

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 FURUNO monitor.
Push: Selects a color palette.
- A/C RAIN, A/C SEA knob**
No use.
- GAIN knob**
No use.

Status LED
The color and state of the LED change according to alert status.
Green, flashing: Heater on CPU board is on.
Green, lighting: Normal operation status; no alerts generated.
Red, flashing: Alert generated (not acknowledged).
Red, lighting: SYSTEM FAIL or alert generated (acknowledged).

Rotary encoder for VRM
Adjusts the active VRM.
VRM1, VRM2
Activates, deactivates respective VRM.

POWER switch
Turns the system on or off. (This switch 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.



Trackball module
Operates like a PC mouse.

Keyboard
A keyboard for entering alphanumeric data.

MFD key
Toggles ECDIS and CONNING 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.

ACQ/ACT key
Activates selected sleeping AIS target.

TARGET DATA key
Displays the detailed target data for selected TT, AIS target.

TARGET CANCEL key
Sleeps selected activated AIS target.

Display Layout

Status bar (See page 3.)



InstantAccess bar

(See page 4.)

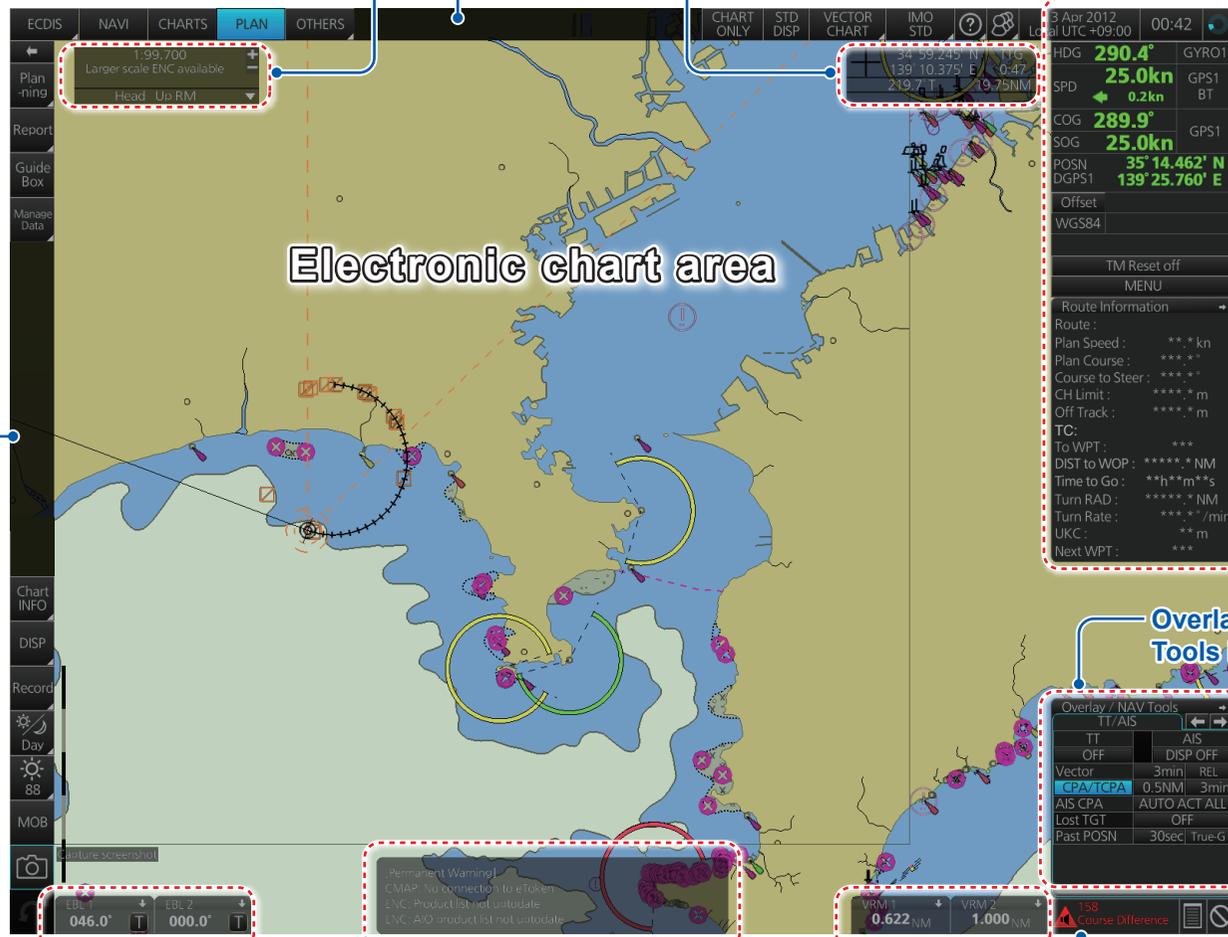


Upper section

Lower section

Chart scale/presentation mode box

Cursor position box



Electronic chart area

EBL1 box, EBL2 box

Permanent warnings box

VRM1 box, VRM2 box

Sensor information box

HDG	2.0°	GYRO1
SPD	-19.8kn	GPS1
	← 1.5kn	BT
COG	186.3°	GPS1
SOG	19.9kn	
POSN	33° 59.343' N	
DGPS1	134° 47.327' E	

Own ship functions box

Offset
WGS84
TM/CU Reset

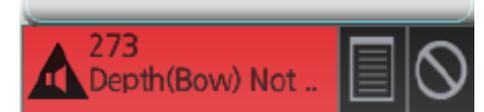
Route information box

MENU	
Route Information →	
Route:	
Plan Speed:	**.* kn
Plan Course:	****.*
Course to Steer:	****.*
CH Limit:	****.* m
Off Track:	****.* m
TC:	
To WPT:	***
Dist WPT:	****.* NM
Time:	****
Turn RAD:	****.* NM
Turn Rate:	****.* /min
UKC:	** m
Next WPT:	***

Overlay/NAV Tools box

Overlay / NAV Tools	
TT/AIS	
TT	AIS
OFF	DISP OFF
Vector	3min REL
CPA/ICPA	0.5NM/ 3min
AIS CPA	AUTO ACT ALL
Lost TGT	OFF
Past POSN	30sec True-G

Alert box



Status Bar

Status bar



How to open a drop-down list

Indicates a drop-down list.



Click button



Drop-down list



OTHERS: Plays back log; sets system in standby.

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 or Conning.



Chart priority:
Selects which chart type to display, vector or raster, when both are available.

User profiles, Settings menu:
Manages user profiles; opens the Setting menu.

Spinner:
Rotates clockwise if the system is working properly.

STD DISP:
Restores IMO standard display.

Chart database:
Displays the operator's manual, ECDIS program no. and system information.

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

Time:
Time (local or UTC).

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

Chart database:
Selects the pre-defined presentations of ENC content: IMO BASE, IMO STD or IMO ALL.

Instant Access Bar

Upper section (by operating mode)

Voyage navigation mode

MSG:
Opens the Message dialog box to manage AIS Safety and NAVTEX messages.



Manual Update:
Opens the Manual Update dialog box to insert chart update symbols manually.



Select:
Opens the Select Route dialog box to select the route to follow.

Unselect:
Stops following a route.

Move to Plan:
Switches mode to Voyage planning mode to edit route selected.

Route INFO:
Displays the Route Information dialog box.

GoAW, GoSEA:
Activates respective steering mode.

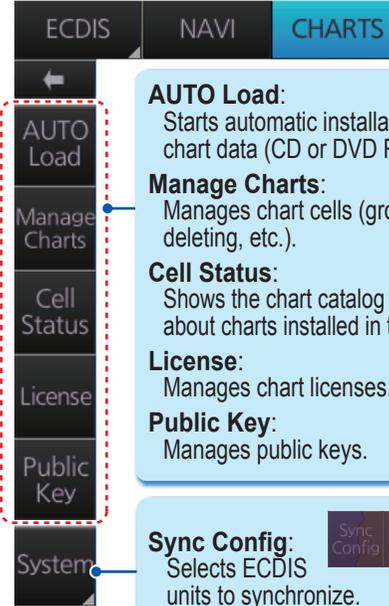
Status:
Shows or hides the Track Control Status window.

TCS OP.:
Starts the TCS.

TCS Stop:
Stops the TCS.



Chart maintenance mode



AUTO Load:
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 ECDIS units to synchronize.

Sync Status:
Displays sync status; does sync status functions.

Reconvert:
Reconverts SENC to previous state.

Lower section



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

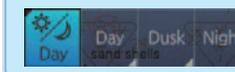
TWO DISP:
Splits the screen in two, horizontally or vertically.

AIO:
Displays Admiralty Information Overlay.

Shows, hides software keyboard.



Selects a color palette.



MOB:
Marks man overboard position.

Takes a screenshot.

Undoes past action (route, user chart).

Mini Conning:
Shows, hides the mini conning display, available in the Voyage navigation mode.



Chart Legend:
Finds data about current chart.

Viewing Dates:
Sets "display date" and "approved until" dates.

Chart 1:
Provides overview of ECDIS chart symbols.

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

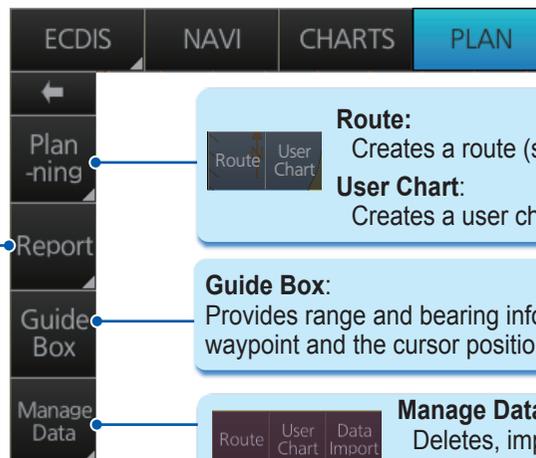
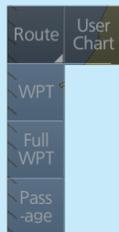


Adjusts brilliance of FURUNO monitor.



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; exports routes and route data.

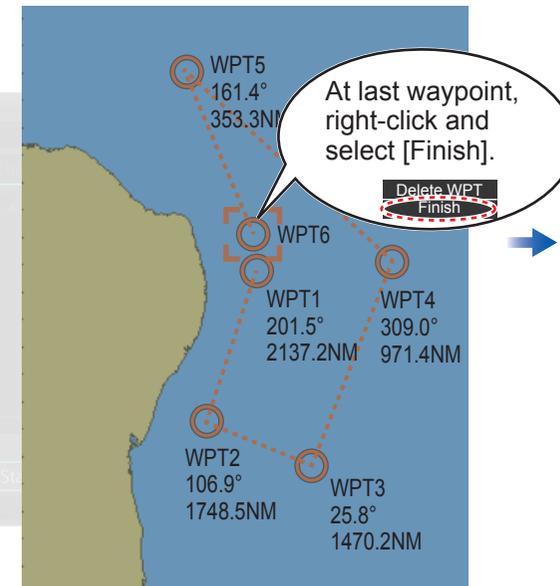
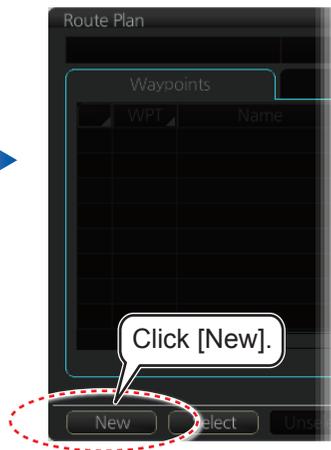
Routes

How to create a route

PLAN

Plan-ning

Route



Continue entering waypoints.

Optimize	Alert Parameters	Check Results		
Longitude	Leg/°	Leg/NM	Str Mode	RAD/NM
142° 03.688 'E				
145° 03.494 'E	88.1	170.8	Rhumbline	1.00
145° 09.831 'E	356.3	168.4	Rhumbline	1.00
142° 05.139 'E	274.3	137.1	Rhumbline	1.00
141° 08.054 'E	166.0		Rhumbline	1.00

Total WPTs : 5 Total Distance : 642.3NM

Check Status: U

Save as Save

Click [Save].



Routes (con't.)

How to select a route to navigate

Route Information

Route : *****

Plan Speed : *****

Plan Course : *****

Course to Steer : *****

CH Limit : ***** m

Off Track : ***** m

To WPT : *****

DIST to WOP : ***** NM

Time to Go : *****s

Turn RAD : ***** NM

Turn Rate : ***** /min

UKC : ***** m

Next WPT : *****

Right-click [Route].

Select Route

Move to Plan

Route INFO

Click [Select Route].

Select Route

Name	Date
Route32	15 Nov 2012
AAAAAA	15 Nov 2012
Route67	13 Nov 2012

Total WPT : Total Dist :
Start WPT : Final WPT :

Cancel Open

Select a route.

Select Route

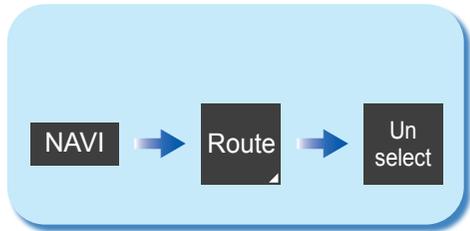
Name	Date
Route32	15 Nov 2012
AAAAAA	15 Nov 2012
Route67	13 Nov 2012

Total WPT : 3 Total Dist : 173.7NM
Start WPT : 17° 09.565' N Final WPT : 18° 46.104' N
126° 50.197' E 124° 20.784' E

Cancel Open

Route selected.

Click [Open].



How to view route waypoint information

Route Information

Route : *****

Plan Speed : ***** kn

Plan Course : *****

Course to Steer : *****

CH Limit : ***** m

Off Track : ***** m

To WPT : *****

DIST to WOP : ***** NM

Time to Go : *****s

Turn RAD : ***** NM

Turn Rate : ***** /min

UKC : ***** m

Next WPT : *****

Select Route

Unselect

Route Info

Click [Route Info].

Route Information

Route : AAAAAA

Waypoints

User Chart

To WPT : 2

Actual Average SPD : 25.0kn

WPT	Name	Latitude	Longitude	ETA	Plan SPD
1		43.949° E		14:01 15 Nov 2012	20.0
2		024° 34.105' E		15:15 15 Nov 2012	20.0
3		61° 44.404' N	024° 15.779' E	16:15 15 Nov 2012	20.0
4					

Total WPTs : 4 Total Distance : 60.5NM

Not checked against ENC Chart

Close

Click [Waypoints] tab.

How to delete a route

PLAN

Manage Data

Route

Route Data Management

Name
Route1
Route2
Route3

Total WPT : 4 Total Dist : 4.2nmw
Start WPT : 35° 17.217' N Final WPT : 35° 14.133' N
139° 47.229' E 139° 47.092' E

Cancel Delete

① Check route(s) to delete.

② Click [Delete].

User Charts

How to create a user chart



Tidal:
- Predicted - Current

Line:
- Coast - Route
- Nav - Depth

Clearing Line:
- NMT - NLT

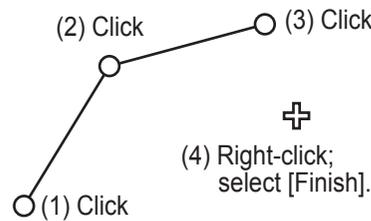
Area

Circle

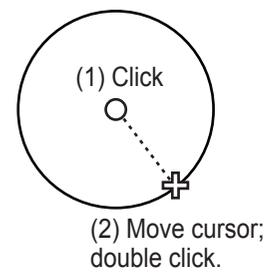
Label

Click object to draw.

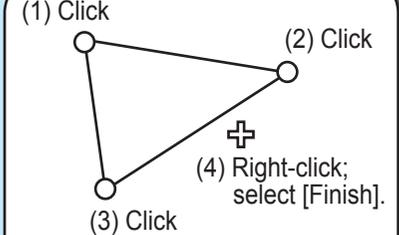
How to draw a line



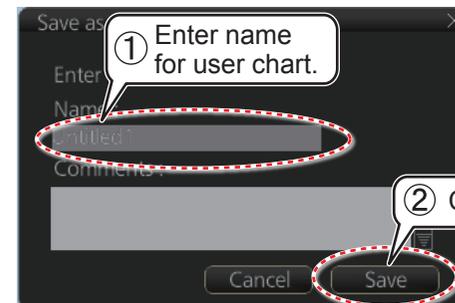
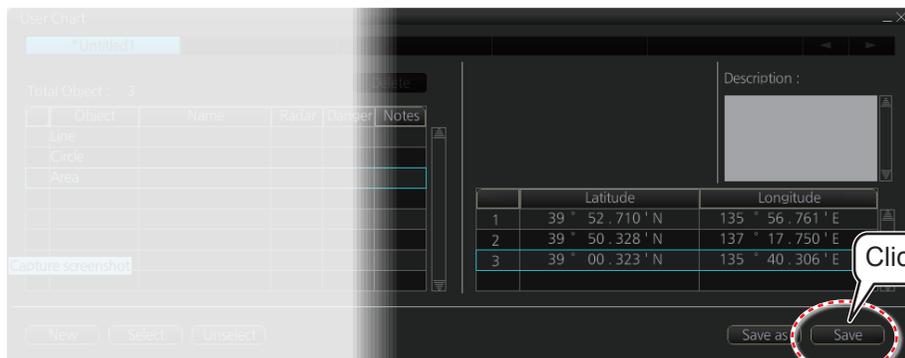
How to draw a circle



How to draw 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.

Select [DeletePoint].

How to delete user charts

PLAN → Manage Data → User Chart →

① Check chart(s) to delete.

② Click [Delete].

Name	Date
UserChart1	15 Nov 2012
UserChart2	15 Nov 2012
UserChart3	15 Nov 2012

Chart Operations

How to control visibility of chart objects

DISP

SET

Chart
DISP

Basic
Setting

Symbol
DISP

Control basic
chart settings

Control chart
objects

Control navigational
features

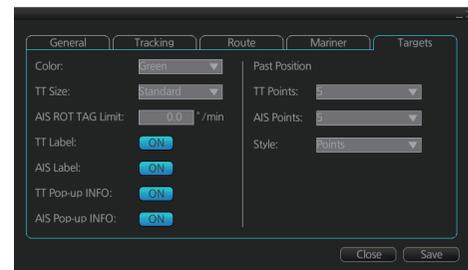
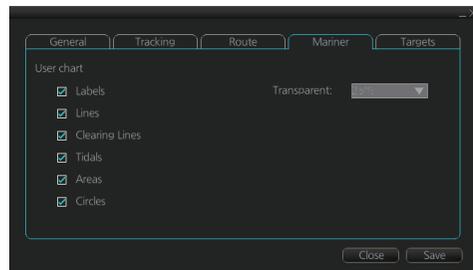
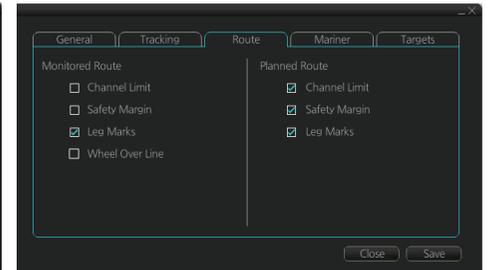
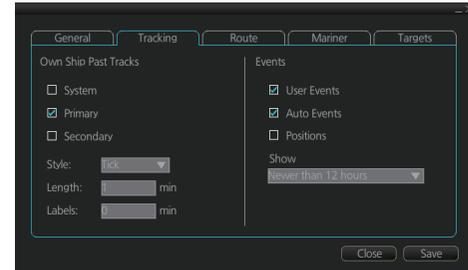
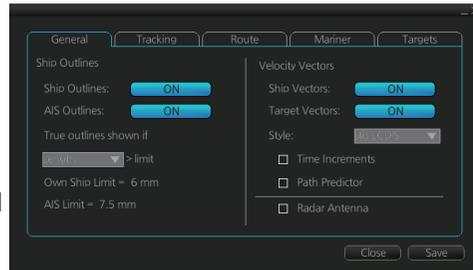
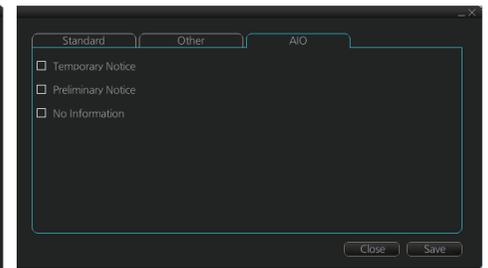
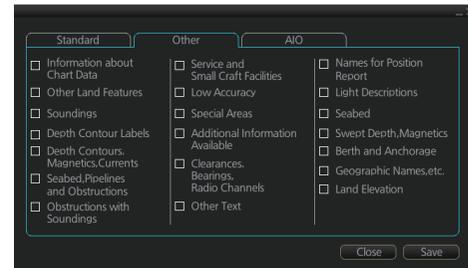
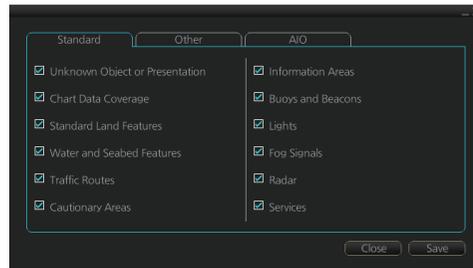
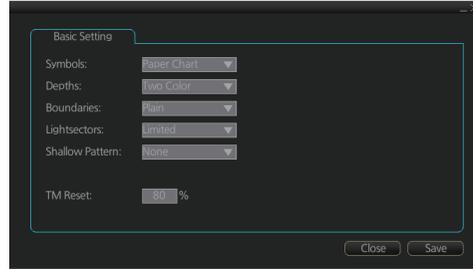


Chart Operations

How to set safety contours and chart alerts

DISP → SET → Chart Alert

Chart Alert Setting

- Safety Contour ✓
- Areas To Be Avoided ✓
- User Chart Danger ✓
- Traffic Separation Zone ✓
- Inshore Traffic Zone ✓
- Restricted Area ✓
- Caution Area ✓
- Offshore Production Area ✓
- Military Practice Area ✓
- Seaplane Landing Area ✓

Shallow Contour: 0 m
Safety Contour: 0 m

Reset

Set safety contours here.

Click to put checkmark:
Red (✓): Audio+visual alerts
Yellow (✓): Visual alert

How to set Display date and Approved until dates

Chart INFO → Viewing Dates

Viewing Date

Today(UTC) : 26 Mar 2012

Display date

AUTO : Today
 Manual

Approved until

26 Mar 2012

Approve All

Set Manually

Click [Approve All].

How to find chart object information (ENC chart)

NAVI

Right-click.

Ship off center
Object INFO
Chart Legend
Manual Update

Select [Object INFO].

Select Object

Object	Cell	Preview
Wreck	JP14IG10	
Depth area	JP14IG10	
Depth area	JP14IG10	
Chart	JP14IG10	
Navigation		

1 Select an object.

2 Click [OK].

Chart object

Cell : JP14IG10

Drawing type : Wreck

Category : Point

Attributes

- Category of wreck
- Quality of sounding measurement
- Scale minimum
- Water level effect

Description :

Close

How to manually insert a "new" chart object

NAVI → Manual Update

1 Click [Planning] tab.

2 Click [Add].

1 Select object from Drawing type.

2 Click object to add.

Put cursor on location where to enter object then click.

Click [Commit].

Manual Update

Planning

Add

Select Object

Drawing Type

Object : Manual

1 Select object from Drawing type.

2 Click object to add.

Chart object

Object : Airport area

Drawing Type : Point

Category : Airport area

Description :

Edit Attribute's Value :

Latitude	Longitude
1 36 30.307" N	142 24.074"

Commit

TT/AIS Operations

How to find target info

Click a target to show its information.

TT Info
TT No. TT 06
Close

Bearing BRG 102.9 °T
Range RNG 7.800 NM
Course over ground COG 270.0 °T
Speed over ground SOG 10.0 kn
CPA CPA 0.100 NM
TCPA TCPA 00:06
Bow cross range BCR **.* NM
Bow cross time BCT **.*

TT symbols (main)

Symbol (Color)	Name
● (Green)	Past position marker
○ (Green)	Target under acquisition
○ (Green)	Acquired target

AIS Info
Expand
Close

MMSI MMSI 000001003
Vessel name VESSEL B

Bearing BRG 141.5 °T
Range RNG 74.57 NM
Course over ground COG 90.0 °T
Speed over ground SOG 14.0 kn
CPA CPA 28.58 NM
TCPA TCPA -79:29
Bow cross range BCR 104.0 NM
Bow cross time BCT >99:59
Position 34° 17.923' N
140° 39.636' E

HDG 90.0 °T
ROT +0.0° /min
NAV status: Underway using engine

AIS symbols (main)

Symbol (Color)	Name
● (Green)	Past position marker
△ (Green)	Sleeping AIS target
△ ^{ABC} (Green)	Activated AIS target

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

Shows, hides TT display.

Shows, hides AIS display.

Enables, disables TT/AIS CPA/TCPA alarm.

Sets TT/AIS lost target alarm conditions.

Select past position point interval (time).

Selects reference for TT/AIS past position display.

Sets TT/AIS vector time.

Selects TT/AIS vector reference.

Sets CPA and TCPA conditions for TT/AIS CPA/TCPA alarm.

Sets conditions for automatic activation of AIS targets whose CPA is within CPA/TCPA setting.

Vector
(ex. TT)

AUTO ACT FILT
(ex. AIS)

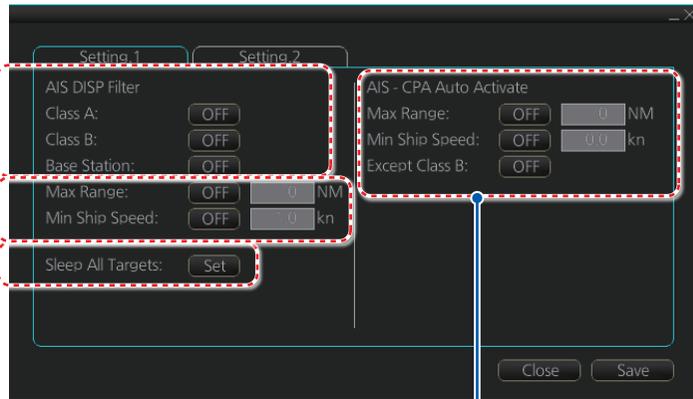
TT/AIS Operations (con't)

Open the menu, select TT/AIS Setting and then Setting.1 or Setting.2 as appropriate.

AIS filter, how to sleep all AIS targets, auto activation of AIS targets by CPA

Filters AIS targets by target category.

Filters AIS targets by range, speed.
Sleeps all activated AIS targets.

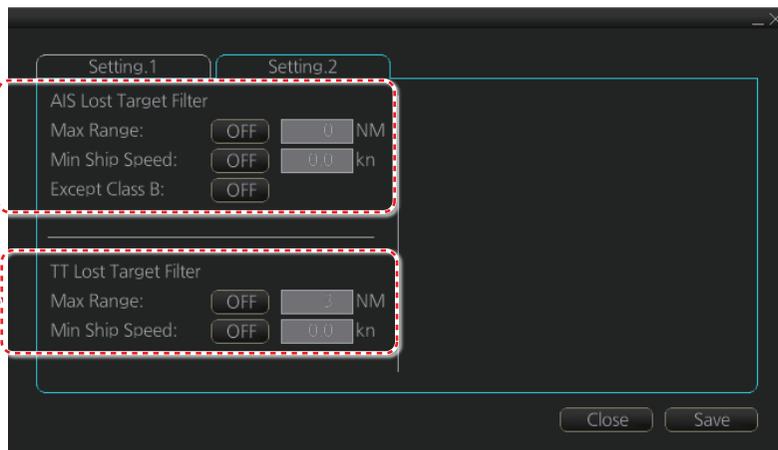


Sets the conditions to activate an AIS target when its CPA is within the CPA alarm setting.

AIS and TT lost target filters

Sets the conditions for the AIS lost target filter.

Sets the conditions for the TT lost target filter.



Radar Overlay

Activates, deactivates the radar overlay.

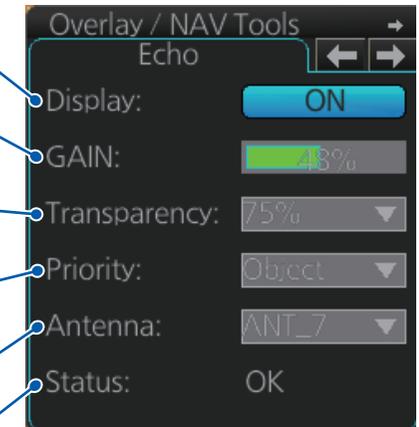
Adjusts the picture gain.
Put the cursor on the bar then roll the scrollwheel.

Sets the degree of transparency for the overlay.

Sets the item to display when a chart object and a radar echo share the same position.

Selects the antenna to feed the radar echo data.

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



Radar echo

