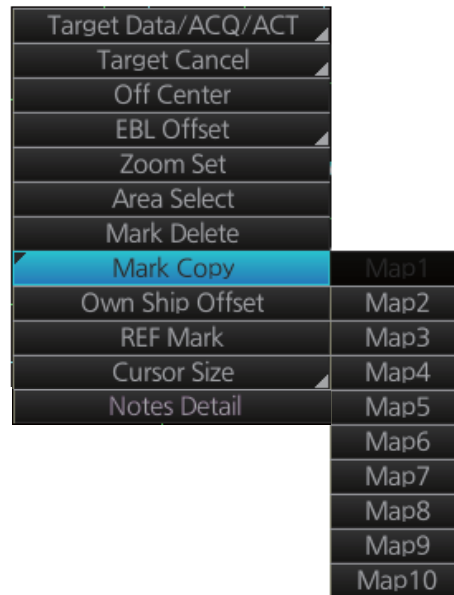


5.9 How to Copy Radar Map Marks and Lines

5.9.1 How to copy individual radar map mark and line to another map file

You can copy individual mark and line from the currently displayed radar map to the radar map file of your choice.

1. Right-click the display area to show the context-sensitive menu.
2. Click [Mark Copy] then click the map file no. where to copy the mark.



3. Put the (light-blue) cursor on the mark or line then click.

5.9.2 How to copy radar map marks and lines within an area to another map file

You can copy radar map marks and lines within an area of the currently displayed radar map to the radar map file of your choice.

1. Right-click the display area to show the context-sensitive menu.
2. Click [Area Select].
3. Specify the area as follows.
 - 1) Put the cursor on the start point and push the left button.
 - 2) Drag the cursor diagonally to the end point and push the left button.
All marks and lines within the area selected are highlighted in blue (A and B types only).
4. Right-click to show the context-sensitive menu.

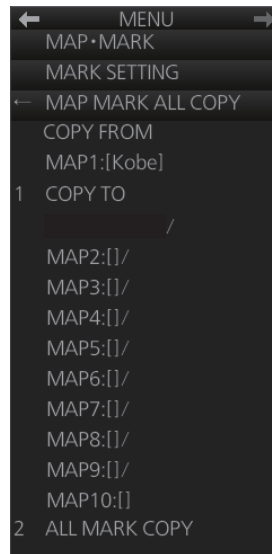


5. Click [Area Mark Copy] then click the map file number where to copy the marks and lines.

5.9.3 How to copy all radar map marks and lines in a map file to another map file

You can copy all radar map marks and lines in the currently displayed radar map to the radar map file of your choice.

1. Display the map file of which to copy all its marks and lines. See section 5.6.
2. Right-click the [Mark] box then click [Map•Mark Menu].
3. Select [1 MARK SETTING].
4. Select [9 MAP MARK ALL COPY] (B type) or [8 MAP MARK ALL COPY] (IMO and A types).

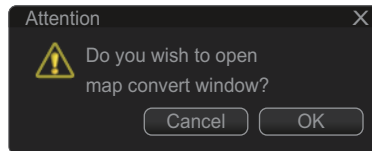


5. Select [1 COPY TO] then select where to copy the map marks and lines.
6. Select [2 ALL MARK COPY]. The confirmation message "Attention: Do you wish to copy all map mark?" appears. Click the [OK] button to copy.
7. Close the menu.

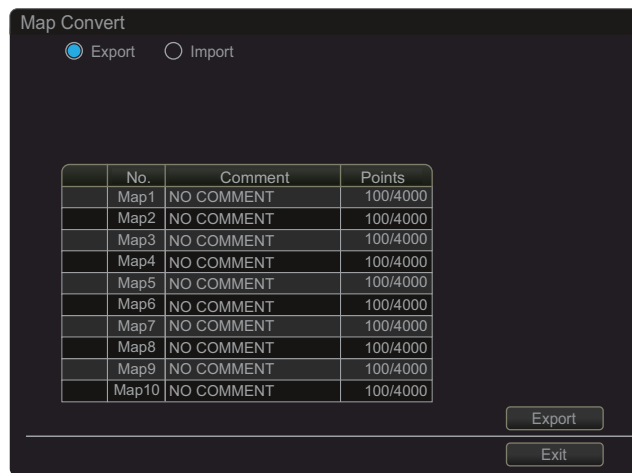
5.10 How to Export Radar Map

You can export a radar map to a USB flash memory.

1. Set the USB flash memory in the USB port on the Control Unit.
2. Open the menu then select the [5 MAP•MARK] and [1 MARK SETTING] menus.
3. Go to page 2 of the menu, select [1 MAP MARK MANAGE]. The confirmation message appears.



4. Click the [OK] button to show the [Map Convert] dialog box.

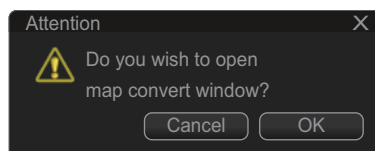


5. Check [Export] at the top-left position of the dialog box.
6. Check the radar map(s) (Map1 to Map10) to export.
7. Click the [Export] button to show the [Save file] dialog box.
8. Select the USB flash memory as the destination to save then click the [Save] button. After the data export is completed, the message "x file(s) have exported success." appears (x is the number of the radar map(s)).
9. Click the [OK] button.

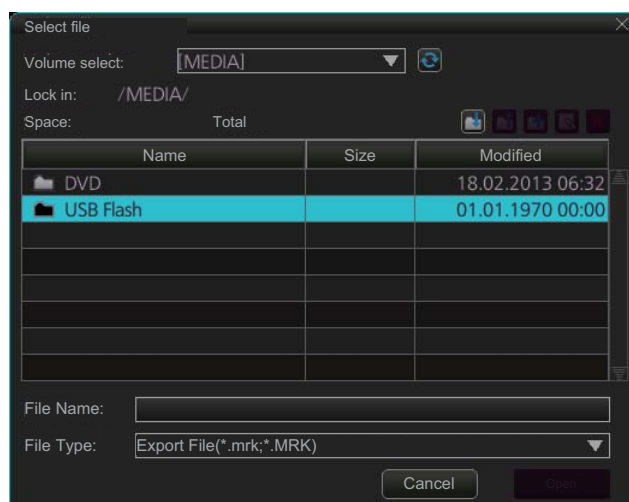
5.11 How to Import Radar Map

You can import a radar map created on another equipment (FAR-3xx0 or FAR-2xx7). Copy the radar maps to a USB flash memory.

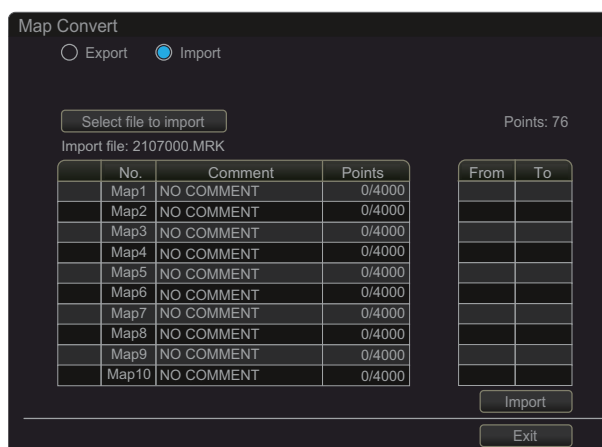
1. Set the USB flash memory that contains the radar map(s) to import in the USB port on the Control Unit.
2. Open the menu then select the [5 MAP•MARK] and [1 MARK SETTING] menus.
3. Go to page 2 of the menu, select [1 MAP MARK MANAGE]. The confirmation message appears.



4. Click the [OK] button to show the [Map Convert] dialog box.
5. Check [Import] at the top-left position of the dialog box then click the [Select file to import] button to show the [Select file] dialog box.



6. Select the folder that contains the file to import then click the [Open] button to show the [Map Convert] dialog box.

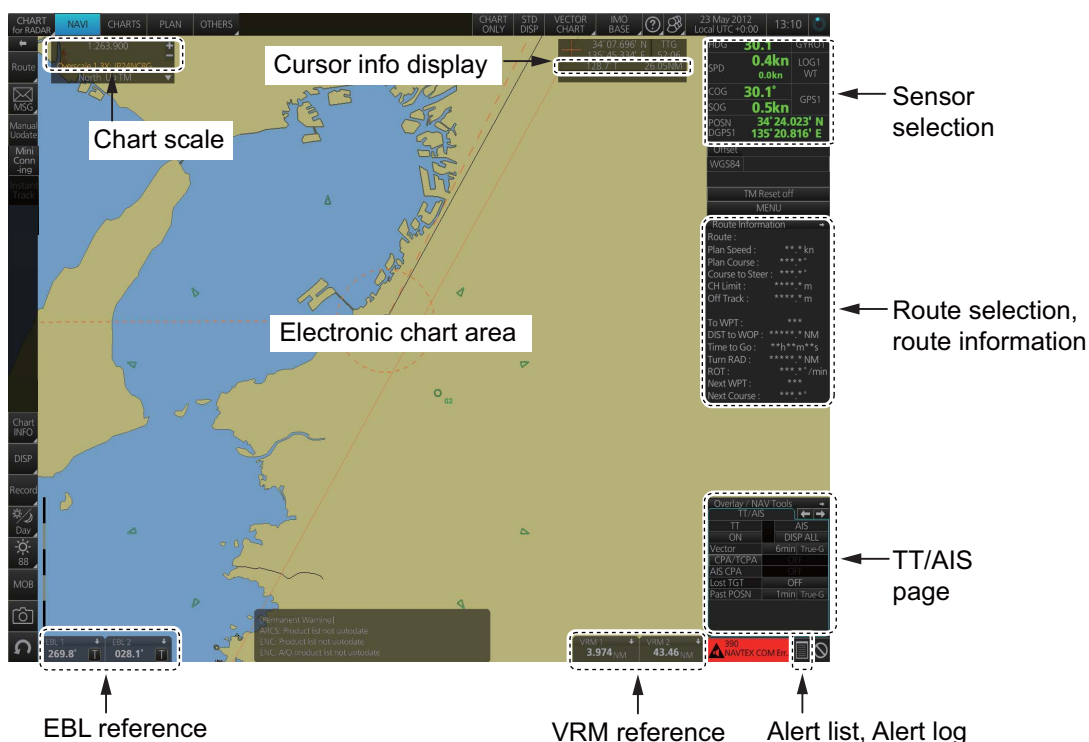


7. Check the radar map(s) (Map1 to Map10) to which the data created on another equipment are imported.
8. Click the [Import] button to import the data to the radar map(s) selected at step 7.

Note: When importing a radar map created on another FAR-2xx7, the radar maps marks and lines are converted. See the tables on pages 5-11 and 5-12.

6.1.11 Context-sensitive menus

Context-sensitive menus are available at the locations shown below. Right-click the applicable area then select the appropriate item from the menu. The availability of the context-sensitive menu depends on the mode in use, as shown in the table below.



Item	Functions	Mode and availability		
		NAVI	CHARTS	PLAN
Chart scale	Drop-down list of chart scales.	Yes	Yes	Yes
Cursor info display	Switch cursor displays.	Yes	Yes	Yes
Sensor selection	Select sensors.	Yes	Yes	Yes
Route selection, route information	Select route; unselect route; move route to plan; show route info.	Yes	No	No
TT, AIS page	Access TT, AIS functions.	Yes	Yes	Yes
Alert list, Alert log	Open alert list, alert log.	Yes	Yes	Yes
VRM reference	Select VRM reference; offset (heading or north).	Yes	Yes	Yes
EBL reference	Select EBL reference; offset (heading or north).	Yes	Yes	Yes
Electronic chart area	Ship offcentering, centering; object info; chart legend; manual update; divider; hide MOB.	Yes	No	Yes*

* Hide MOB only

6.1.12 How to enter alphanumeric data

On some screens it is necessary to enter alphanumeric data. The data can be input two ways: software keyboard or trackball.

Alphanumeric data entry from the software keyboard

A software keyboard is also available for entry of alphanumeric data. Do as follows to use the software keyboard. Display the keyboard before opening menus.

1. On the InstantAccess bar, press the [DISP], [] and [ON] buttons to show the software keyboard. The [BS], [Enter], [↑], [↓], [←], [→] and [Space] on the keyboard function the same as those keys on the keyboard of the Control Unit.



2. To switch between the alphabet keyboard and symbols keyboard, click the [!\$&] key.



Alphabet keyboard



Symbols keyboard

3. Click the input box.
4. Click appropriate keys and finally click the [Enter] key.

To erase the software keyboard, click the X button at the top right corner of the keyboard.

Alphanumeric data entry with the trackball module

The trackball module can also be used to enter alphanumeric data.

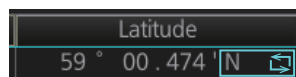
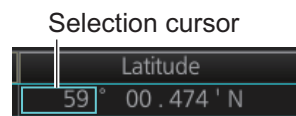
1. Put the cursor in the input box. Up and down arrows appear at the right side of the box.
2. Enter data by one of the methods shown below.
 - Spin the scrollwheel to set data. Upward to decrease the value; downward to increase the value.
 - Click ▲ to increase the value; ▼ to decrease the value.



How to enter latitude and longitude data with the trackball module

The trackball module can also be used to enter latitude and longitude data.

1. Put the cursor in the input box. A selection cursor (light-blue) appears.
2. Enter data by spinning the scrollwheel. Upward to decrease the value; downward to increase the value.
3. To switch coordinate between N and S and vice versa, put the cursor at the right edge of the input box. Dual arrows appear
4. Click to switch the coordinates. The method to switch E to W and vice versa is the same.



6.2 How to Select the Operating Mode

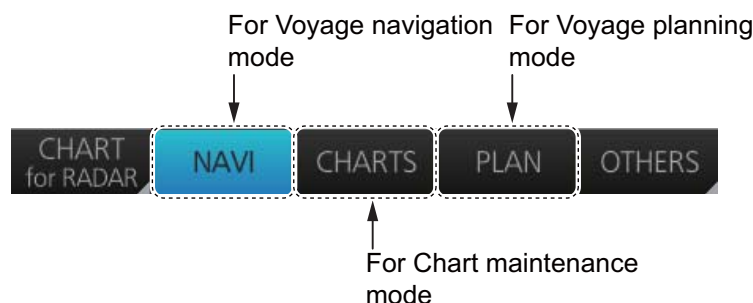
Click the [Operating Mode] button at the far left side of the Status bar then click [CHART for RADAR] to activate the chart mode.

[Operating Mode] button



6.3 How to Select the Chart Operating Mode

The chart display has three chart operating modes: Voyage navigation, Chart maintenance and Voyage planning. Select a mode from the Status bar with the [NAVI], [CHARTS] and [PLAN] buttons. The background of the button of the active mode is light-blue.



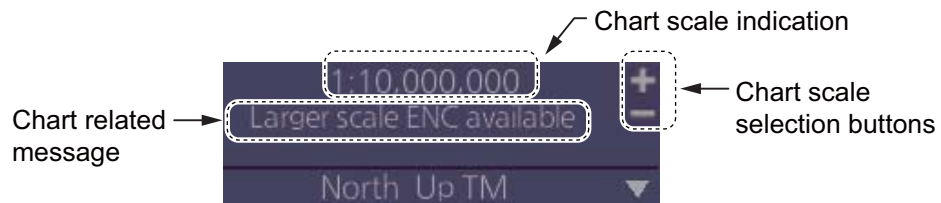
Note 1: When switching between the Voyage navigation and Chart maintenance modes it may take several minutes to read the chart when using C-Map charts or there are many charts installed.

Note 2: If the equipment accepts no key operation after switching to the Chart maintenance mode, reset the power.

6.4 How to Select the Chart Scale

When you open a chart it is displayed with the default scale, called the compilation scale. To change the chart scale, do one of the procedures shown below. The scale range is 1:1,000 to 1:70,000,000.

- Click the chart scale selection buttons in the Chart scale/presentation mode box.
- Right-click anywhere inside the Chart scale/presentation mode to show a drop-down list of chart scales.
- Put the cursor anywhere on the chart and spin the scrollwheel.



The table below lists the chart related messages and their meanings.

Message	Meaning
Display date is not current	Displayed date is not the current date.
Non-ENC data	ENC non-compatible chart in use.
Large scale ENC available	Larger scale available at current position (TM reset ON) or cursor location (TM reset OFF).
Overscale	Scale too large.
RM(OFF)	Relative motion turned off when the chart is scrolled or the trackball is operated.

6.5 How to Select the Presentation Mode

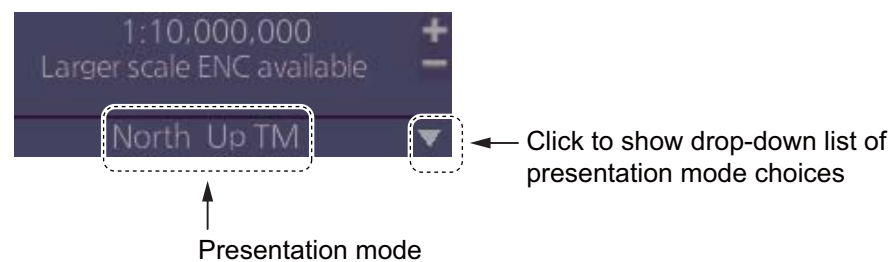
The presentation mode depends on the chart operating mode, as shown in the table below.

	Voyage navigation mode	Voyage planning mode
North up TM	Yes	Yes ^{*2}
North up RM	Yes	No
Course up TM	Yes	Yes ^{*2}
Course up RM	Yes	No
Route up TM ^{*1}	No	Yes ^{*2}
Route up RM ^{*1}	Yes	No
Head up RM	Yes	No

^{*1}When monitoring a route.

^{*2}Motion mode (TM) is not shown. For example, "North up".

To select a presentation mode, click the presentation mode indication to cycle through the presentation mode choices or click the triangle to show the drop-down list of presentation modes.



Presentation modes

North up: North (0 degrees) is at the top of the display.

Course up: The course is put at the top of the screen the moment it is selected.

Route up: The planned course is put at the top of the screen, in route monitoring. When route monitoring is canceled, the course up presentation mode is automatically selected.

Head-up: Heading is put at the top of the display.

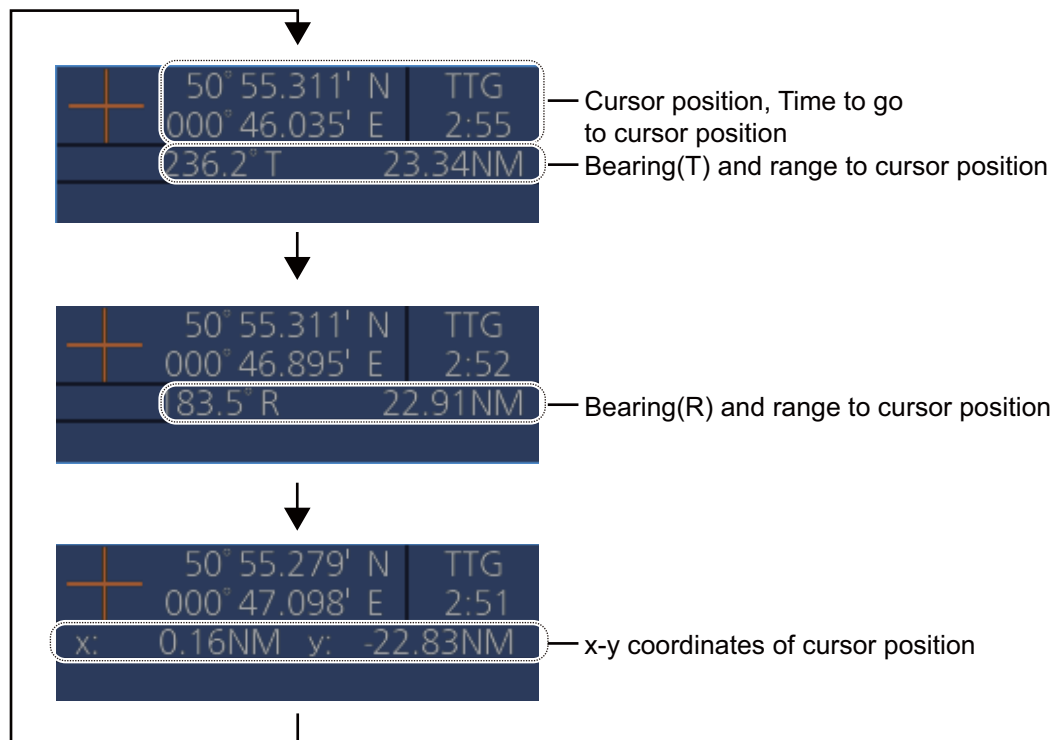
TM (True Motion): Own ship mark follows ship's movement. The chart is fixed.

RM (Relative Motion): Own ship mark is put at the screen center and is fixed. The chart moves relative to own ship movement.

6.6 Cursor Position Box

The Cursor position box shows

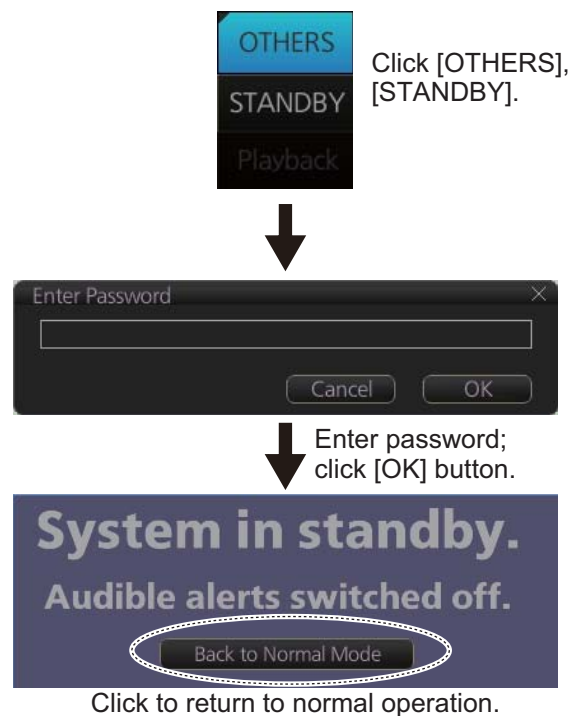
- Cursor position in latitude and longitude
- Time to go to the cursor position
- The bearing (True or Relative) and range to the cursor position, or x-y coordinates of cursor position. Click the bearing and range indication or x-y coordinates indication to switch the indication, in the sequence shown below.



6.7 The Standby Mode

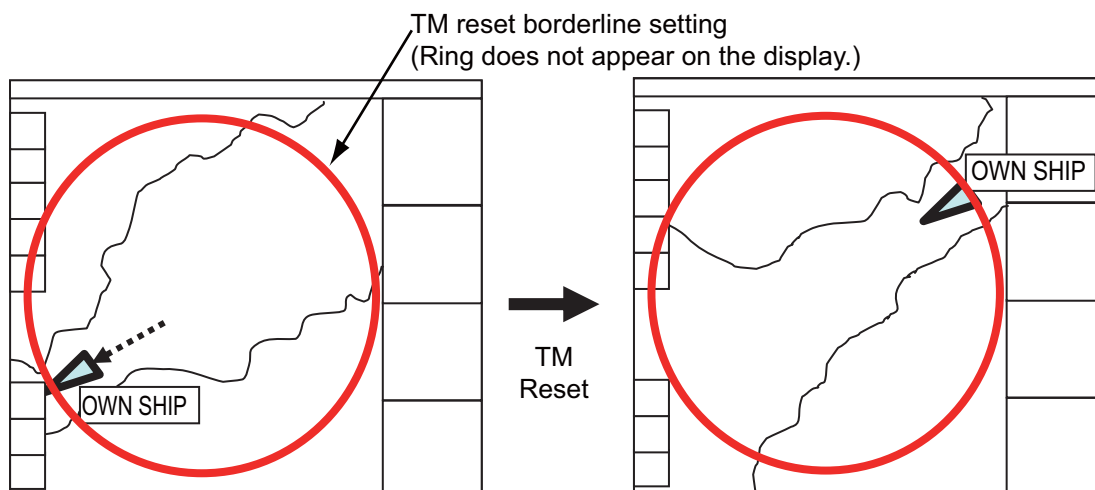
The standby mode, which requires a password to activate, deactivates the audio alarms from the chart system. Use this mode when the chart system is not required, like in a harbor. To go to the standby mode, first click the [OTHERS] button on the Status bar then click [STANDBY]. Have the holder of the password enter the password then click the [OK] button.

To return to normal operation, click [Back to Normal Mode].



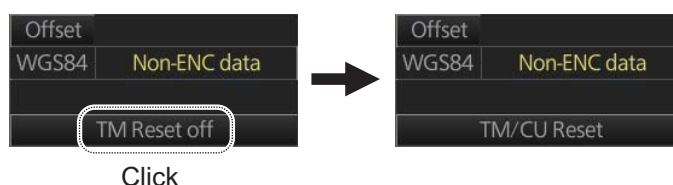
6.8 True Motion Reset

In the true motion mode, the chart is stationary and own ship moves on the screen. With TM reset active, own ship moves until it reaches the true motion reset borderline(s), then the chart is redrawn and own ship jumps back to an opposite position on screen based on its course. (This resetting can also be done manually by clicking the [TM/CU Reset] button.) When the TM reset function is active, "TM/CU Reset" appears at the right side of the display.



How to enable, disable automatic TM reset

To enable automatic TM reset, click the [TM Reset off] indication at the right side of the display to show [TM/CU Reset].

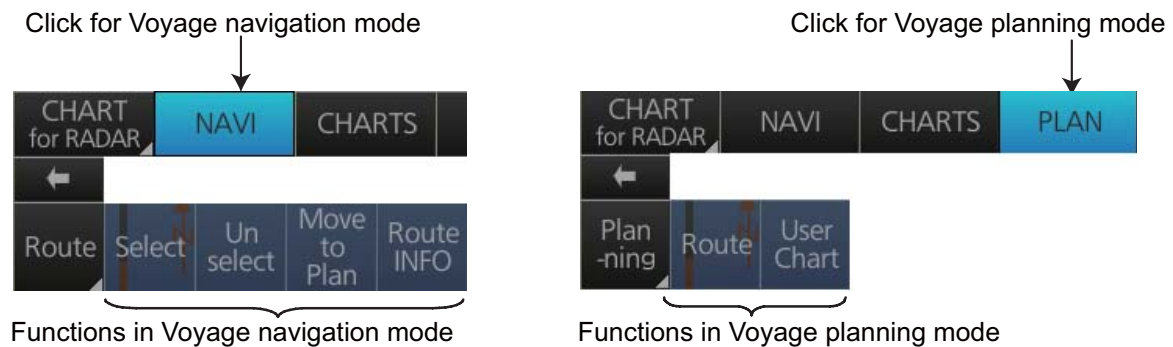


When the TM reset is disabled, change the chart scale with the scrollwheel and scroll the chart by drag and drop. The own ship functions box shows [TM Reset off]. When own ship moves off the screen the box shows [Ship off screen].

How to set the true motion reset borderline

You can set the limit for TM reset (in percentage) on the [Basic Setting] page. See section 8.2.2.

6.9 How to Control Route and User Charts in Voyage Navigation and Voyage Planning Modes

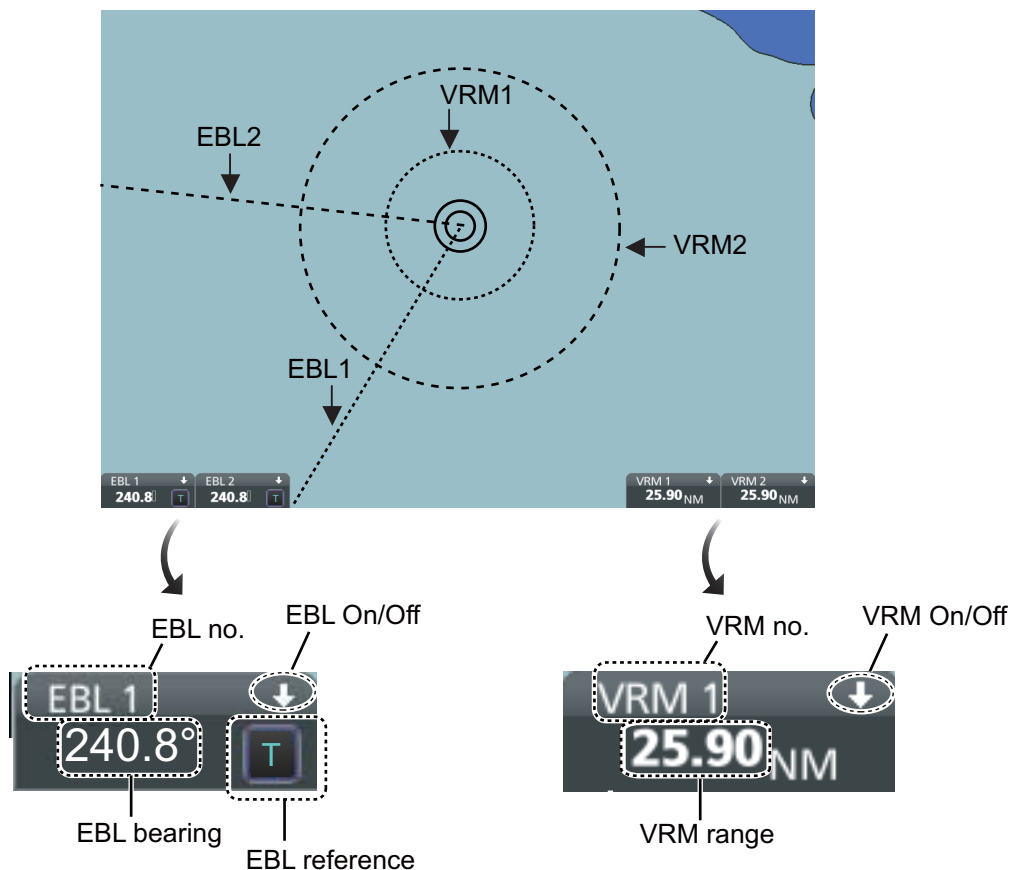


Click the appropriate chart mode button [NAVI] or [PLAN] at the top of the display to go to respective mode. For the Voyage navigation mode, click the [Route] button then click the button corresponding to the action to take. For the Voyage planning mode, click the [Planning] button followed by the [Route] button to select a route, or [User Chart] button to select a user chart.

Voyage navigation mode functions	Voyage planning mode functions
[Select]: Selects the route to use in the Voyage navigation mode.	[Route]: Shows the [Route Plan] dialog box to create or edit a route.
[Unselect]: Deselects active route.	[User Chart]: Shows the [User Chart] dialog box to create or edit a user chart.
[Move to Plan]: Moves active route to Voyage planning mode.	
[Route INFO]: Shows the [Route Information] dialog box.	

6.10 How to Use the VRM and EBL

The VRM measures the range to an object and the EBL measures the bearing to an object. There are two each of VRMs and EBLs. The lengths of the dashes on the EBL2 and VRM2 are longer than those of the EBL1 and VRM1 to distinguish them. The color of the VRMs and EBLs is orange.



6.10.1 How to hide/show an EBL, VRM

Control Unit: Press the **EBL** or **VRM** key to hide or show respective marker.

Trackball module: Click the arrow on an EBL or VRM box to hide the respective marker. To redisplay the marker, click the minimized box.

6.10.2 How to measure the range and bearing

Range: Put the cursor on the VRM then drag the cursor until the VRM is on the inner edge of the object.

Bearing: Put the cursor on the EBL then drag the cursor until the EBL bisects the object.

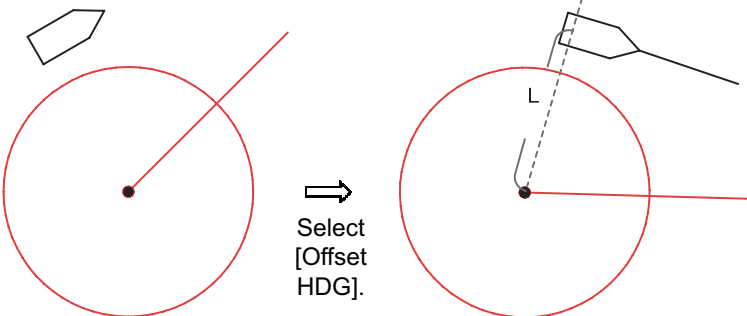
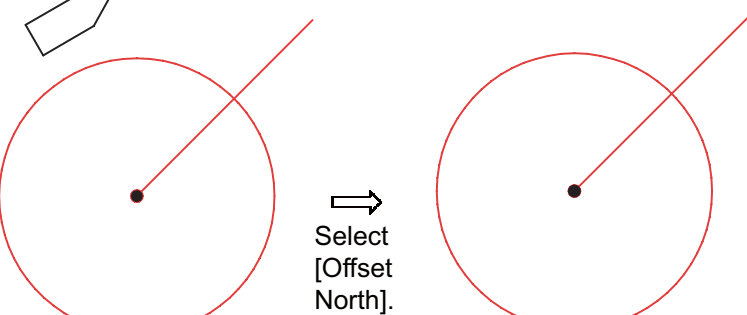
6.10.3 How to select bearing reference

The EBL bearing reference can be true or relative. Click the EBL reference indication to display T (True) or R (Relative).

6.10.4 EBL, VRM functions available with the context-sensitive menu

The EBLs and VRMs have additional functions that are accessed from the context-sensitive menu. Right-click any VRM or EBL box to show the context-sensitive menu.



Function	Description
[Centered]	Centers the origin of the EBL and VRM on the current position.
[Ground]	Anchors the EBL and VRM to ground; neither the EBL or VRM move with ship's movement.
[Offset HDG]	 Drag and drop EBL, VRM on desired location. When vessel changes course, the EBL, VRM move so that the range (L) to their centers stays fixed.
[Offset North]	 Drag and drop EBL, VRM on desired location. The EBL, VRM move to keep the angle from North to the center of the EBL, VRM, even if the vessel changes course. The distance to the center of the EBL, VRM is fixed.

6.11 Split Screen

This function is currently unavailable.

6.12 Datum

6.12.1 General

Datum is a mathematical model of the earth based on which a sea chart is produced. If the datum of a position sensor and that of a sea chart are different, a transformation has to be made somewhere in the system. Not doing so can result in errors of several sea miles. The difference between two datum is never constant, but depends on position. This means that the difference between WGS-84 and local datum, generally used in paper charts, is not generally valid with electronic sea charts.

6.12.2 Paper charts

Datum used in paper charts have been traditionally national datum for historical reasons. Many paper charts do not have a marked datum, therefore compatibility with electronic charts may be complicated. In some paper charts, the correction terms are printed in lieu of datum, for correction of the WGS-84 system satellite locations. The correction terms are usable but only with the paper chart in question.

6.12.3 Electronic sea charts

The ENC vector material has to be produced by a National Hydrographic Office in the WGS-84 datum.

6.12.4 Positioning devices and datum

In early days of electronic positioning devices, datum received little attention because the commonly used systems utilized special charts (like Decca charts). Later on, data output was added to these systems, but still no attention was paid to datum and the position errors were considered as an inaccuracy of the system. With the spread of the GPS, however, datum has become better known. An accurate position is of no value if co-ordinates are in a wrong datum. GPS satellites utilize the WGS-84 datum.

6.12.5 Chart radar and datum

The chart radar uses ENC material, produced to standards using WGS-84 datum. Positioning devices connected to the chart radar must work in the WGS-84 datum. IMO requires that the chart must give an alert if the datum of a positioning device is not the WGS-84.

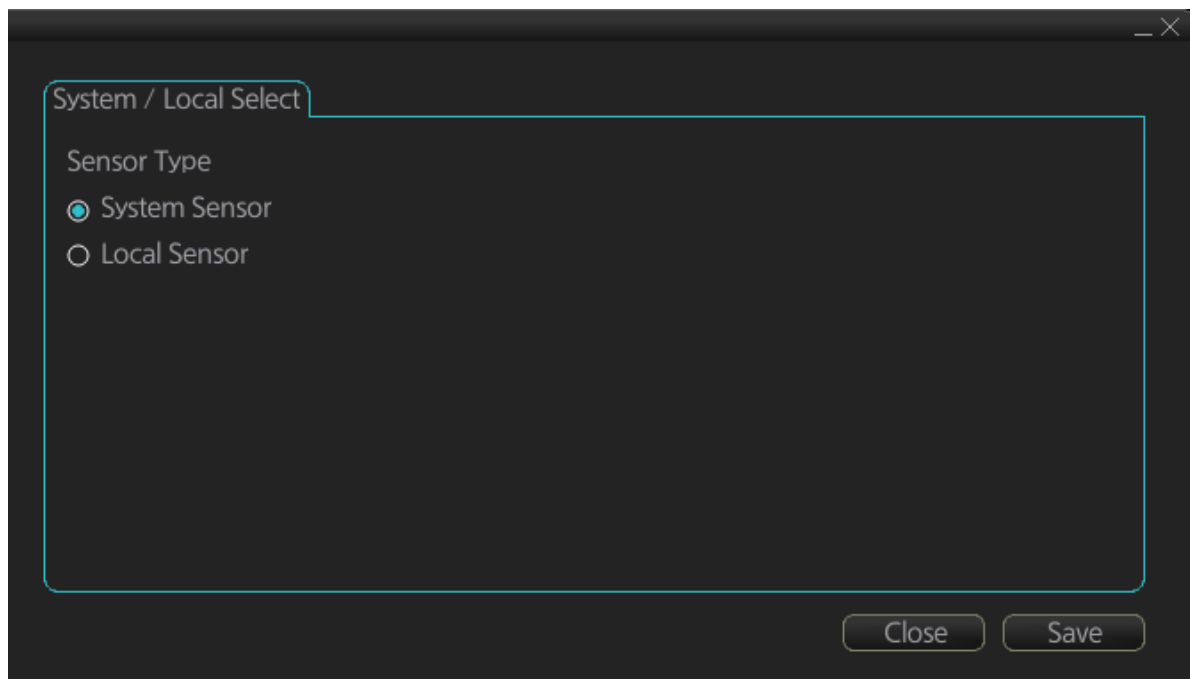
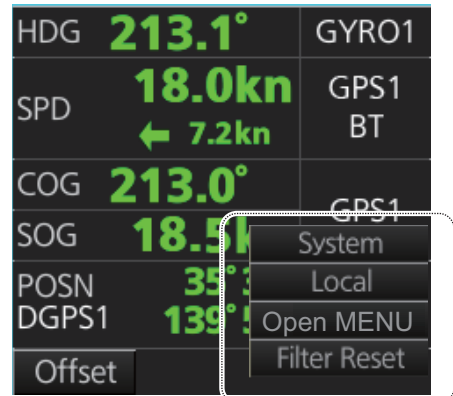
6.13 How to Select Sensor Settings

Sensor settings can also be selected in the chart for radar mode. Settings are mutually changed between the radar and chart for radar modes.

This chart radar system accepts navigation data input two ways: [System] or [Local]. [System] shares sensor data among multiple chart radars in network. Sensor priority is also commonly shared among the chart radar. [Local] selects a sensor outside the network.

1. Right-click anywhere in the Sensor information box to show the context-sensitive menu.
2. Click [Local] or [System].

Note: Sensor system can also be selected from the menu. Open the menu and click [System/Local Select] on the [Sensor] menu. Click the circle next to [System Sensor] or [Local Sensor] then click the [Save] button.



6.14 How to Enter Ship Speed

Speed can also be entered in the chart for radar mode. Settings are mutually changed between the radar and chart for radar modes.

The speed can be entered from a log (STW) or GPS (SOG), or manually on the menu. Note that FURUNO GPS Navigator GP-150 provides both COG and SOG.

Speed data is checked for integrity (see section 16.7 for details), and the data is judged as [Passed], [Doubtful], [Failed], [Excluded] or [Not Available]. The results of the check appear on the [SPD] page, shown below.

[Passed] (green): Data is available for comparison and data is normal.

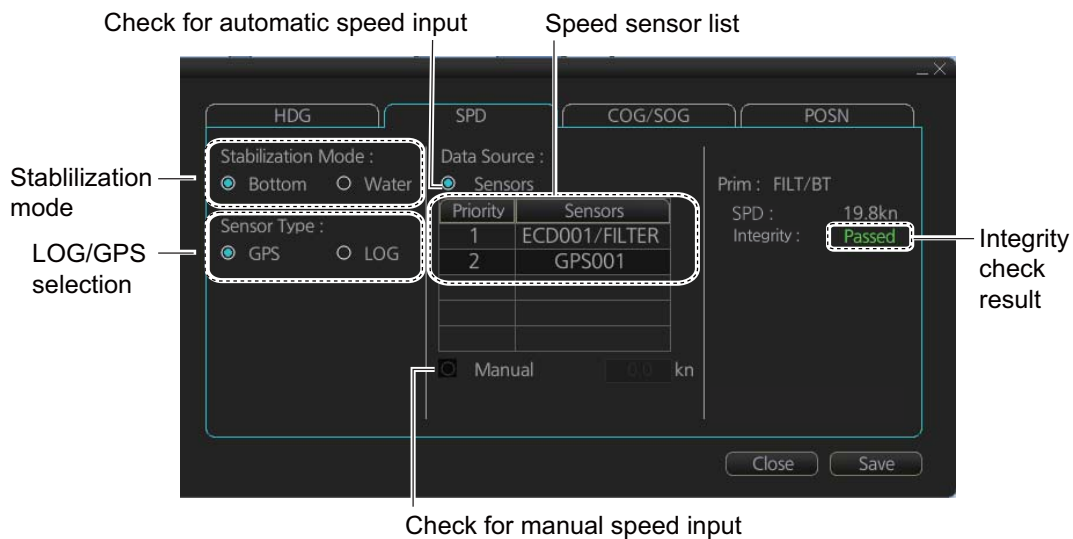
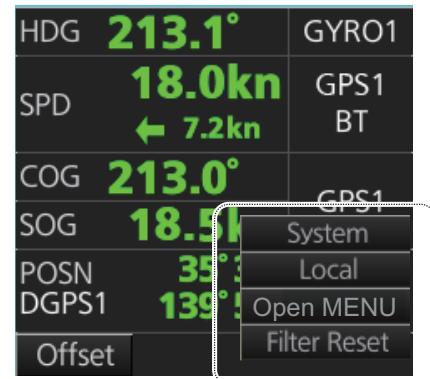
[Doubtful] (yellow): Data is not available for comparison, but data is normal.

[Failed] (orange): Data is quite away from predicted value based on a comparison.

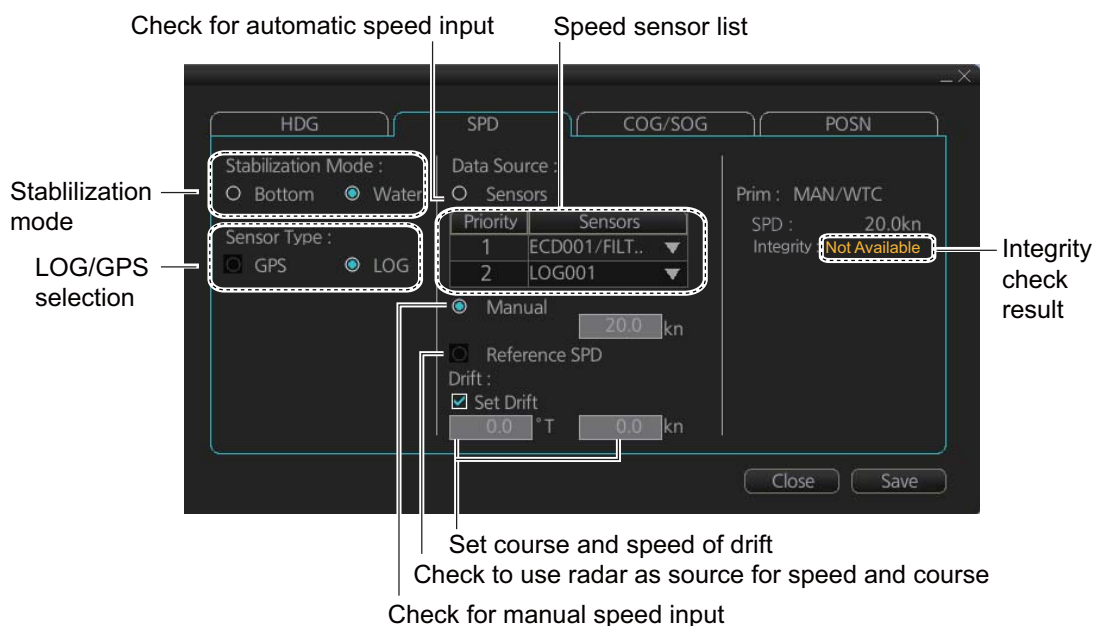
[Excluded] (orange): Data is greatly changed compared with predicted value.

[Not Available] (orange): Sentence status or mode indicator is abnormal.

1. Right-click anywhere in the Sensor information box to show the context-sensitive menu.
2. Click [Open MENU].
3. Click [System Sensor Settings] or [Local Sensor Settings].
4. Click the [SPD] tab.



[SPD] page, system sensor



[SPD] page, local sensor

5. **For automatic input**, follow the procedure below. **For manual input**, go to step 6.
 - 1) Check [Sensors].
 - 2) Set the priority for the speed sensors in case of Local sensor. Click the triangle on the Priority1 line to select the sensor to be the Priority1 sensor. Do the same for the Priority2. Only one sensor can be Priority1; all others are priority 2. If a speed sensor is changed from Priority2 to Priority1, then that sensor previously selected to Priority1 is then automatically selected to Priority2 state.
 - 3) Check [LOG] or [GPS] at [Sensor Type].
 - 4) Select [Bottom] or [Water] at [Stabilization Mode]. Select [Bottom] if GPS is the source of speed data, or [Water] if a speed log is the source of speed data.
 - 5) Go to step 7.
6. **For manual input**, set the stabilization mode for [Water] and check [Manual]. Enter the speed using the scrollwheel, the software keyboard or the keyboard on the Control Unit.

Note: For set and drift, see page 16-3.
7. Click the [Save] button to save settings then click the [Close] button to close the menu.

Notes on speed input

- Be sure not to select a LOG option when a speed log is not connected. If the log signal is lost, the GPS sensor is used. In the event of GPS loss, the SPD is shown as "***.* kn".
- The SPD is shown as "***.* kn", and the label "LOG" is erased if no log signal is present for a certain amount of time. The timeout varies according to ship.
- If SOG is changed to STW, the label "LOG" (in orange) appears. If log signal is lost "LOG" is colored yellow.
- A single-axis water log cannot measure speed when the wind is coming from the leeway direction.

6.15 How to Enter Heading

Heading can also be entered in the chart for radar mode. Settings are mutually changed between the radar and chart for radar modes.

Heading can be entered manually or automatically. Heading data is checked for integrity (see section 16.7 for details), and the data is judged as [Passed], [Doubtful], [Failed], [Excluded] or [Not Available]. The integrity check results appear on the [HDG] page, shown below.

[Passed] (green): Data is available for comparison and data is normal.

[Doubtful] (yellow): Data is not available for comparison, but data is normal.

[Failed] (orange): Data is quite away from predicted value based on a comparison.

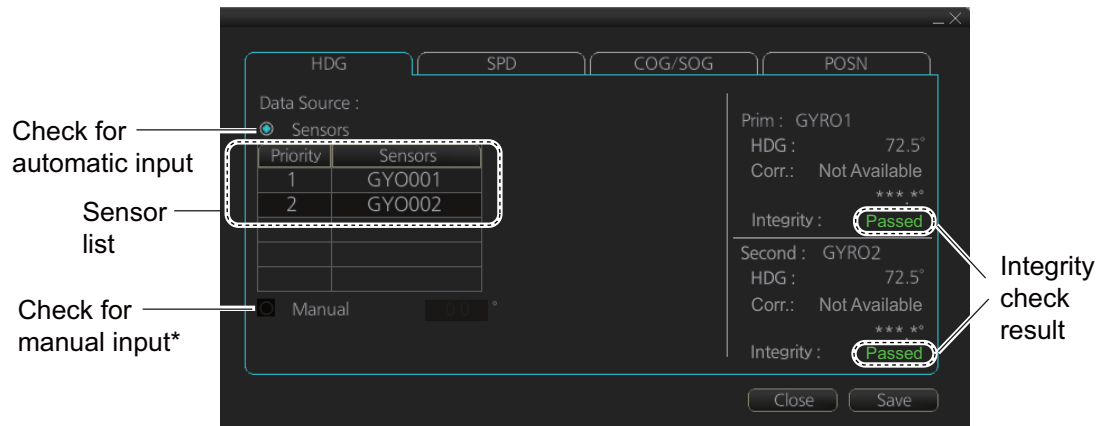
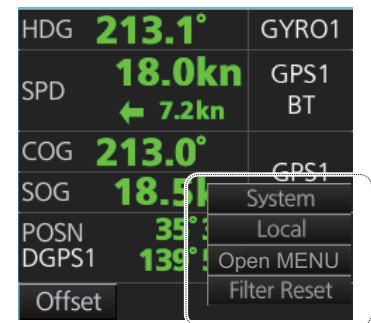
[Excluded] (orange): Data is greatly changed compared with predicted value.

[Not Available] (orange): Sentence status or mode indicator is abnormal.

Note: If there is only one gyro connected to the chart radar, heading data is compared to COG from GPS. When the speed is 10 knots or less, and COG is unstable when it is compared to heading data, the data integrity is judged as [Doubtful]. When the

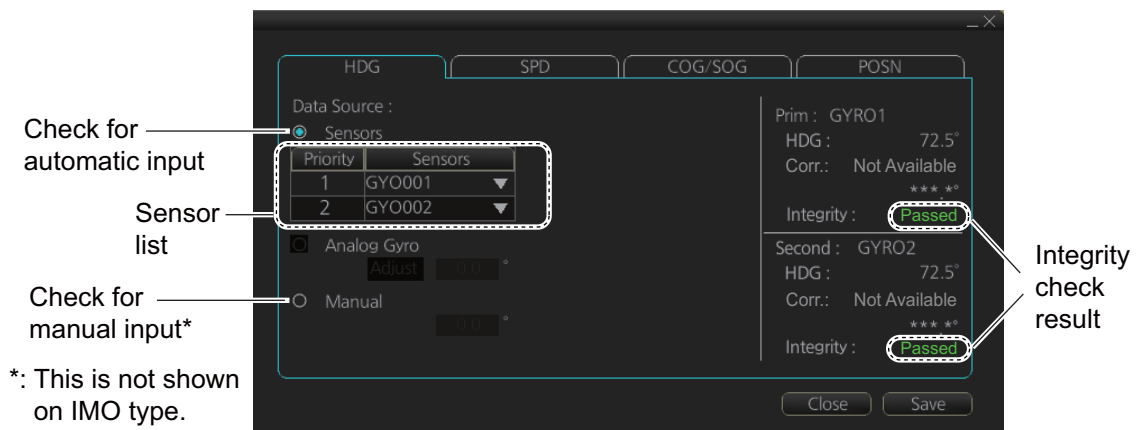
ship's speed becomes greater than 10 knots and COG stabilizes, the data integrity automatically changes to [Passed].

1. Right-click anywhere in the Sensor information box to show the context-sensitive menu.
2. Click [Open MENU].
3. Click [System Sensor Settings] or [Local Sensor Settings].
4. Click the [HDG] tab.



*: This is not available with the [System Sensor Settings] menu. This is not shown on IMO type.

[HDG] page, system sensor



*: This is not shown on IMO type.

[HDG] page, local sensor

5. **For automatic input**, follow the procedure below. **For manual input**, go to step 6.
 - 1) Check [Sensors].
 - 2) For local system settings, set the priority for each sensor connected, referring to section 6.14.
 - 3) Go to step 7.
6. **For manual input**, check [Manual]. Enter the heading using the scrollwheel, the software keyboard or the keyboard on the Control Unit.
7. Click the [Save] button to save settings then click the [Close] button to close the menu.

6.16 Set up Before Departure

6.16.1 Updates before departure

Update S57 chart material

Update your S57 chart material before embarking on a new voyage. See section 7.19.

Display date and approve until dates for S57 charts and manual updates

Note: It is very important that you set the Display and Approved until dates for charts as the current date.

There may be features that require chart viewing dates or seasonal dates in charts. Accordingly, if you have not set Display date and Approved until dates as the current date, there is a possibility that you can get a wrong presentation or some feature may be absent. See section 9.2.

Create or update user chart. Notes

If necessary, create a new user chart and Notes or modify existing ones. See chapter 13.

Chart alert calculation

Set chart alert areas suitable for your coming voyage, on the [CheckArea] page in the [Overlay/NAV Tools] box. See section 11.2.

Overlay / NAV Tools →

CheckArea ← →

Ahead ○ Time: min

● DIST: 1.0 NM

Width: 200 m

Around Port: 0 m

STBD: 0 m

Bow: 0 m

Stern: 0 m

Chart Alert ON

6.16.2 Create or update a route

Create a new route or modify an existing one. See chapter 12.

Check your route against chart alerts

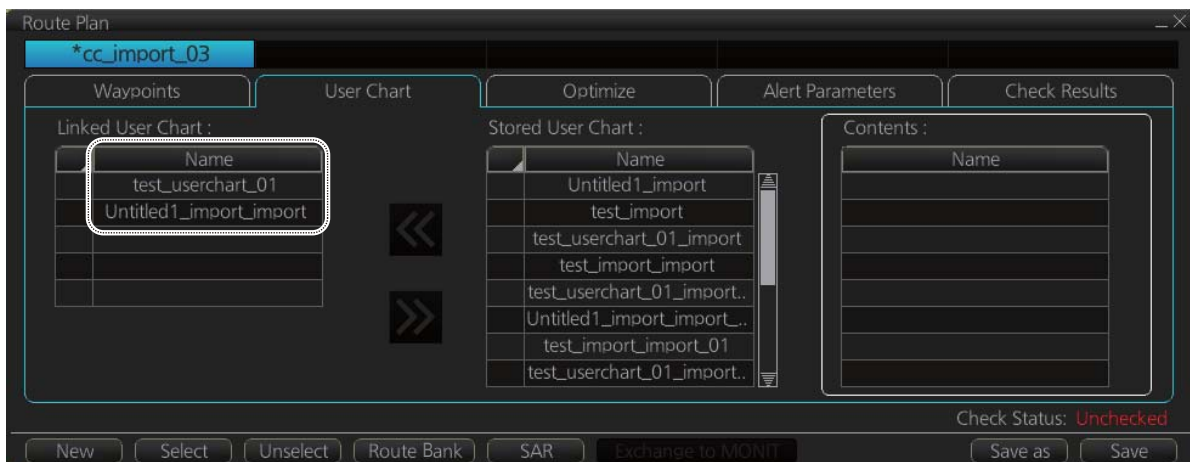
Before you sail your route, you should always check your route against chart alerts. This is important because your S57 charts and manual updates may contain chart viewing dates information. You can check chart alerts from the [Check Results] page on the [Route Plan] dialog box.

The following information is stored with the monitoring route plan:

- Conditions for chart alerts during route monitoring, which includes safety contour and other chart alerts, on the [Alert Parameters] page of the [Route Plan] dialog box.



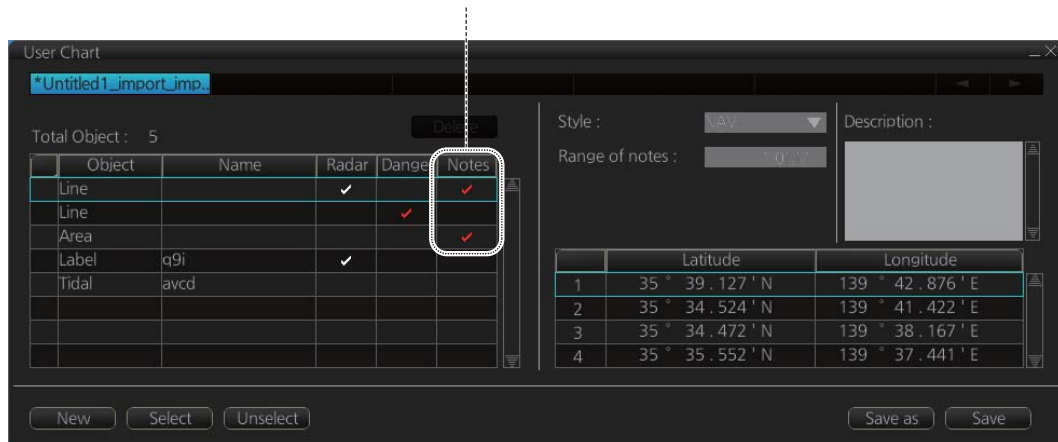
- Name of the user chart to be used during route monitoring together with this planned route, on the [User Chart] page of the [Route Plan] dialog box.



6. CHART OVERVIEW

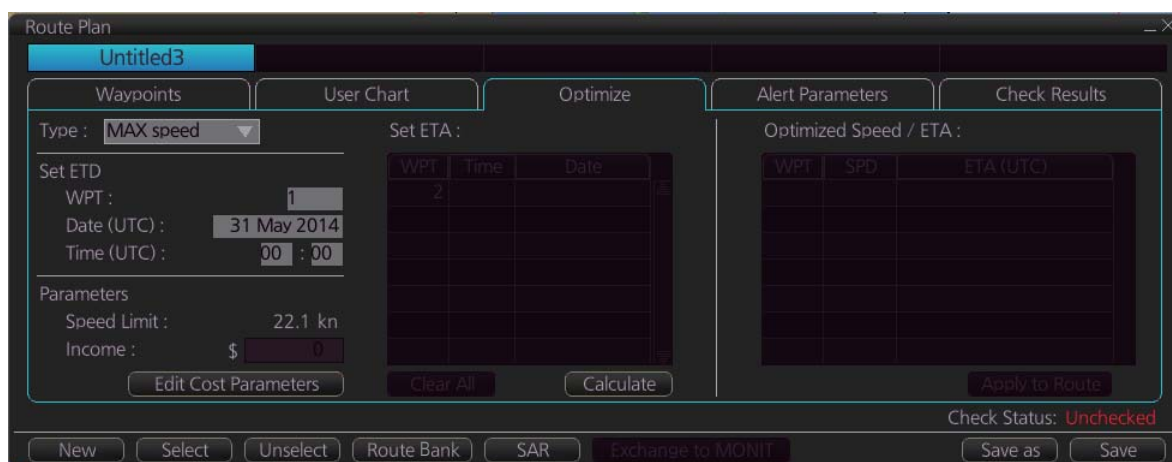
- Name of the Notes to be used during route monitoring together with this planned route, on the [User Chart] dialog box (click the [Planning] button then click the [User Chart] button).

Check in Notes column indicates Notes is used with route monitoring and planned route.



Recalculate timetable and ETA values

Timetable and ETA values can be recalculated from the [Optimize] page in the [Route Plan] dialog box. Minimally set ETD to equal departure time, and set optimization values.



6.16.3 How to check and prepare route to monitor

Select a route for the voyage: In the Voyage navigation mode, click the [Route] button followed by the [Select] button, or right-click the route indication in the [Route Information] box (right edge of screen) then select [Select Route]. See chapter 12.

Note: A route cannot be opened if its planned settings are different from its navigation settings. The reason is given on the [Select Route] dialog box. In this case, open the route in the Voyage planning mode and click the [Check Route] button, on the [Alert Parameters] page. Adjust the route as necessary.

The To WPT can be selected, however WPT 01 cannot be selected.

Route Information

Route :

Waypoints User Chart

To WPT : 2 GO Distance : 94.5NM Departure : 10:24 10 Oct 2013
Actual Average SPD : 25.0kn

WPT	Name	Latitude	Longitude	ETA	Plan SPD
1		59° 50.721' N	025° 55.165' E		
2		59° 25.321' N	022° 24.949' E	15:08 10 Oct 2013	20.0
3		58° 05.154' N	020° 03.137' E	20:35 10 Oct 2013	20.0
4		59° 26.909' N	020° 49.852' E	00:52 11 Oct 2013	20.0

Total WPTs : 4 Total Distance : 304.4NM

Check ETA

WPT : 2

Distance : 94.5NM

Plan : 15:08 10 Oct 2013

Actual : 14:11 10 Oct 2013

Off Plan : -00:56

SPD Calculation : 10 : 24 10 Oct 2013

Start Calculate

Suggested SPD : 0.0kn

Close

Select confirm conditions of the route plan

Check the setting on the [Chart Alert] dialog box; click the [DISP], [SET] and [Chart Alert] buttons to show that dialog box.

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: 10 m

Safety Depth: 20 m

Safety Contour: 30 m

Deep Contour: 60 m

Reset

● : Alarm
● : Warning
● : Caution

Close Save

Planned user chart. Notes

To check what planned user chart is selected, open the [Route Information] dialog box and click the [User Chart] tab. The name of the user chart(s) to be used is in the [Linked User Chart] window.

Route Information

Route : Untitled1

Waypoints User Chart

Linked User Chart :

Name
Untitled1

Contents :

Object	Name	Radar	Danger	Notes
Clearing line				
Area				
Circle				

Total WPTs : 2 Total Distance : 1622.4NM

Check ETA

WPT : 2

Distance : 859.3NM

Plan : 09:46 24 Oct 2012

Actual : 09:46 24 Oct 2012

Off Plan : 00:00

SPD Calculation : 4 : 18 22 Oct 2012

Start Calculate

Suggested SPD : 0.0kn

Close

6.16.4 Check configuration of navigation sensors

You can check the configuration of your navigation sensors.

Check speed settings ([SPD] page)

Open the menu and click the [SPD] tab in the [System Sensor Settings] page or [Local Sensor Settings] page of the [Sensor] menu. The user can select navigation sensors for use in navigation and view their current values.

The screenshot shows the 'SPD' tab selected in a window titled 'System Sensor Settings'. The window has four tabs: HDG, SPD, COG/SOG, and POSN. The SPD tab is active. On the left, under 'Stabilization Mode', 'Bottom' is selected with a radio button, and 'Water' is unselected. Under 'Sensor Type', 'GPS' is selected with a radio button, and 'LOG' is unselected. In the center, under 'Data Source', 'Sensors' is selected with a radio button. Below this is a table with two columns: 'Priority' and 'Sensors'. The table contains two rows: Priority 1 with sensor 'GPS001' and Priority 2 with sensor 'GPS002'. Below the table, 'Manual' is selected with a radio button, and a speed value of '24.9kn' is displayed. On the right, 'Prim : GPS1/BT' is shown, followed by 'SPD : 24.9kn' and 'Integrity : Passed' in green text. At the bottom right, there are 'Close' and 'Save' buttons.

[SPD] page, system sensor

The screenshot shows the 'SPD' tab selected in a window titled 'Local Sensor Settings'. The window has four tabs: HDG, SPD, COG/SOG, and POSN. The SPD tab is active. On the left, under 'Stabilization Mode', 'Bottom' is selected with a radio button, and 'Water' is unselected. Under 'Sensor Type', 'GPS' is selected with a radio button, and 'LOG' is unselected. In the center, under 'Data Source', 'Sensors' is selected with a radio button. Below this is a table with two columns: 'Priority' and 'Sensors'. The table contains two rows: Priority 1 with sensor 'GPS001' and Priority 2 with sensor 'GPS002'. Below the table, 'Manual' is selected with a radio button, and a speed value of '24.9kn' is displayed. Below 'Manual', 'Reference SPD' is unselected with a radio button. Under 'Drift', 'Set Drift' is unselected with a checkbox. Below this, a speed value of '24.9kn' is displayed. On the right, 'Prim : GPS1/BT' is shown, followed by 'SPD : 24.9kn' and 'Integrity : Passed' in green text. At the bottom right, there are 'Close' and 'Save' buttons.

[SPD] page, local sensor

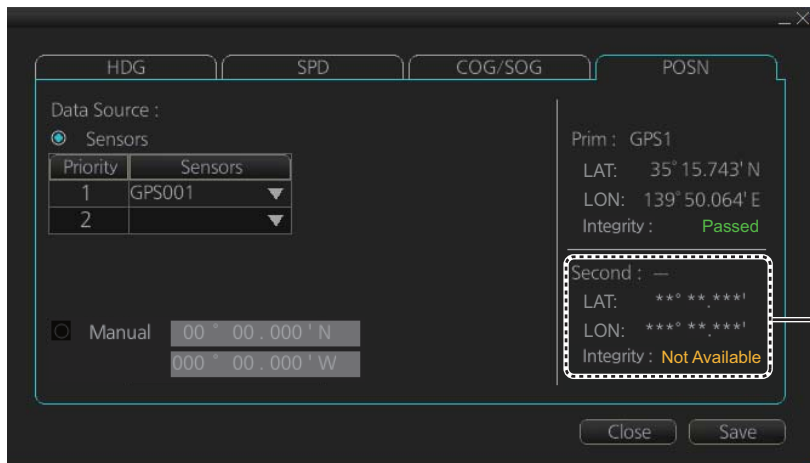
Checkbox status shows whether the sensor is used for integrated navigation or not. If there is no value shown for a sensor, it indicates that the sensor is not valid. Note that the content of these pages depends on the sensors that are in use on the ship.

Select the available dual logs.

Note that manual speed should only be used in an emergency, when no other speed reference is available. Remember that position sensors are also available as speed sources. If no dual log is available, check [Reference SPD] (local sensor page) to use a reference target from the radar as the source for speed and course.

Check position sensors ([POSN] page)

Open the menu and click the [POSN] tab in the [System Sensor Settings] page or [Local Sensor Settings] page of the [Sensor] menu. The [Prim] and [Second] labels indicate the type of the position sensor. (In the figure below the [Prim] label shows GPS1.) [Prim] and [Second] indicate sensor status and priority.



Second shows Integrity as "Not Available" when only one position-fixing equipment is connected.

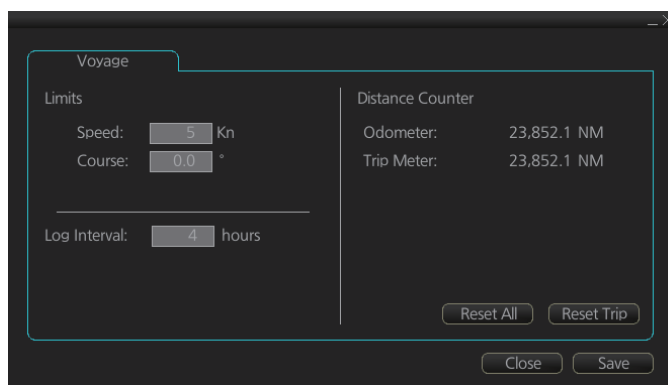
Only one sensor can be primary while the others can be secondary or off position. After a sensor is turned off, its status is changed to Secondary state. When a position sensor state is changed to primary and another sensor was primary, the sensor formerly primary becomes secondary.

Select the "Primary" navigation sensor as the sensor that is considered to be most accurate and reliable. Set all other navigation sensors as "Secondary".

6.16.5 How to reset odometer and trip meter

To reset the odometer and/or trip meter do as follows:

1. Open the menu and select the [Voyage] menu from the [NAVI Log] menu in the [Record] menu.



2. Click one of the following buttons.
[Reset All]: Reset both the odometer and the trip meter.
[Reset Trip]: Reset the trip distance.
3. Click the [Close] button to finish.

This page is intentionally left blank.

7. HOW TO MANAGE CHARTS

This chapter mainly shows you how to install the public keys, licenses and charts, manually update chart objects, and synchronize charts among chart radars. All chart-related operations begin from the Chart maintenance mode, which you access by clicking the [CHARTS] button on the Status bar.

Note 1: Charts, routes and user charts are shared with other FMD-3xx0, FCR-2xx9 and FAR-3xx0 units, via LAN. Data is shared automatically; no operation is required.

Note 2: Chart processing (installation, deletion, etc.) may take several minutes depending on the number of charts to be processed.

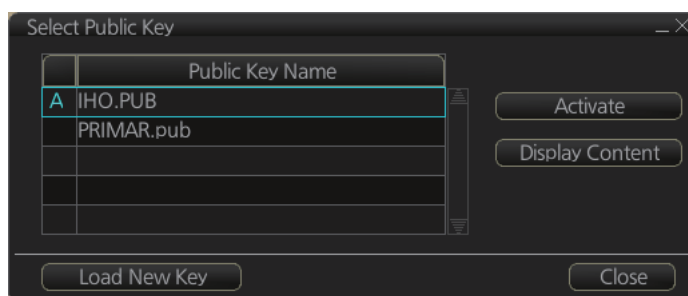
Note 3: If, when attempting to install charts, nothing appears on the display at the start of the procedure, reset the power and try again.

7.1 How to Install Public Keys for ENC Charts

Public keys authenticate the source and integrity of the ENC chart materials used in this chart system. Before you install a new ENC chart, confirm that the corresponding public key is installed.

Generally, there are two types of public keys:

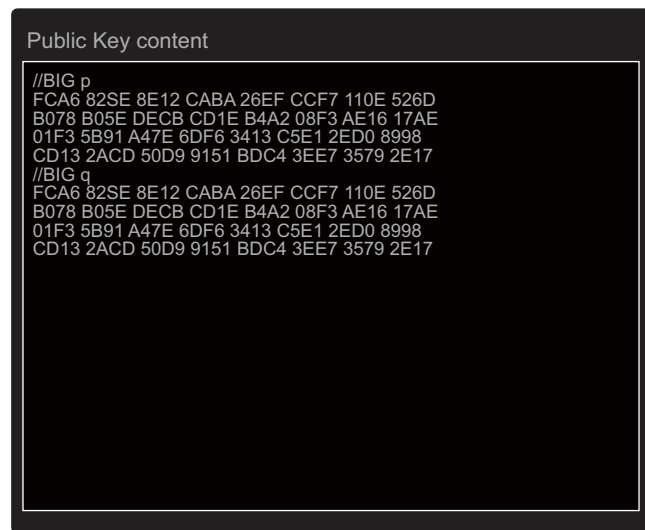
- IHO (file name: IHO.PUB)
 - Primar (file name: PRIMAR.pub)
1. Set the medium (DVD, USB flash memory, etc.) that contains the public key. (The IHO public key is preinstalled.)
 2. Get into the Chart maintenance mode then click the [Public Key] button on the InstantAccess bar.



3. Click the [Load New Key] button to show the [Open file] dialog box.
4. Find the .pub file then click the [Open] button. The [Select Public Key] dialog box reappears.

7. HOW TO MANAGE CHARTS

- Click the [Display Content] button on the [Select Public Key] dialog box to show the display contents.



- To accept the contents, click the [Activate] button on the [Select Public Key] dialog box.

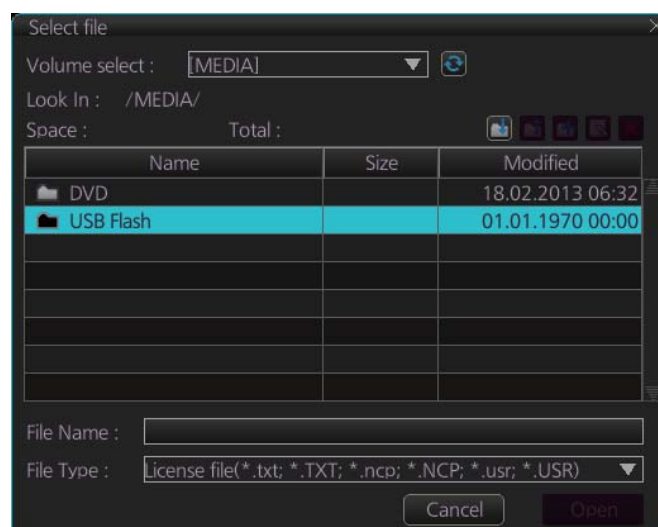
7.2 How to Install ENC Licenses, Charts

Install your ENC licenses and charts, in that order.

7.2.1 How to install an ENC license

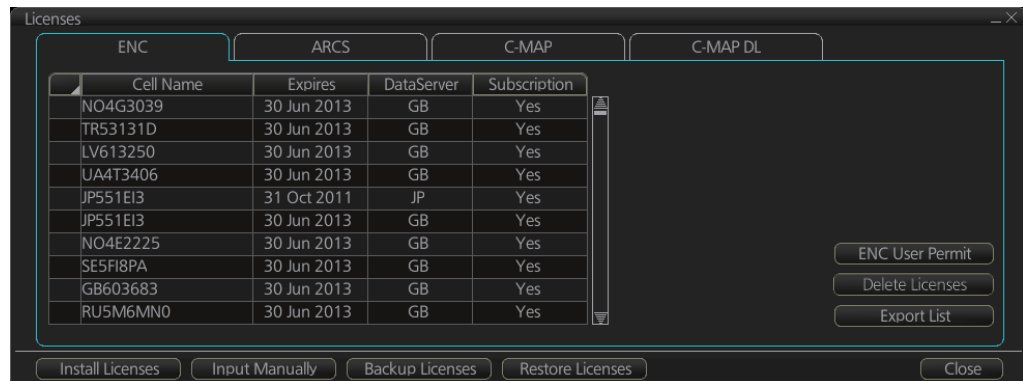
Automatic installation

- Insert the medium (DVD, USB flash memory, etc.) that contains the ENC license.
- Get into the Chart maintenance mode then click the [License] button on the InstantAccess bar to show the [Licenses] dialog box.
- Click the [Install Licenses] button.



- Select the medium that contains the license then click the [Open] button.

- Find the license (permit.txt) then click the [OK] button to install the license. The [Licenses] dialog box then shows cell name, date of expiration, data server name and subscription type of the license.

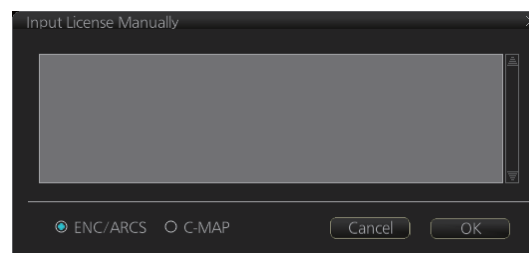


- Click the [Close] button to finish.

Manual installation

If you do not have the medium which has your ENC license, you can enter the license number manually.

- Click the [CHARTS] button on the Status bar to go the Chart maintenance mode, then click the [License] button on the InstantAccess bar.
- Click the [Input Manually] button to show the [Input License Manually] box.



- Select the type [ENC/ARCS] at the bottom of the screen.
- Enter the license number(s) then click the [OK] button.

7.2.2 How to install ENC charts

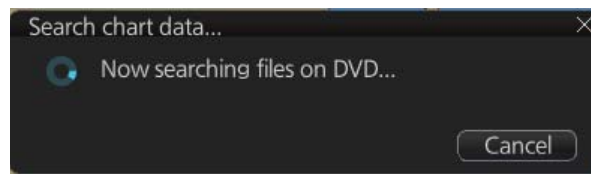
When you install charts from a medium, the system first loads a catalog, which stores certain information into your SSD such as cell IDs, their position, and edition number, from the install medium. Then, the system asks which charts you want to install from the chosen medium. After building the catalog, you can view the contents of it by clicking the [Cell Status] button on the InstantAccess bar.

Note: Do not click the [Cancel] button during the installation of a chart. If you get an error message, try to install the charts again.

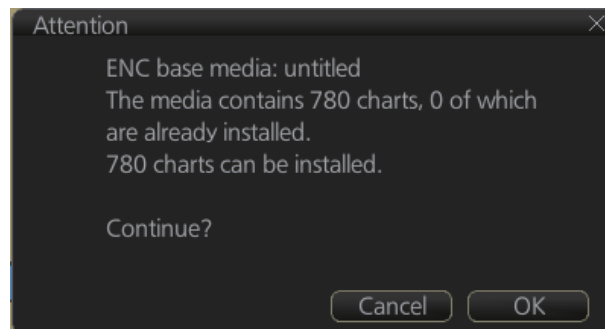
- Set the medium that contains the ENC charts.
- Get into the Chart maintenance mode then click the [AUTO Load] button on the InstantAccess bar. The confirmation message "Attention: This process takes time to complete, and the operation speed of the system will decline. Do you wish to continue?" appears. Click the [OK] button to continue. A message informs you that

7. HOW TO MANAGE CHARTS

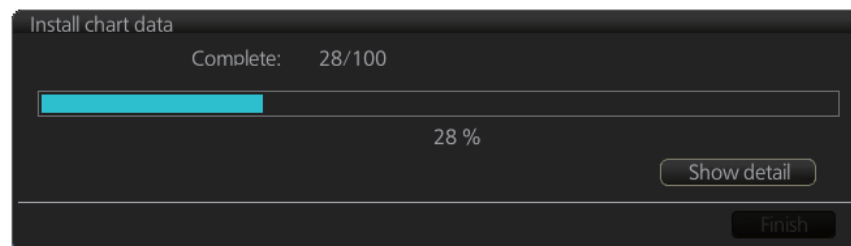
the system is searching the medium (in the figure below the medium is a DVD) for chart data.



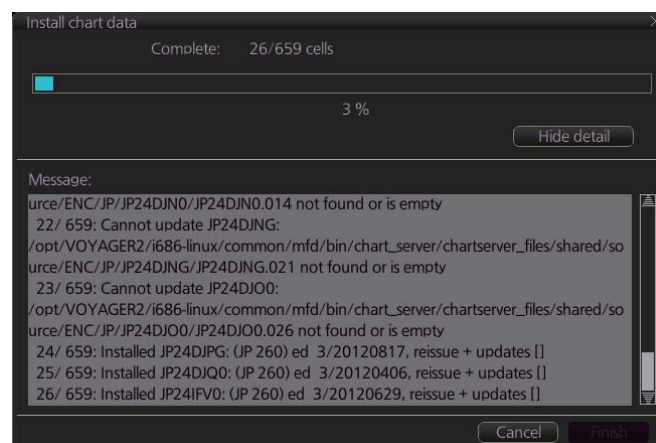
The results of the search are displayed, an example of which is shown below. To cancel the installation, click the [Cancel] button.



3. Click the [OK] button to install the charts. The [Install chart data] window appears and shows the percentage of completion, with digital and analog indications.

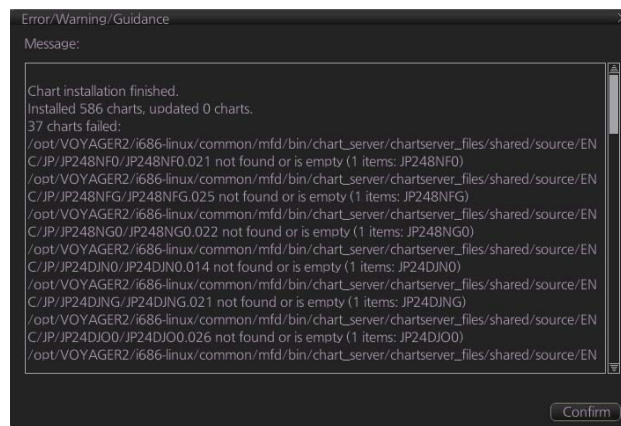


To show details during the installation, click the [Show detail] button.



To close the [Message] window, click the [Hide detail] button.

- When the installation is completed, information about the installation appears in the [Error/Warning/Guidance] window. Click the [Confirm] button to finish.



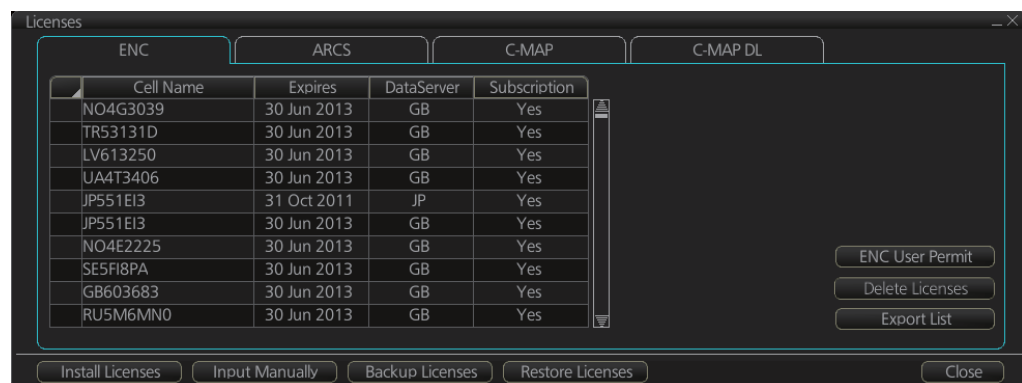
- If applicable, set the next sequential medium then repeat steps 2-4 to install the next database.

Note 1: When many charts are installed, the chart system checks for error in the installed chart data at the next power up. This is not an indication of malfunction.

Note 2: Previous versions of charts cannot be displayed if installed after installing the latest versions.

7.3 How to Delete ENC Licenses

- Get into the Chart maintenance mode.
- Click the [License] button on the InstantAccess bar.
- Click the [ENC] tab as appropriate to show a list of licenses.



- Put a checkmark next to the license(s) to delete.
- Click the [Delete Licenses] button to delete the license(s) selected.

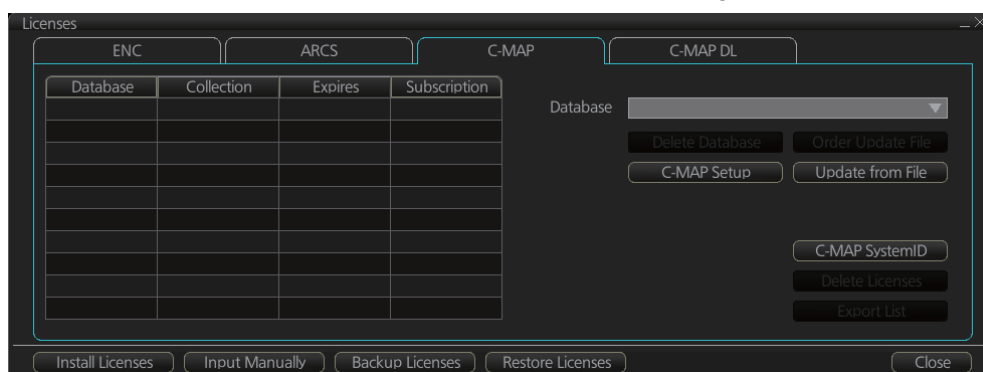
7.4 How to Install C-MAP Charts

Synchronize chart data before you install C-MAP charts, grouping the chart radar units to synchronize, otherwise the chart data cannot be shared. See the procedure in paragraph 7.20.1 for how to synchronize chart data. If C-MAP charts are not synchronized after installation, delete all C-MAP charts, and do the above procedure again.

7.4.1 How to register the eToken

The eToken is a hardware mechanism (installed inside the processor unit) used for password authentication. Registration of the eToken is required only once, before you install the C-MAP database.

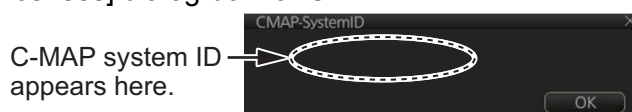
1. Get into the Chart maintenance mode then click the [License] button on the InstantAccess bar to show the [License] dialog box.
2. Click the [C-MAP] tab to show the [Licenses] dialog box for C-MAP.



3. Click the [C-MAP Setup] button.
4. The confirmation message "Attention: C-MAP eToken will be initialized. Do you wish to continue?" appears. Click the [OK] button to continue and register the eToken.

Note 1: "CMAP: No connection to eToken" disappears from the Permanent warning box after completion of the registration.

Note 2: You can show your C-MAP system ID by clicking the [C-MAP SystemID] button on the [Licenses] dialog box for C-MAP.



7.4.2 How to install the C-MAP database

When you install the C-MAP database from a medium, all data is saved to the SSD.

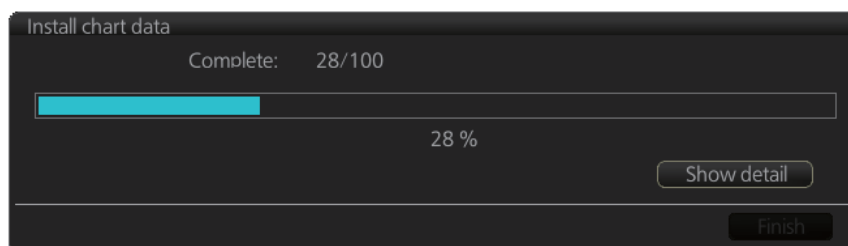
Note 1: If several chart radar units are installed, synchronize C-MAP charts among the units after you have installed the database.

Note 2: The installation of a chart cannot be cancelled while it is in progress. If you get an error message, try to install the charts again.

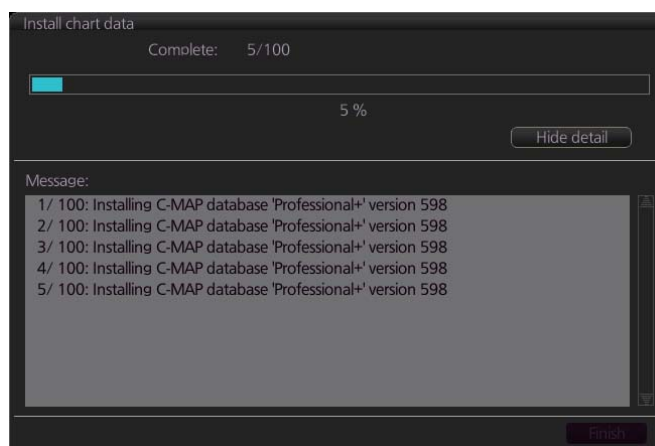
Note 3: Disable the Chart Alert function at the [CheckArea] page of the [Overlay/NAV Tools] box (see section 11.2) before removing any C-MAP charts.

Note 4: The C-MAP database in the units selected for synchronization are synchronized at the successful completion of the database installation.

1. Insert the medium that contains the C-MAP database.
2. Get into the Chart maintenance mode then click the [AUTO Load] button on the InstantAccess bar.
3. The [Install chart data] window appears and shows the percentage of completion, with digital and analog indications.

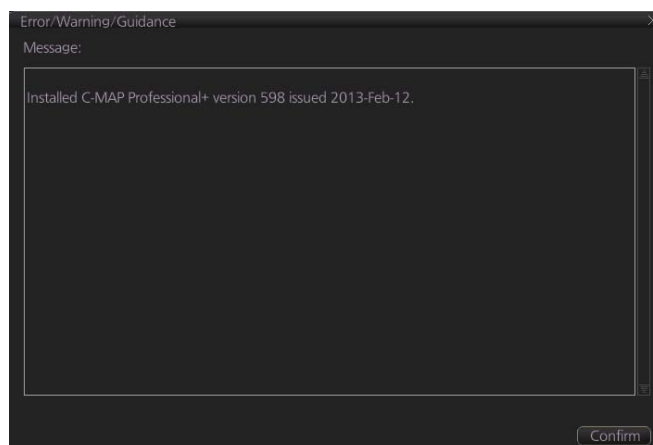


To show details during the installation, click the [Show detail] button.



To close the [Message] window, click the [Hide detail] button.

4. When the installation is completed, information about the chart database installed appears in the [Error/Warning/Guidance] window. Click the [Confirm] button to finish.



5. If applicable, set the next sequential medium and repeat steps 2-3 to install the next databases.

Note 1: If, after installation, C-MAP Pro+ charts do not appear, delete all corresponding charts and then reinstall them.

Note 2: Synchronization is not done for charts which could not be installed successfully. Reinstall failed charts.

7.4.3 How to install C-MAP licenses

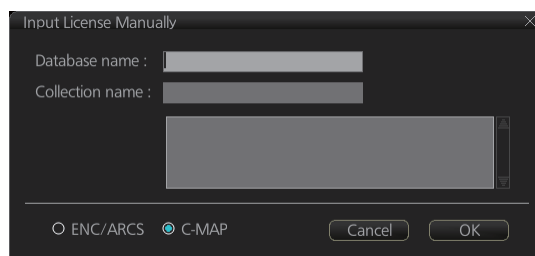
A C-MAP license can be installed automatically or manually.

Automatic installation

1. Set the medium (DVD, USB flash memory, etc.) that contains the C-MAP license.
2. Get into the Chart maintenance mode then click the [License] button on the InstantAccess bar.
3. Click the [Install Licenses] button.
4. Select the medium that contains the license then click the [Open] button.
5. Click the [OK] button to install the license.
6. Click the [Close] button to finish.

Manual installation

1. Click the [CHARTS] button on the Status bar to go the Chart maintenance mode, then click the [License] button on the InstantAccess bar.
2. Click the [Input Manually] button to show the [Input License Manually] box.



3. Select the type [C-MAP] at the bottom of the window.
4. Enter the [Database name] and [Collection name] information as shown in the table below. Enter the names exactly as shown to ensure correct installation.

Database name		Collection name
<u>Chart type</u>	<u>Name to enter</u>	Enter the contracted zone number according to chart type as follows:
Professional:	World	Professional/Professional+: Enter "Zone *" (without quotations) Ex. Zone 0
Professional+:	Professional+	CM-ENC/JeppesenPRIMAR: Enter "Zone * ENC" (without quotations) Ex. Zone 0 ENC
CM-ENC:	ENC	* = Zone no.
JeppesenPRIMAR:	JeppesenPRIMAR	

5. Enter the license (max. 16 characters) in the bottommost window.
6. Click the [OK] button to install the license.
7. Click the [Close] button to finish.

7.4.4 How to generate and order an update file

To update the C-MAP chart database, you have to generate an update file, and e-mail the file directly to C-MAP. The update file defines coverage of charts you can display on your chart system.

1. Connect a USB flash memory to the USB port on the Control Unit.
2. Get into the Chart maintenance mode then click the [License] button on the InstantAccess bar.
3. Click the [C-MAP] tab to show the [Licenses] dialog box for C-MAP.
4. Click the [Order Update File] button. A file name (C-MAP system ID and chart type) is automatically created, with the extension .ord.
5. Select the USB flash memory.
6. Click the [Save] button to save the order file to the USB flash memory.
7. Send the order file to updates@c-map.no.

Within a few minutes you will receive a file that includes the terms for using the chart service and the chart updates. Save the file to a USB flash memory and apply it as shown in the next section.

7.4.5 How to apply the update file

1. Insert the USB flash memory that contains the update file (.ans extension) into the USB port on the Control Unit.
2. Get into the Chart maintenance mode then click the [License] button on the InstantAccess bar.
3. Click the [C-MAP] tab to show the [Licenses] dialog box for C-MAP.
4. Click the [Update from File] button.
5. Find the update file on the USB flash memory then click the [Open] button.

7.5 How to Delete a C-MAP Database

1. Get into the Chart maintenance mode then click the [License] button on the InstantAccess bar.
2. Click the [C-MAP] tab to show the [Licenses] dialog box for C-MAP.
3. Select the database to delete with the [Database] pull-down list.
4. Click the [Delete Database] button.