

## 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 key

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

VIEW/  
HIDE

ACQ/  
ACT

TARGET  
DATA

TARGET  
CANCEL

### ACQ/ACT key

Activates selected sleeping AIS target.

### TARGET DATA key

Displays detailed data for selected TT, AIS object.

### TARGET CANCEL key

Sleeps selected activated AIS target.

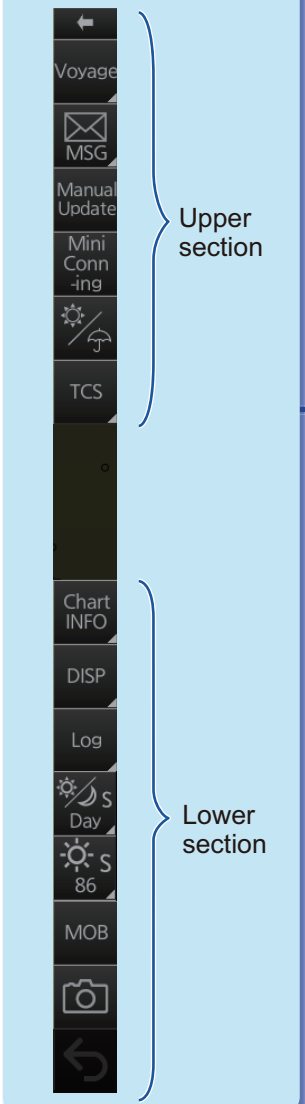


# Chart Display Layout

Status bar (see page 3)



InstantAccess bar™  
(see page 4)



Upper section

Lower section

Chart scale/stabilization mode/  
presentation mode box



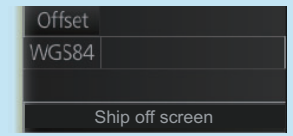
Cursor position box



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 |       |

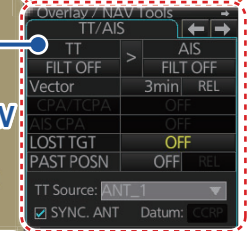
Own ship functions box



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°    |

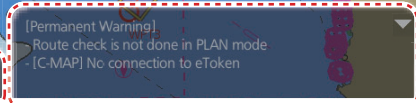
Overlay/NAV  
Tools box



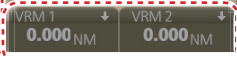
EBL1 box,  
EBL2 box



Permanent warning box



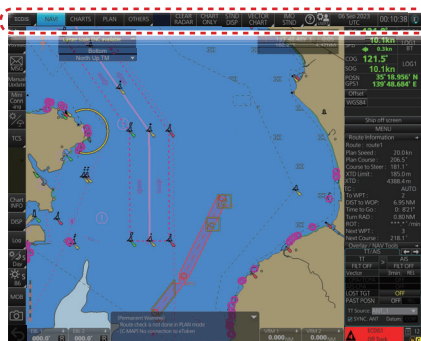
VRM1 box,  
VRM2 box



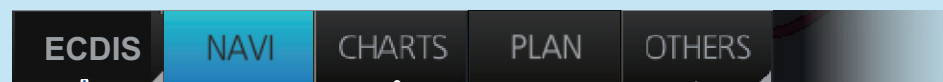
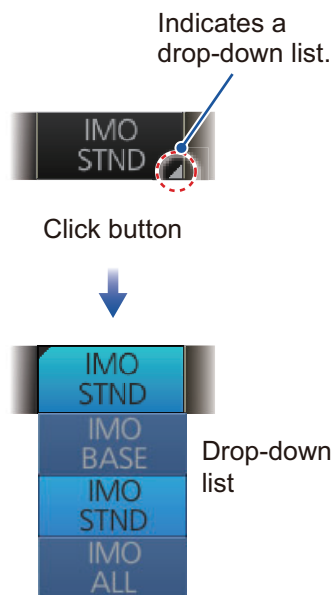
Alert  
box



## 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

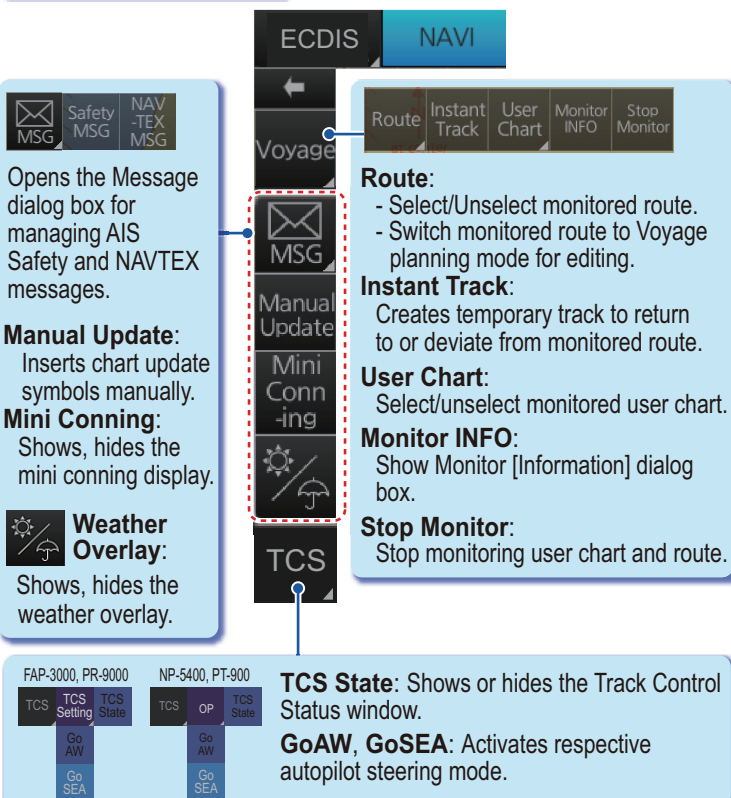
Displays the time.

#### Date

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

## Upper section (by chart operating mode)

### Voyage navigation mode



**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.

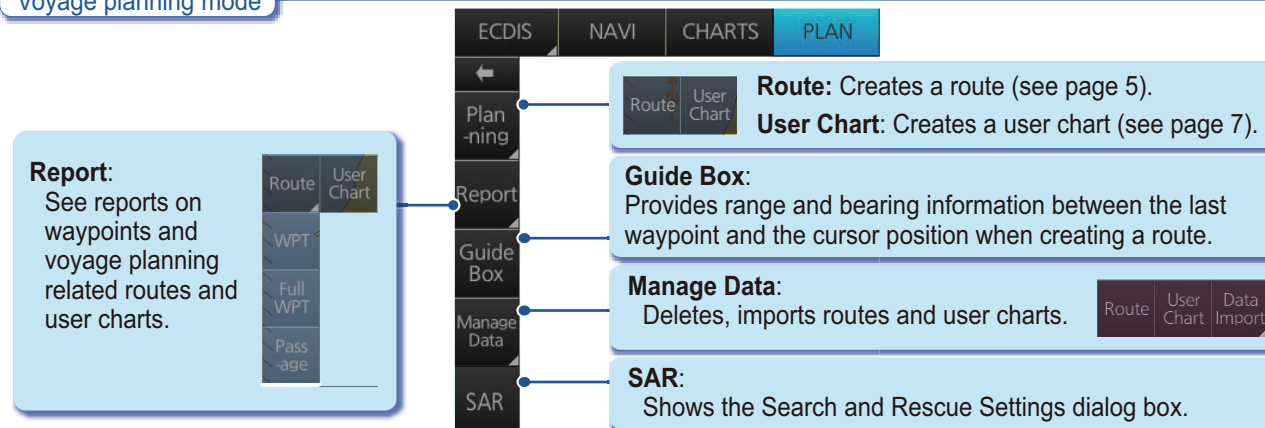
**Mini Conning**  
Shows, hides the mini conning display.

**Weather Overlay**  
Shows, hides the weather overlay.

**TCS**  
FAP-3000, PR-9000 NP-5400, PT-900  
TCS TCS TCS TCS OP TCS State  
Go AW Go AW Go SEA Go SEA  
**TCS State:** Shows or hides the Track Control Status window.  
**GoAW, GoSEA:** Activates respective autopilot steering mode.

**Route**  
Instant Track User Chart Monitor INFO Stop Monitor  
**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.

### Voyage planning mode



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

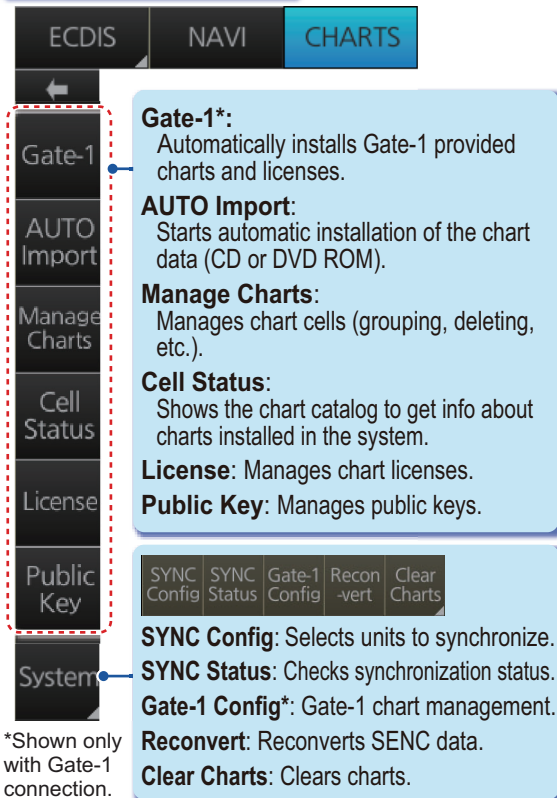
**Route**  
User Chart  
**Route:** Creates a route (see page 5).  
**User Chart:** Creates a user chart (see page 7).

**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.

### 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.

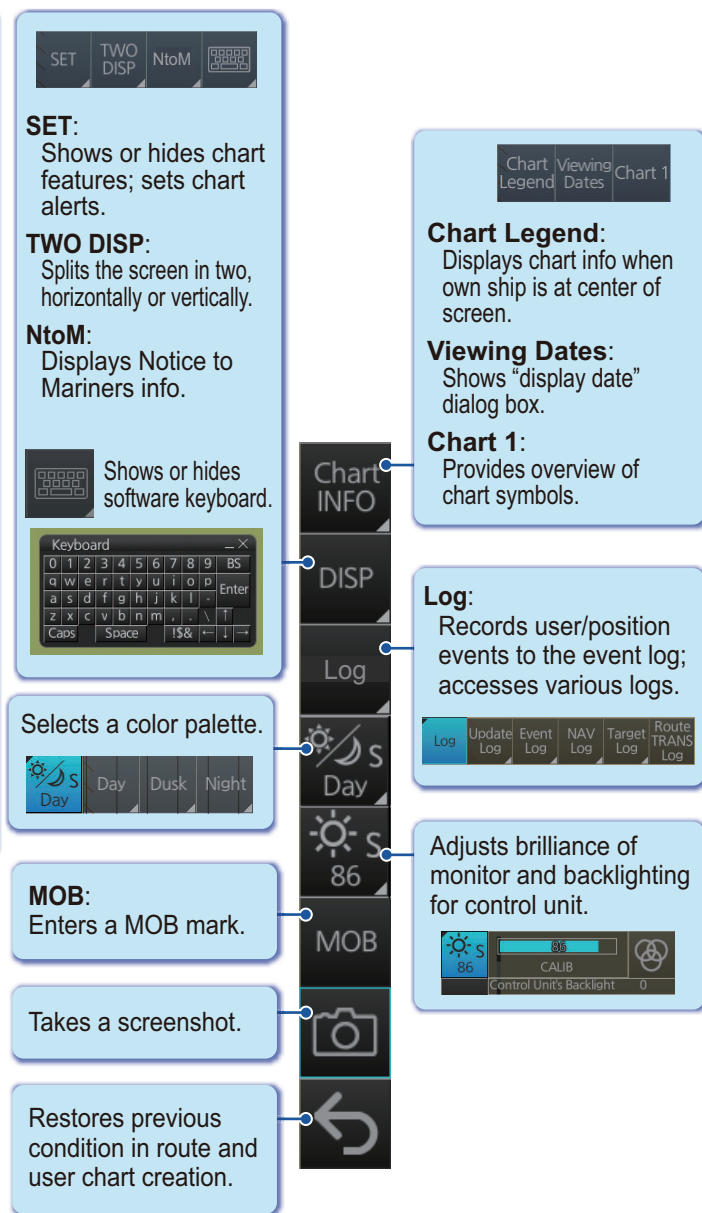
**Gate-1 Config\***  
Gate-1 chart management.

**Reconvert**  
Reconverts SENC data.

**Clear Charts**  
Clears charts.

\*Shown only with Gate-1 connection.

## 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.**

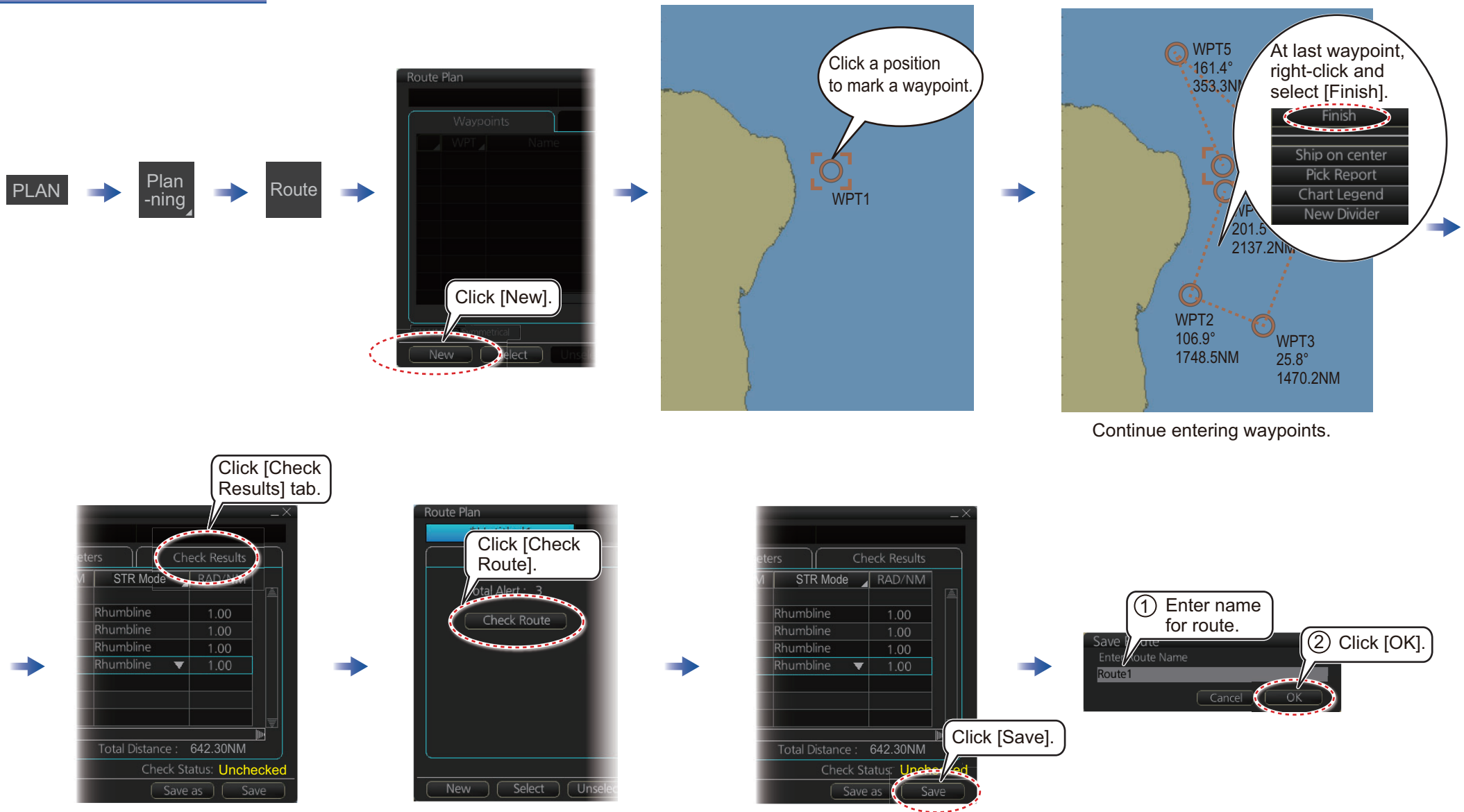
**MOB**  
Enters a MOB mark.

**Takes a screenshot.**

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

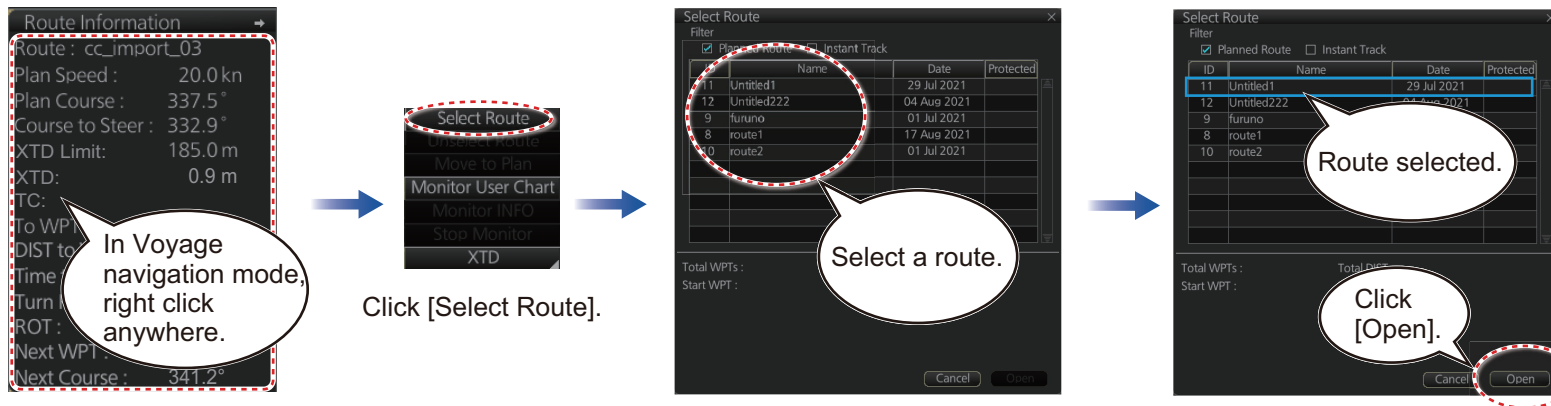
## Routes

## How to create, check a route



## Routes (continued)

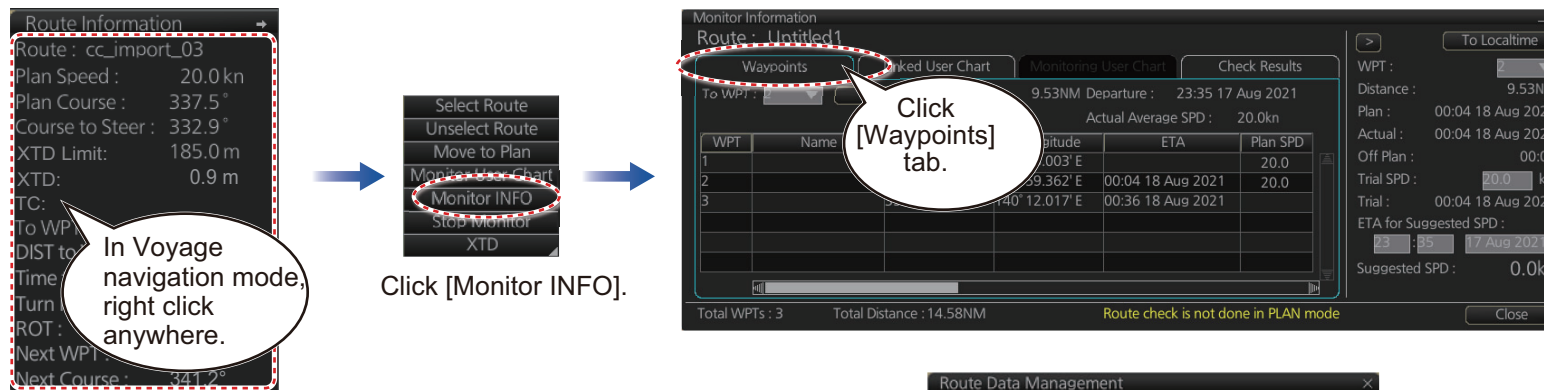
### How to select a route to monitor



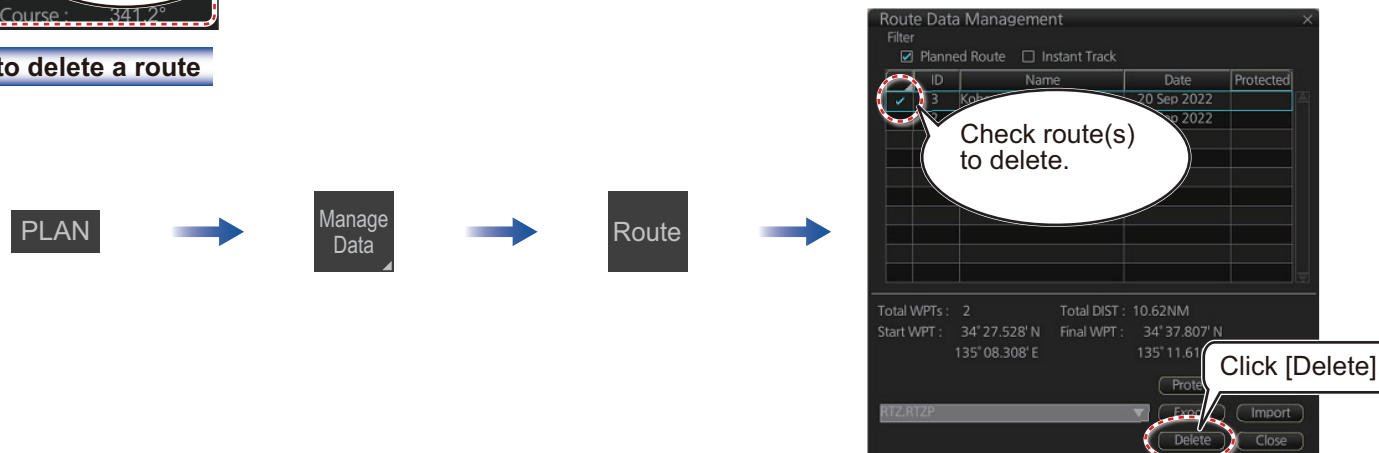
To stop monitoring a route:



### How to view route waypoint information



### How to delete a route



## User Charts

### How to create a user chart

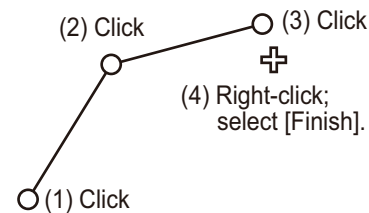


Click object to draw.

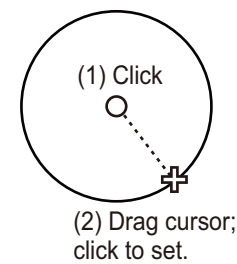
|                                                  |  |  |                                                                            |
|--------------------------------------------------|--|--|----------------------------------------------------------------------------|
| <b>Tidal:</b><br>- Current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



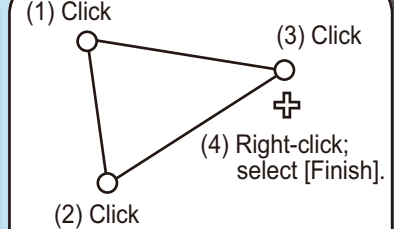
#### How to create a line



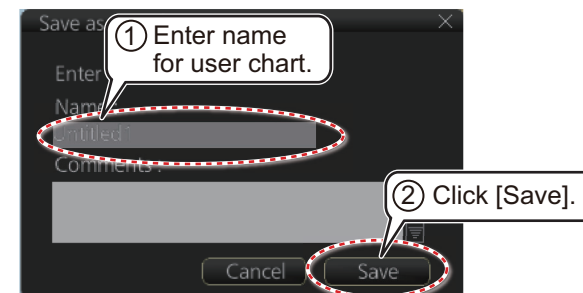
#### How to create a circle



#### How to create an area

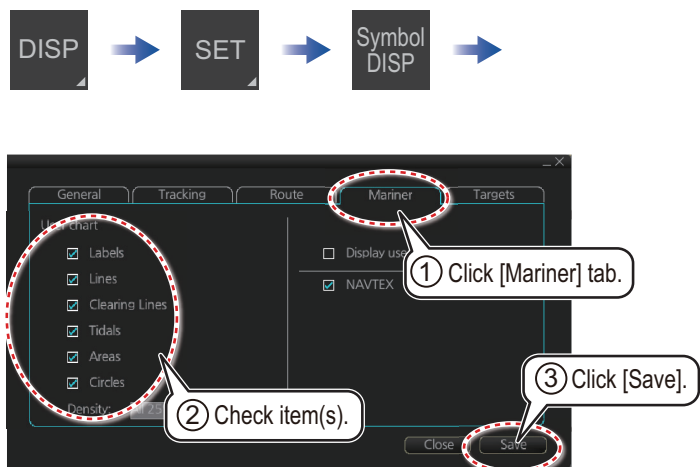


Example objects

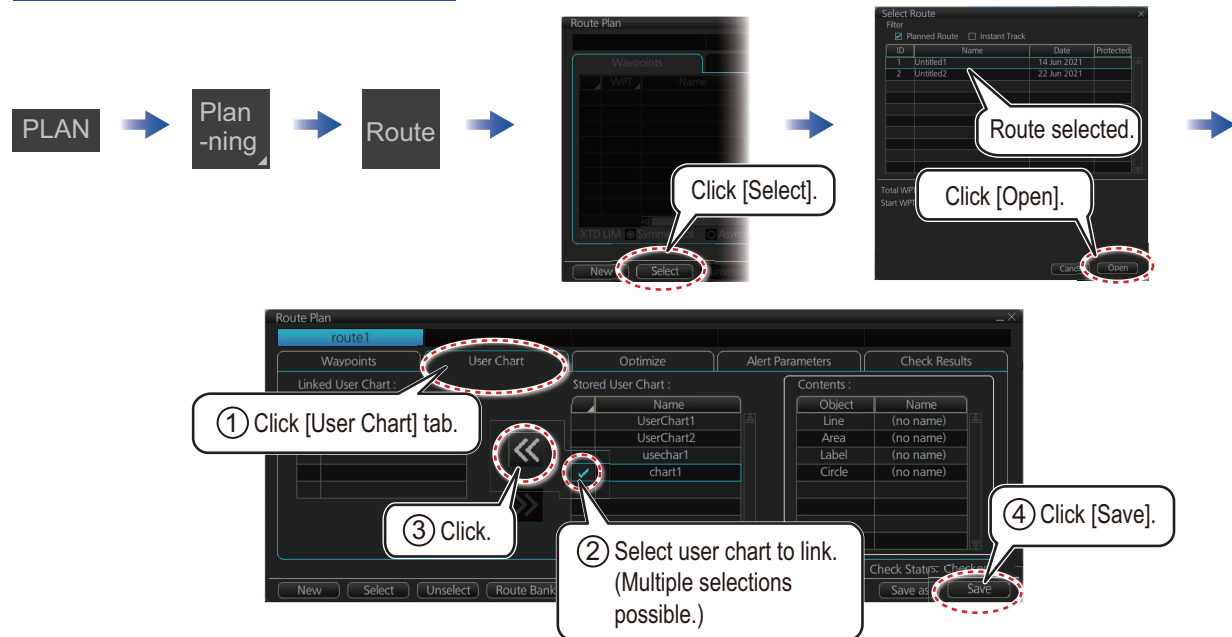


## User Charts (continued)

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

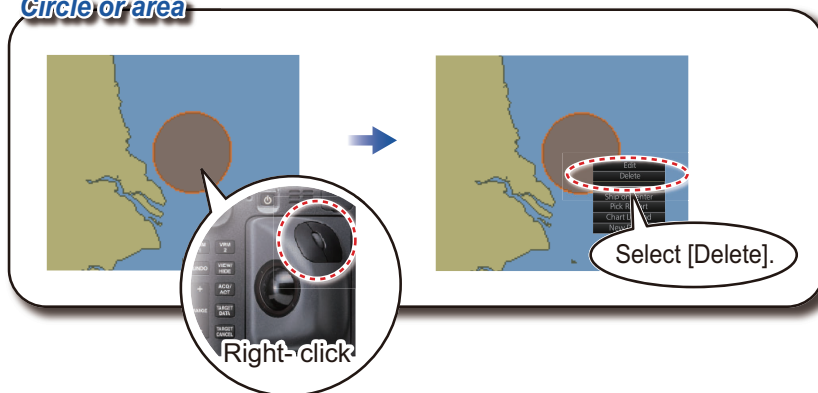


### How to link a user chart to a route

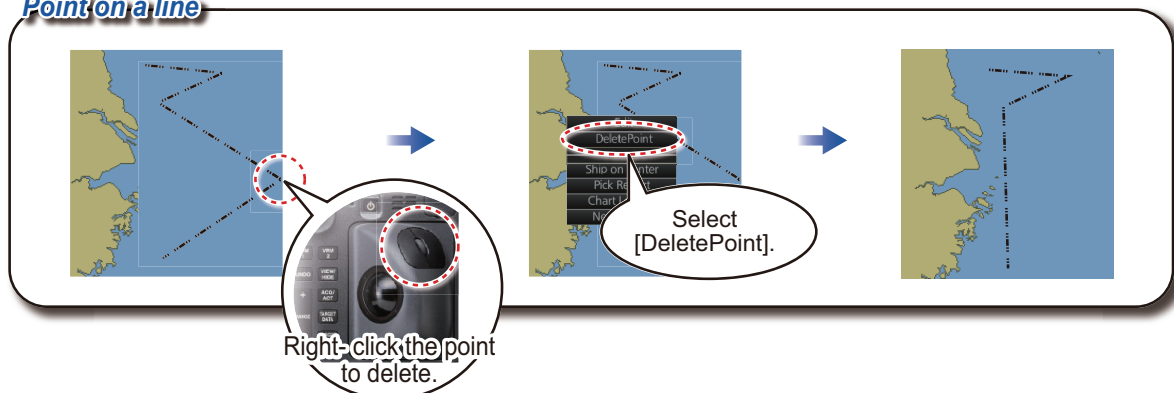


### How to delete objects from a user chart

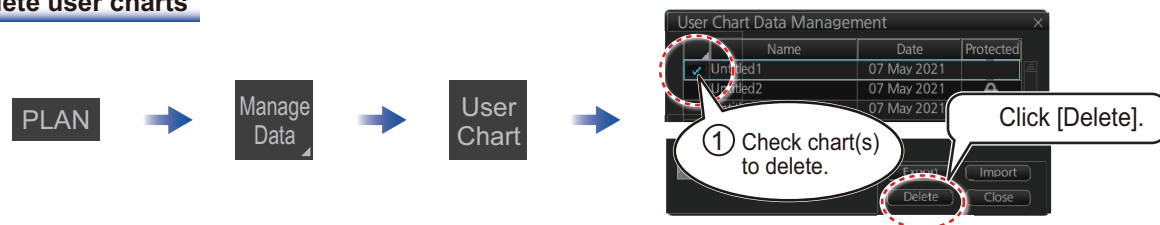
#### Circle or area



#### 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

Light Popup:

Attributes Display:

TM Reset:

General Standard Other Text NtoM

Symbols:

Boundaries:

☐ Four Shades

☐ Full Light Lines

☐ Scale MIN

☐ Shallow Pattern

☐ Shallow Water Dangers

☐ Unknown

☐ Accuracy

☐ Highlight Date Dependent

☐ Highlight INFO

☐ Highlight Document

☐ Contour Labels

☐ LAT/LON Grid

General Standard Other Text NtoM

☐ Important Text  
(Clearances, Bearings, Routes, Radio Channels)

☐ Other Text

☐ Names

☐ Light Description

☐ All Other

☐ Nature of Seabed

☐ Magnetic Variation and Sweep

☐ Depth

☐ Height of Islet or Land Feature

☐ NtoM

☐ Others

General Tracking Route Mariner Targets

Ship Outlines:

AIS Outlines:

True outlines shown if  > limit

Own Ship Limit = 3 mm

AIS Limit = 3 mm

Wind report:

Wind report Color:

Wind Text:

Velocity Vectors:

Ship Vectors:

Target Vectors:

Style:

☐ Time Increments

☐ Path Predictor

☐ Radar Antenna

General Tracking Route Mariner Targets

User chart

☒ Labels

☒ Lines

☒ Clearing Lines

☒ Tidal

☒ Areas

☒ Circles

Density:

☐ Display user chart symbol name

☒ NAVTEX

General Standard Other Text NtoM

☐ 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

☐ Miscellaneous

General Standard Other Text NtoM

AIO

☒ Temporary Notice

☒ Preliminary Notice

☒ No Information

C-MAP

☒ Temporary Notice

☒ Preliminary Notice

☒ No Information

General Tracking Route Mariner Targets

Own Ship Past Tracks

☐ CCRP

☐ Primary

☐ Secondary

☐ Pivot

Style:

Length:  min

Labels:  min

Events

☐ User Events

☐ Auto Events

☐ Position Events

Show:

General Tracking Route Mariner Targets

Color:

AtoN Symbol Color:

TT Size:

AIS ROT TAG Limit:  1/min

TT Label:

AIS Label:

TT Pop-up INFO:

AIS Pop-up INFO:

Past Position

TT/AIS Points:

Style:

Unread AIS MSG:

General Standard Other Text NtoM

☐ Spot Soundings

☐ Submarine Cables and Pipelines

☐ All Isolated Dangers

☐ Magnetic Variation

☐ Depth Contours

☐ Seabed

☐ Tidal

☐ Natural and Man-made Features

☐ Port Features

☐ Miscellaneous

General Tracking Route Mariner Targets

Monitored Route

☐ XTD Limit

☐ Safety Margin

☐ Leg Marks

☒ True ☒ Relative

☐ Wheel Over Line

☐ Pop-up ETA

Planned Route

☐ XTD Limit

☐ Safety Margin

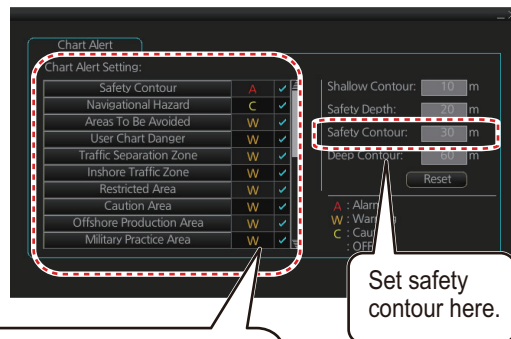
☐ Leg Marks

☒ 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

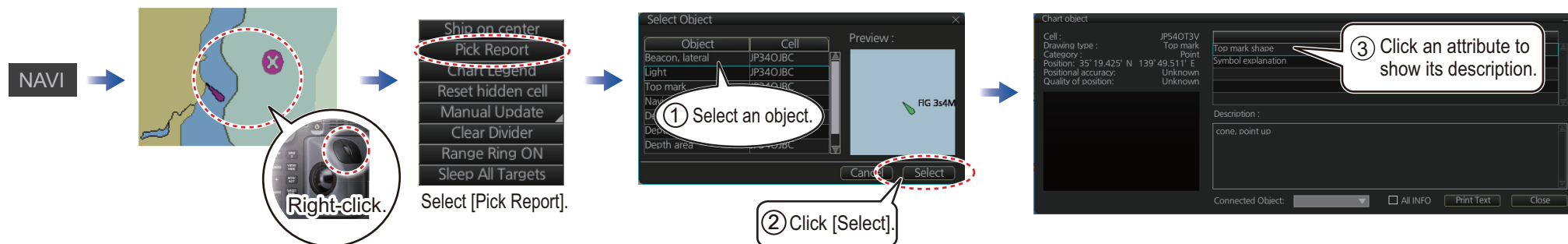
**W** (Warning): Visual indication

**C** (Caution): No indication

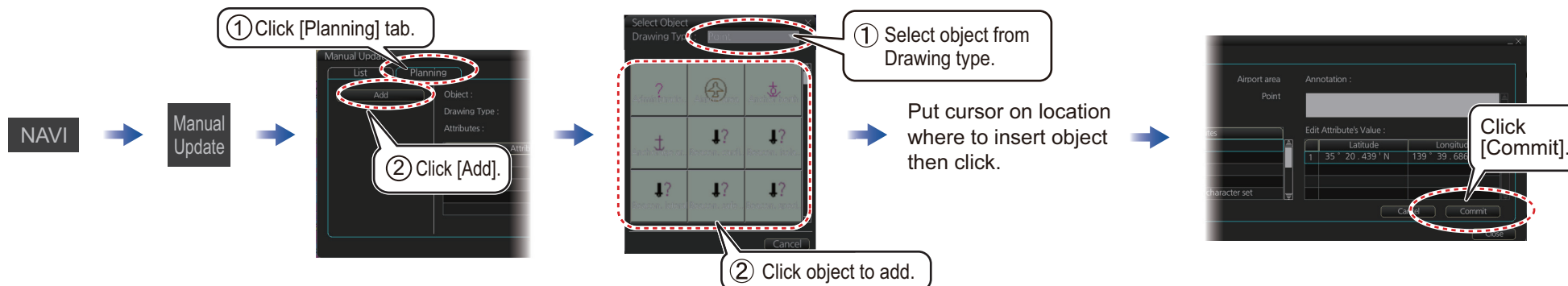
Click icon to switch between **C** and **W** vice versa.

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.

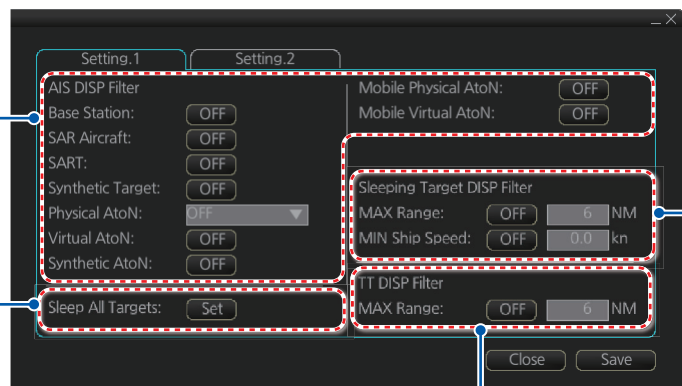


### How to filter TT and AIS displays, sleep all targets

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

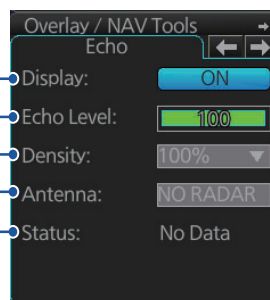
Activates, deactivates the radar overlay.

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



00020217710

## Alert Icons and Their Meanings

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