- Datum: CCRP

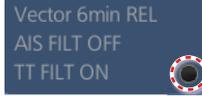
Notes:

- Setting cannot be changed from this equipment. (ex. AIS)
- [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.

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

## TT/AIS Operations (con't)

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.

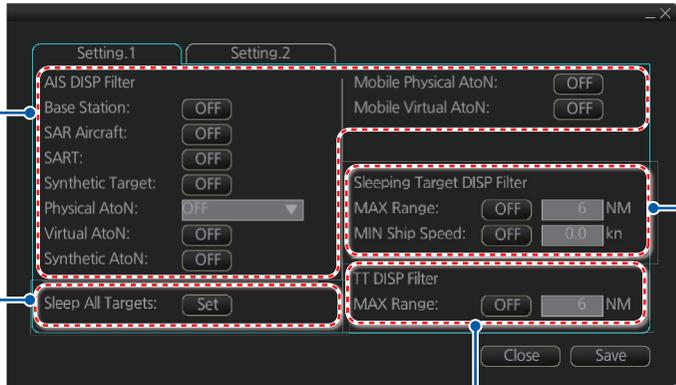


### How to filter TT and AIS displays, sleep all targets

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

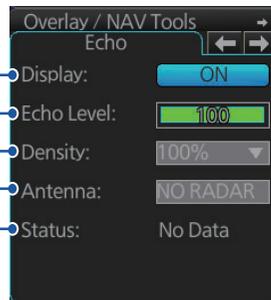
Activates, deactivates the radar overlay.

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-44730-M  
(2401, YOSH) FMD-3005/3200/3300



00020043811

## Alert Icons and Their Meanings

Icon	Alert State	Icon Description
<b>Alert Priority: Emergency</b>		
1	Cause not rectified	Display color: red, Display: flashing Displayed together with alert message.
<b>Alert Priority: Alarm</b>		
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.
<b>Alert Priority: Warning</b>		
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.
<b>Alert Priority: Caution, Indication</b>		
12	Caution	Display color: yellow, Display: lit Displayed together with alert message.
13	Indication	Display color: yellow, Display: lit Displayed together with alert message.
<b>Other</b>		
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).