

FURUNO

FEA-2x07 Series ECDIS Operator's Guide

About this Guide

The purpose of this Operator's Guide is to provide basic information for this equipment. For more detailed information, see the operator's manual. The following information is presented in this manual:

- Description of ECDIS control units
- Information available on the ECDIS screen
- Setting up for departure
- How to create a route, user chart and pilot data
- Some essential information about charts and datums
- Alarms
- How to update charts



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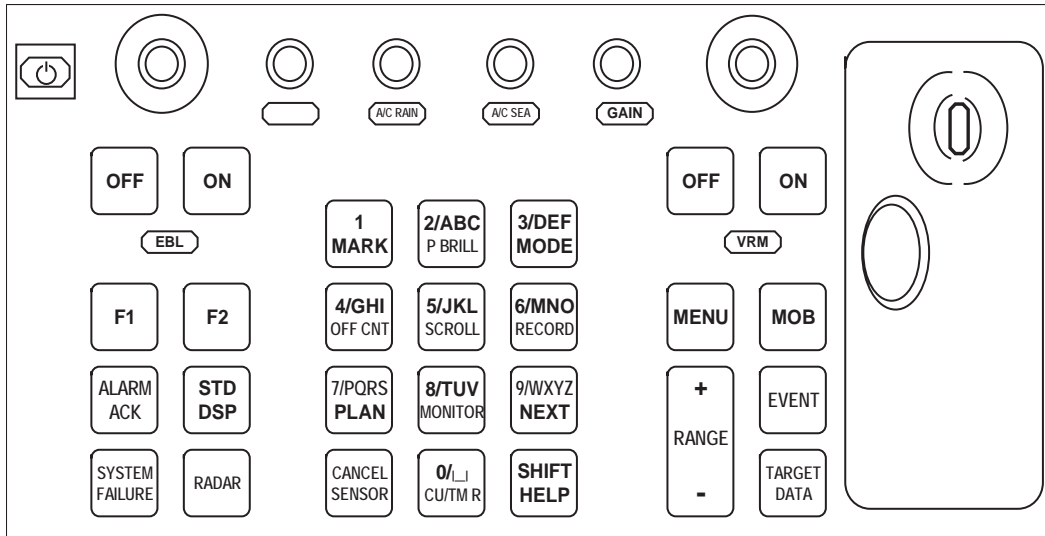
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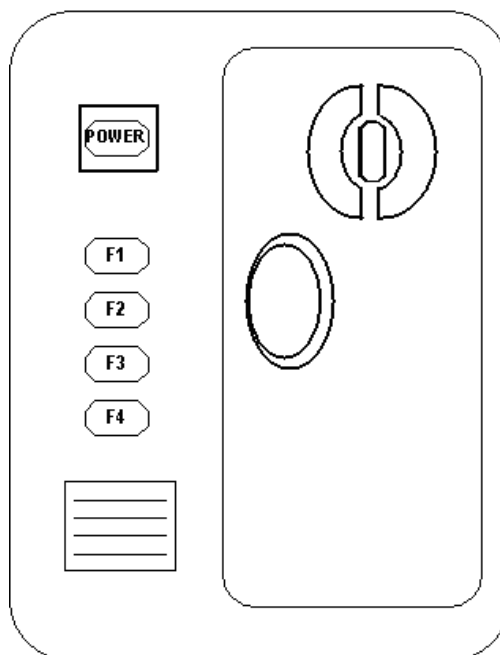
Control Panel

Overview

Two control units are available: Control Head RCU-108 and TB Control Unit RCU-015. Each carries a mouse, power switch and at least two hot keys. The RCU-108 is additionally equipped with a keyboard. All functions of the ECDIS may be accessed with the mouse. To use the mouse, roll the trackball to choose item desired, push the left or right mouse button as applicable and then push the scrollwheel.



Control head RCU-018



TB control unit RCU-015

Description of controls on Control Head RCU-018

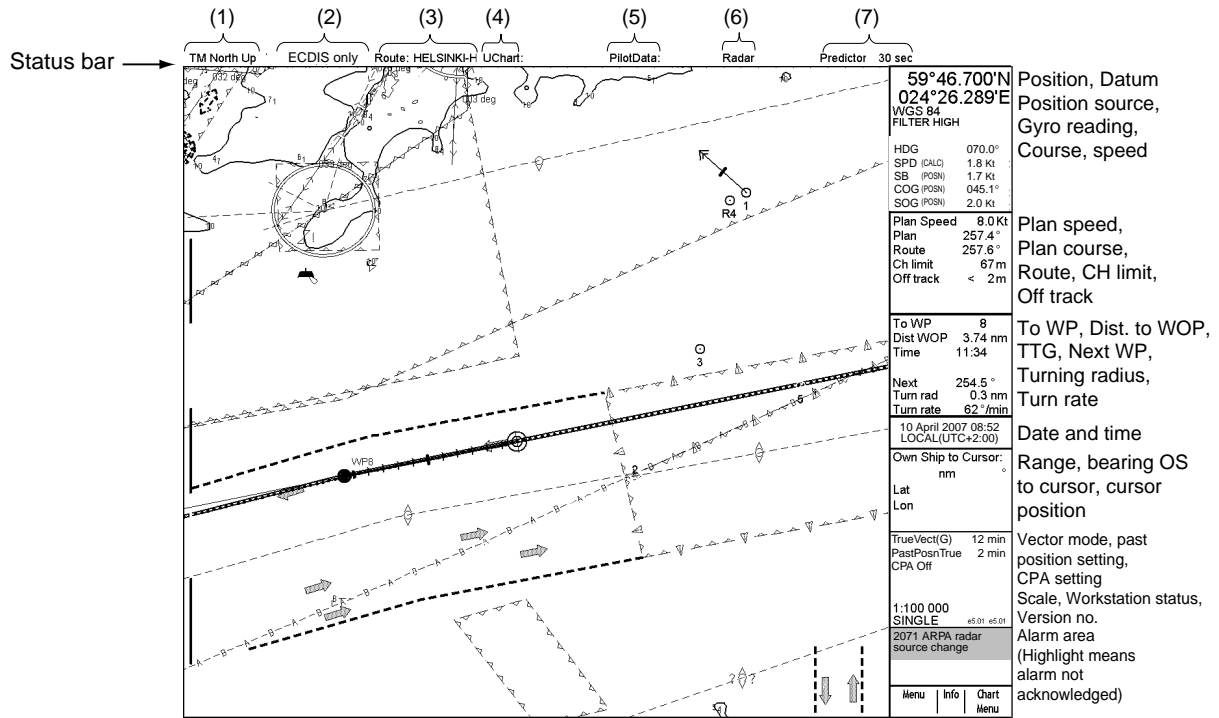
Key	Description
Power	Turns the system on/off. (This control does not switch the display on/off.)
VRM wheel	Adjusts active VRM.
VRM ON	VRM is activated and displayed depending on VRM state: <ul style="list-style-type: none"> • VRM1 is activated and displayed if no VRM is displayed. • VRM2 is activated and displayed if VRM1 is displayed. • VRM1 is activated and displayed if VRM2 is displayed. • If both VRMs are displayed, each VRM is alternately activated.
VRM OFF	VRM is deactivated and erased depending on VRM state: <ul style="list-style-type: none"> • If both VRMs are displayed and VRM1 is active, VRM2 is erased. • If both VRMs are displayed and VRM2 is active, VRM1 is erased. • If only VRM1 is active it is erased. • If only VRM2 is active it is erased.
EBL wheel	Adjusts active EBL.
EBL ON	EBL is activated and displayed depending on EBL state: <ul style="list-style-type: none"> • EBL1 is activated and displayed if no EBL is displayed. • EBL2 is activated and displayed if EBL1 is displayed. • EBL1 is activated and displayed if EBL2 is displayed. • If both EBLs are displayed, each EBL is alternately activated.
EBL OFF	EBL is deactivated and erased depending on EBL state: <ul style="list-style-type: none"> • If both EBLs are displayed and EBL1 is active, EBL2 is erased. • If both EBLs are displayed and EBL2 is active, EBL1 is erased. • If only EBL1 is active it is erased. • If only EBL2 is active it is erased.
F1	Activates user-defined function or menu.
F2	Activates user-defined function or menu.
ALARM ACK	Alarm acknowledgement for alarms generated by chart, navigation or steering calculation.
SYSTEM FAILURE	The red lamp behind the key lights and the buzzer sounds when system failure is found. Hit the ALARM ACK key to silence the buzzer. The key remains lit until the reason for the problem is removed. System failure: ARCS drawing problem, S57 drawing problem, Human interface, INS communication, Voyage recording, and Access server.
RADAR	Displays Radar Overlay dialog box, which provides functions for adjustment of the radar picture.
STD DSP	Activates standard display presentation on the ECDIS.
1/MARK	Displays the Nav. Marks dialog box, which mainly provides for activation/deactivation of various markers.
2/ABC/P BRILL	Adjusts control head dimmer.

Description of controls on Control Head RCU-018

Key	Description
3/DEF/MODE	Chooses presentation mode: NU-TM, NU-RM, HU-RM, CU-TM, CU-RM.
4/GHI/OFF CNT	Offcenters own vessel position to cursor location on the ECDIS screen.
5/JKL/SCROLL	Enables scrolling, with the trackball active.
6/MNO/RECORD	Opens Voyage Record sub menu.
7/PRQS/PLAN	Opens Plan Route dialog box.
8/TUV/MONITOR	Opens Monitor Route dialog box.
9/WXYZ/NEXT	Opens "Next" page in multi-page dialog box.
CANCEL/SENSOR	Opens Sensors dialog box; closes open dialog box or window.
0/space CU/TM R	Returns own vessel marker to screen center in TM and CU mode; inserts a space.
SHIFT/HELP	SHIFT: Shifts between lower case and upper case alphabets. HELP: Activates info/help. (Mouse must not be over input field.)
MENU	Displays the Main menu.
+ RANGE -	Adjusts charts scale.
MOB	Inscribes MOB mark on the screen.
EVENT	Records textual information fixed to own vessel position.
TARGET DATA	Shows target data for selected ARPA target; provides data for selected chart area.
GAIN	Adjusts radar gain on the radar display.
A/C RAIN	Reduces rain clutter on the radar display.
A/C SEA	Reduces sea clutter on the radar display.

ECDIS Display

- (1) Presentation mode
- (2) Operation mode
- (3) Planned route
- (4) Name of user chart
- (5) Name of pilot data
- (6) Source of target data
- (7) Predictor time



Electronic chart area

Mouse functions area
(From left to right,
current left button,
scrollwheel and
right button functions.)

Set up Before Departure

Update chart material

Update your ARCS and S57 chart material before departure to a new voyage. See the chapter on Vector Chart Material and Raster Chart Material in the operator's manual.

Display and approve date for S57 charts and manual updates

You should set Display and Approve date for S57 charts as current date.

There may be features which are date dependent or periodical in S57 charts, therefore if you have not set Display and Approve dates as current date there is possibility that you may get the wrong presentation or some features may completely be absent. For how to set Display Until and Approve Until dates, see paragraph 8.12.3 "Setting "display until" date" and paragraph 8.12.4 "Setting "approve until" date".

Create or update user chart

If necessary, create a new user chart or modify an existing one. For how to create a user chart, see Chapter 15 "User Chart Control" in the Operators Manual and "Creating a User Chart" in this manual.

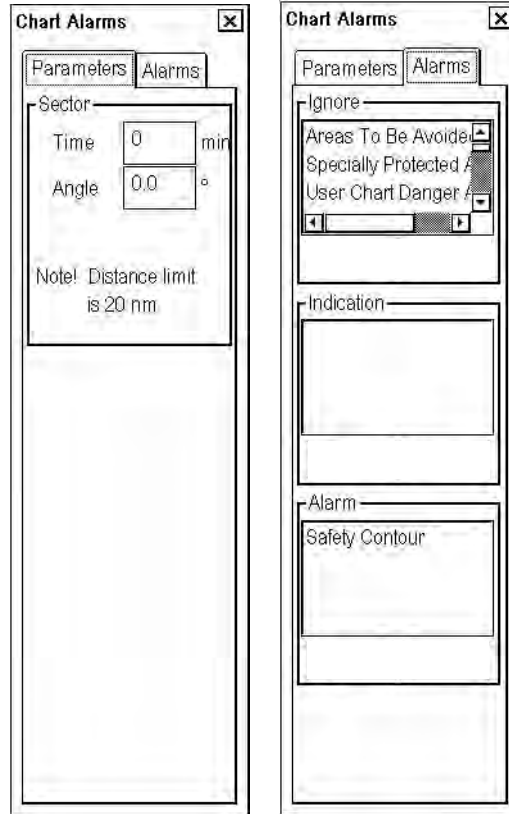
Create or update pilot data

If necessary, create a new pilot data or modify an existing one. For how to create pilot data, see Chapter 16 "Pilot Data" in the Operator's Manual and "Creating Pilot Data" in this manual.

Set chart alarm calculation

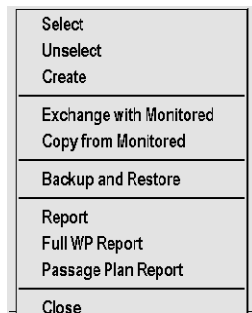
Set Chart Alarms areas suitable for your coming voyage. For more information, see Chapter 11 "Chart Alarms" in the Operator's Manual.

To open the Chart Alarms dialog box, place the cursor on the chart scale indication, press the right mouse button, open the Initial Settings menu, and then choose Chart Alarm parameters.



Create or update route

To access the menu for route planning, click the **Plan** button for Route on the status bar.



If necessary, create a new route or modify an existing one. For how to create or update a route, see Chapter 13 "Route Planning" in the Operator's Manual and "Creating a route" in this manual.

Check your route against chart alarms

Before you sail your route, you should always check your route again for chart alarms. This is important because your S57 charts and manual updates may contain date dependent information. You can check chart alarms on the Check page in the Plan Route dialog box.

Recalculate timetable and ETA values

Recalculation can be done on the Parameters page in the Plan Route dialog box. Set at least ETD to correspond departure time and perform desired optimization. Set at least ETD to date and time edit box in ETD/UTC field to correspond departure time.

The screenshot shows the 'Parameters' tab of the 'PLAN ROUTE - HELSINKI-HAMBURG / 09.09.2003 13:41' dialog box. The interface includes several input fields and controls:

- Description:** A text input field.
- ETD/UTC+3:** A field with a dropdown menu set to '1' and a date/time input field showing '09 Sep 2003 14:30'.
- ETA/UTC+3:** A field with a dropdown menu set to '13' and a date/time input field showing '11 Sep 2003 16:30'. Below this, the text '11 Sep 03 14:55' and 'Total Length: 389.1 nm' are displayed.
- Speed limit:** A field with a dropdown menu set to '20.0' and a unit dropdown set to 'Kt'.
- Optimize:** A dropdown menu set to 'Max speed'.
- Income:** A field with a dropdown menu set to '0.000' and a unit dropdown set to 'x1000\$'.
- Enable changes:** A checked checkbox.
- Partly Displayed:** A text label.

After checking chart alarms and setting ETD, cancel selection of the planned route in order to select it as the route to be monitored. Use, on the Route Plan menu, Unselect or Exchange with Monitored (to select it directly as monitored route).

Check and prepare route to monitor

Select a route for the next voyage; double click the Monitor button for Route in the status bar and then select recalculated route. For how to select a route to monitor, see paragraph 14.2 "Choosing Route to Monitor" in the Operator's Manual.

Monit.	Alarms	◀	▶
To WP	8		
Timetable			
ETA WP			
Time			
Distance		nm	
Final WP	20		
Time	05 Oct 04 06:14		
Distance	212.1	nm	
Plan final	05 Oct 04		
Off plan	-74	min	
Suggested	12.2	Kt	
Trial	11.4	Kt	
Spd	Trial		▶
Checked conditions differ			

Select next waypoint

The system selects next waypoint automatically, so check that it is correct one. Note that waypoint number 1 is not accepted. If you need to specify next waypoint, do so in the dialog box shown above.

Select final waypoint

This selection is used ONLY in case the last waypoint should be different to that one defined last in your route. If you need to specify last waypoint, do so in the dialog box shown above.

Verify configuration of navigation sensors

The operator may choose navigation sensors used for navigation and view their current values, in the Sensors dialog box. To access this dialog box, place the cursor on the position indication and push the right mouse button.

Checkbox status shows whether to use the sensor for integrated navigation or not. If there is no value with a sensor it indicates that the sensor is not valid. The content of the pages in the Sensors dialog box depends on sensors which are in use on the ship.

The image shows a vertical dialog box titled "Sensors" with two tabs: "Spd/Cse" and "Posn". The "Spd/Cse" tab is active. The dialog contains several sections, each with a checkbox and a text field:

- Manual speed: A text field with "Kt" to its right.
- Dual log (water): A text field with "0.0 Kt" above and "12.5 Kt" below it.
- Dual log (bottom): A text field with "0.0 Kt" above and "12.5 Kt" below it.
- ARPA: A text field with "Kt" to its right.
- Manual heading: A text field with "000.0 °" to its right.
- Gyro 1: A text field with "°" to its right.
- Rate gyro (calc.): A text field with "0.0 °/min" to its right.

Verify speed settings

Select both Log and Dual log if they are available, or select one of them.

Note that Manual Speed should only be used when no other speed reference is available. Remember that position sensors are also available as speed reference sources.

Verify radar settings

If neither Log nor Dual log is available, you can use ARPA as source for speed and course, by checking the ARPA box.

Verify gyro settings

Check box at Gyro1 if heading source is a gyrocompass.

Note that manual heading should only be used when no other heading reference is available.

Rate gyro is for connection of rate gyro, and is always automatically selected.

Verify position sensors

Spd/Cse Posn ◀ ▶

Chart Align Enable
0.0 ° 0.0 nm

Deadrec 50°36.989'N
 001°34.004'E

Kalman filter On ▶

078.7 ° 50°36.989'N
12.5 Kt 001°34.004'E

FURUNO Primary ▶

078.7 ° 50°36.989'N
12.5 Kt 001°33.966'E

MX200 Sec ▶

078.7 ° 50°36.989'N
12.5 Kt 001°33.958'E

You may verify position sensors on the Posn page in the Sensors dialog box. The data field of a position sensor contains a label (here FURUNO and MX200) which indicates the type of the sensor, Primary-Secondary-OFF status that indicates if the sensor is included or not, position in local datum, speed and course. A DGPS position sensor has the additional text Diff, if the differential signal is in use.

Position sensors have priority, which is indicated using Primary and Secondary. 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.

"Primary" = IS THE SENSOR WHICH IS CONSIDERED TO BE MOST RELIABLE.

"Secondary" = IS OTHER SENSORS

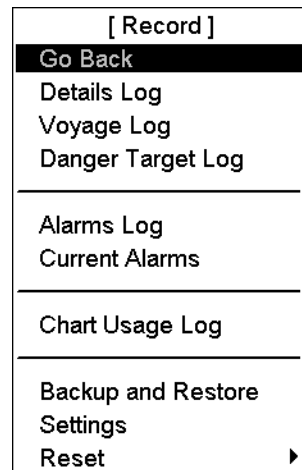
Verify Kalman filter

The Kalman filter is an automatic process that will calculate the most probable position based on data from all position sensors. The filter uses in its process all sensors that are not selected to OFF. For details about the Kalman filter, see paragraph 19.7 "Filter Operation" in the Operator's Manual.

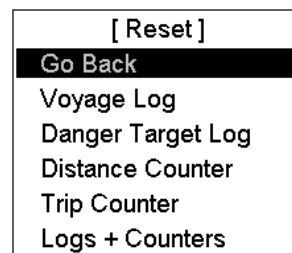
Verify chart alignment

Chart alignment is used to move your vessel to the "Correct" position if position devices define an "incorrect" position. Normally switch off chart alignment in the start up procedure. For more information about alignment, see paragraph 19.8 "Position Alignment" in the Operator's Manual.

Reset distance and trip counters



Record menu



Reset menu

To reset the distance and trip counters to zero, do the following:

1. Spin the scrollwheel to show Menu/Info/Chart Menu in the mouse functions area and then push the left mouse button.
2. Choose Record and then push the scrollwheel.
3. Choose Reset and then push the scrollwheel.
4. Choose appropriate "Counter" item and then push the scrollwheel. (The difference between Distance Counter and Trip Counter is Distance Counter is the total distance run and Trip Counter is the distance between random two points.)
5. A prompt asks you if you are sure to reset chosen counter. Click the **OK** button to reset. The prompt window disappears.

Verify datum

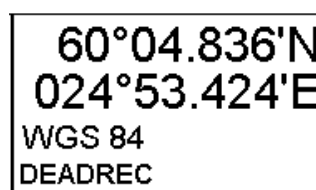
Datum is used to select between different models of the earth.

If you use paper charts together with electronic chart material, we recommend that you use the same datum as your current paper chart to avoid misalignment between your electronic system and points taken or plotted on your current paper chart.

Once you have selected a datum, all numerical latitude-longitude position values are presented in your selected datum.

To select datum do the following:

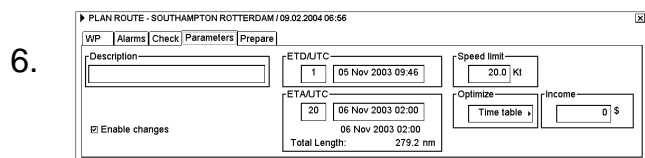
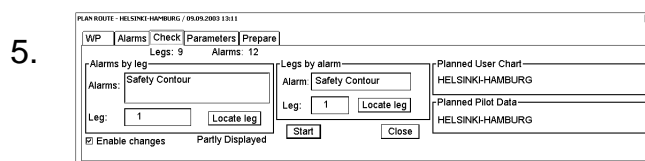
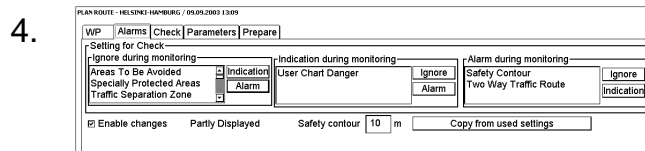
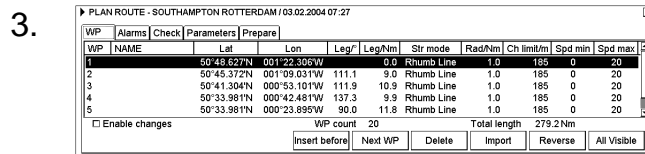
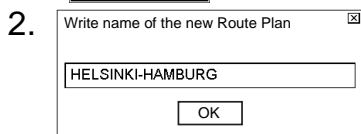
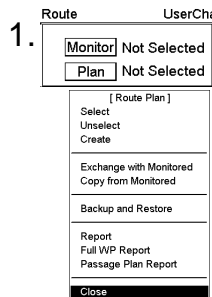
Choose the datum indication in the top box in the information area. Spin the scrollwheel to choose datum desired and then push the scrollwheel.



In the above example the datum is WGS84.

Route, User Chart and Pilot Data

Creating a route

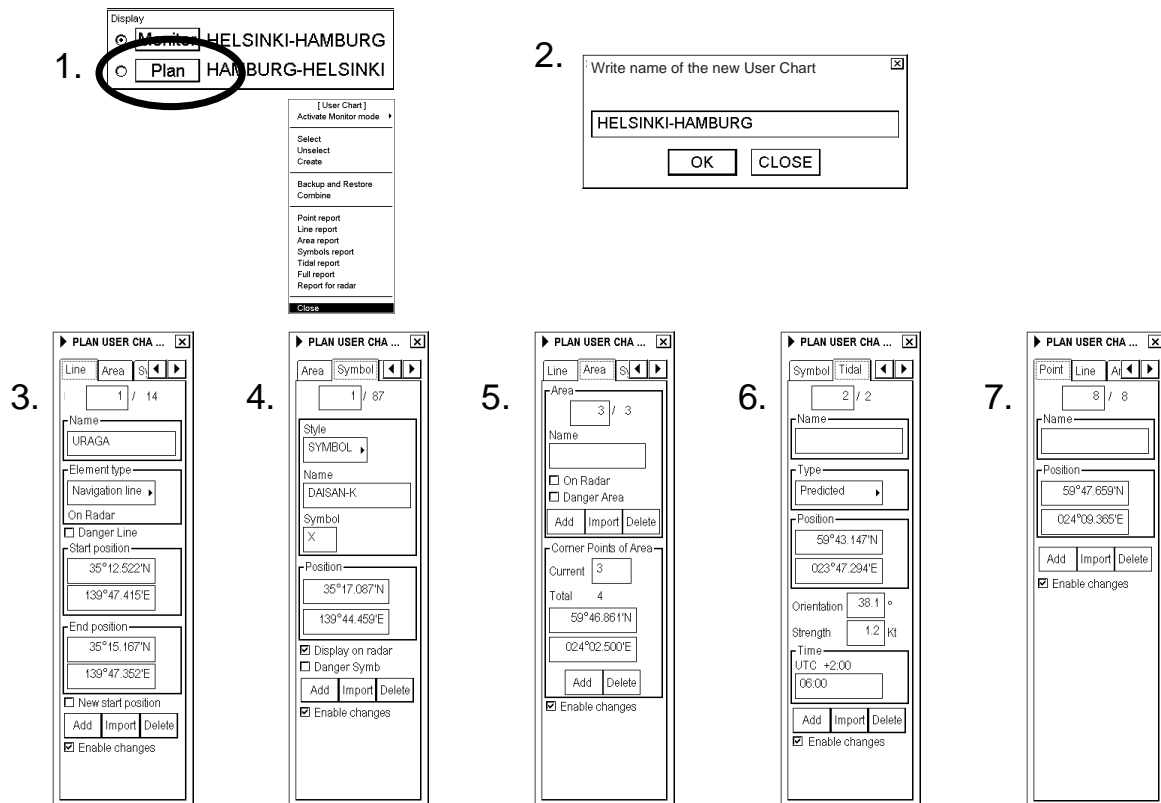


To make a complete route for a voyage, do the following:

1. Place the cursor on Route in the status bar, and then click the **Plan** button to open the Plan Route dialog box with Route Plan menu. (If the menu does not appear, place the cursor on the triangle in the dialog box.) Choose Create from the menu and push the scrollwheel.
2. Enter a name for the route by spinning the scrollwheel to choose character desired and confirming desired character by pushing the scrollwheel. When name is ready, click the **OK** button.
3. Check Enable changes in the Plan Route dialog box. Choose position of a waypoint by placing the cursor on the location desired on the electronic chart display and then pushing the left mouse button. After entering a waypoint, edit Name, Steering mode, Radius, Channel limit and Speed (Min, Max) as appropriate in the Plan Route dialog box. (Place the cursor on an item, spin the scrollwheel to change value and then push the scrollwheel.) Do this for all waypoints of your route.
4. Use the Alarms page to define safety contour and other specified conditions for checking the route. Choose item from a list and then click the **Indication** (to get a visual indication), **Alarm** (to get the audible alarm) or **Ignore** (to remove check item) button as appropriate.
5. Use the Check page to detect areas where depth is less than the safety contour or where specified conditions exist. The ECDIS can examine chart database against planned route to make a list of alarms where a route crosses a safety contour or specified areas used in chart alarms. To create a list of alarms, click the **Start** button.
6. Use the Parameters page to enter Estimated Time of Departure (ETD) and Estimated Time of Arrival (ETA), if you are using Timetable optimizing. Choose desired optimizing mode from the Optimize window.

To print a waypoint report, place the cursor on the triangle to show the Plan Route menu, choose Report from the menu and then push the scrollwheel. Click the **Print Text** button.

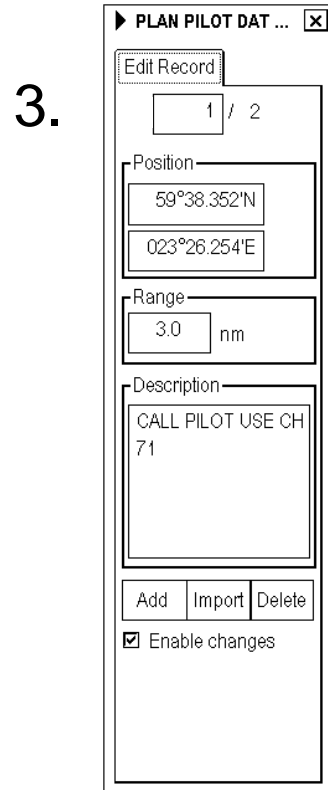
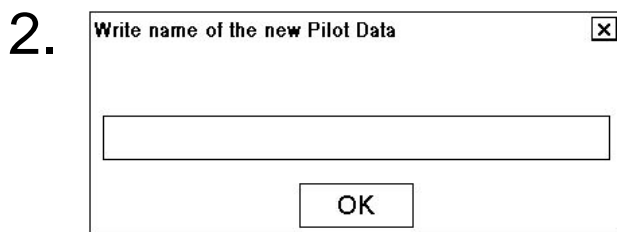
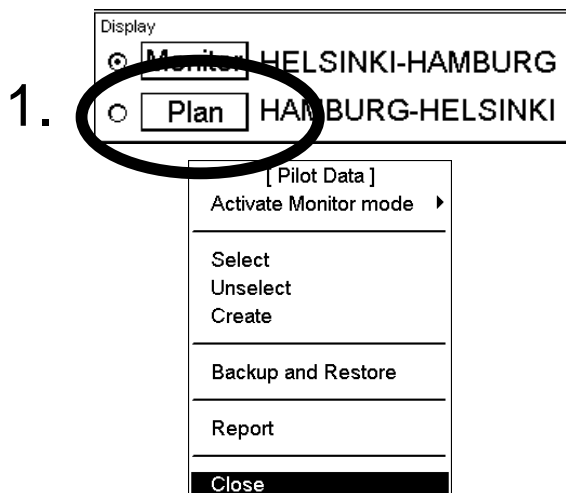
Creating a user chart



To make a complete user chart, do the following:

1. Place the cursor on UChart in the status bar and then click the **Plan** button. The Plan User Chart dialog box appears in the information area.
2. Place the cursor on the triangle in the dialog box, choose Create from the menu and then push the scrollwheel. Enter a name for the user chart; spin the scrollwheel to choose character and push it to confirm character. Click the **OK** button to finish.
3. Click the Line tab and then check Enable changes. Use the scrollwheel to enter a name for the line in the Name field. Spin the scrollwheel in the Element type box to choose line type and then push the scrollwheel. To start a new line from a new position, check "New start position". Check "Danger Line" if you want to use the line in chart alarm calculation. Use the cursor to specify position for line point and then push the left mouse button.
4. Click the Symbol tab and then check Enable changes. Click the Add button and then Define Style (Symbol or Label), Name and Symbol character in case of symbol. "Display on radar" is automatically chosen; uncheck it if you do not want the symbol or label to appear on the radar. Check "Danger Symb" to use the symbol in chart alarm calculation. Use the cursor to choose position for symbol or label and then push the left mouse button.
5. Click the Area tab and then check Enable changes. To make a new area, click the **Add** button in the Area field. Define Name for area, define also if it is displayed on Radar display (On Radar) and used in Chart Alarms calculation (Danger Area). Use the cursor to choose position for points and then push the left mouse button.
6. Click the Tidal tab and then check Enable changes. To mark a tidal on the screen, use the mouse to located the cursor and then push the left mouse button. Define Name, Type, Orientation, Strength and Time for Tidal. The Tidal symbol is displayed only on the ECDIS display.
7. Click the Point tab and then check Enable changes. Use cursor and left mouse button to define location of points.

Creating a pilot data



To create a new pilot data, do the following:

1. Place the cursor on PilotData in the status bar and then click the **Plan** button to show the Plan Pilot Data dialog box. If you have not already chosen pilot data, the plan Pilot Data menu also appears. If the menu is not displayed, click the triangle mark in the dialog box. Choose Create from the menu and then push the scrollwheel.
2. Enter a name for the user chart, spinning the scrollwheel to choose character and pushing the scrollwheel to confirm.
3. In the Edit Record page of the Plan Pilot Data dialog box, check "Enable changes". Roll the trackball to place the cursor on the location desired for pilot data and then push the left mouse button. In the Range box, enter the range from own vessel at which to activate the pilot data. To show text message on the screen, enter desired message in the text window; spin the scrollwheel to choose character and push the scrollwheel to confirm.

Own Ship and ARPA Targets

Own ship and ARPA targets

Position of own ship on chart display area

The functions below are accessed with the mouse.

TM Reset: This will place the vessel at the position of automatic TM Reset margin. (Note that this function may also be accessed from the keyboard with the **CU/TM R** key.)

ShipOffcenter: This will place the vessel at the position of the cursor.

Ship Center: This will place the vessel at the screen center.

Chart motion

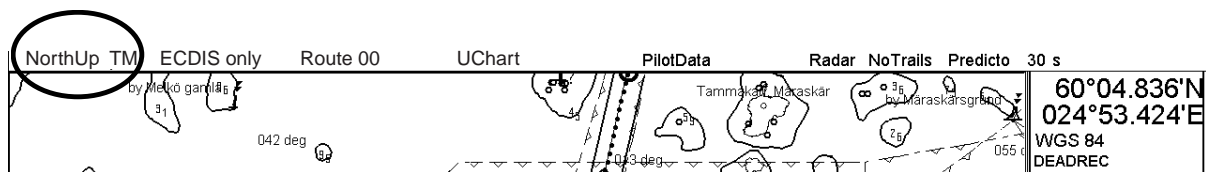
You can use either true motion or relative motion. In true motion your own ship moves until it reaches the true motion reset borderline. Then it will jump back to an opposite position on screen based on vessel's course. In relative motion own ship stays in a fixed position while the chart under it moves on screen.

If you use true motion and access ShipOffcenter, your ship will go to cursor position on screen and continue true motion movement from that position. When it reaches true motion reset borderline it will automatically jump to true motion reset position.

If you use relative motion and access TM Reset, your ship will immediately jump to true motion reset position and use that position as fixed position to stay on screen.

With relative motion, you can select a new fixed position for own ship by choosing the location with the cursor and accessing the ShipOffcenter function with the mouse.

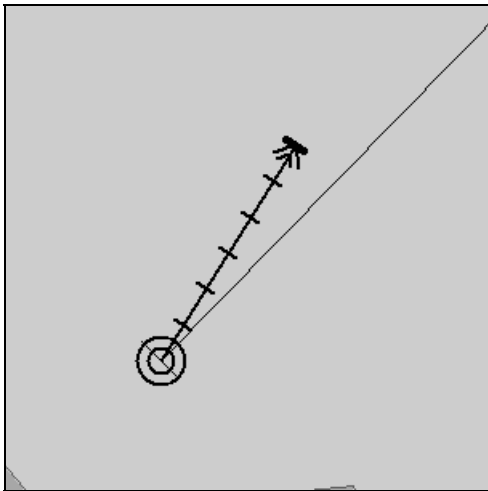
To select desired display mode, place the cursor at the location circled below, spin the scrollwheel to choose desired mode and then push the scrollwheel to confirm.



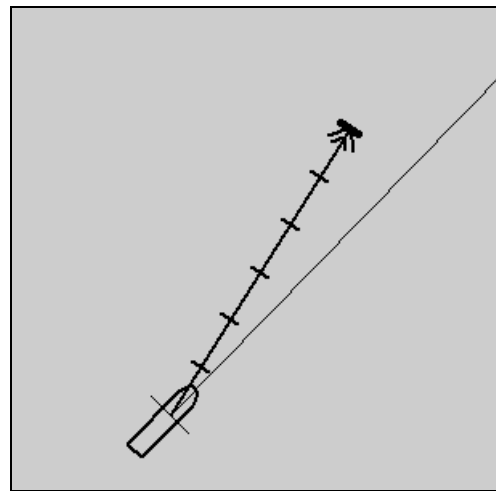
Own ship symbol

The vessel position is indicated by a circle, the centre indicating the conning position.

With a large scale, the vessel is indicated as true scale symbol, when size of symbol is larger than 6 mm.



Own ship symbol on small chart scale

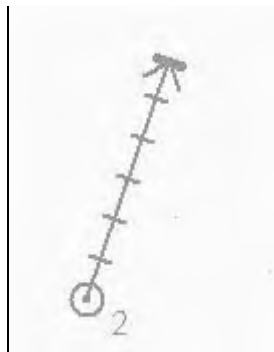


Own ship symbol on large chart scale

- Vessel heading (Gyro) is shown by a solid line over the chart.
- Vessel ground speed (SOG) and ground course (COG) is shown by a vector which starts at conning position.

ARPA target symbol

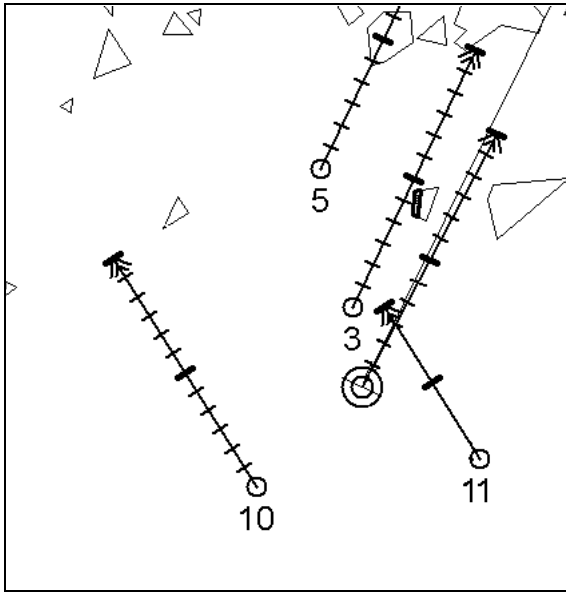
The ARPA target symbol is shown below.



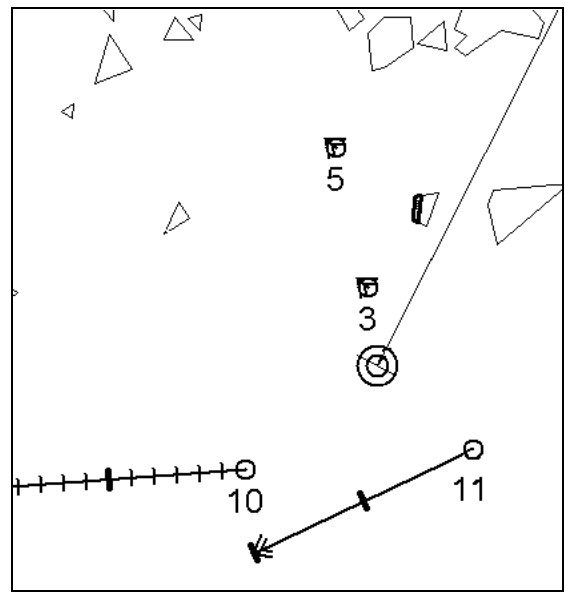
- A dangerous ARPA target is displayed as a blinking target symbol, in colors of green and red alternately. The ECDIS has its own definition for dangerous target limits (CPA, TCPA).
- A lost ARPA target is displayed as a blinking target symbol, in colors green and dark yellow alternately.

Vectors of own ship and ARPA targets

Target vectors can be displayed relative to own ship's heading (RelVect) or with reference to the North (TrueVect). Both presentation modes can be used with relative motion (RM) or true motion (TM) of own ship display mode.

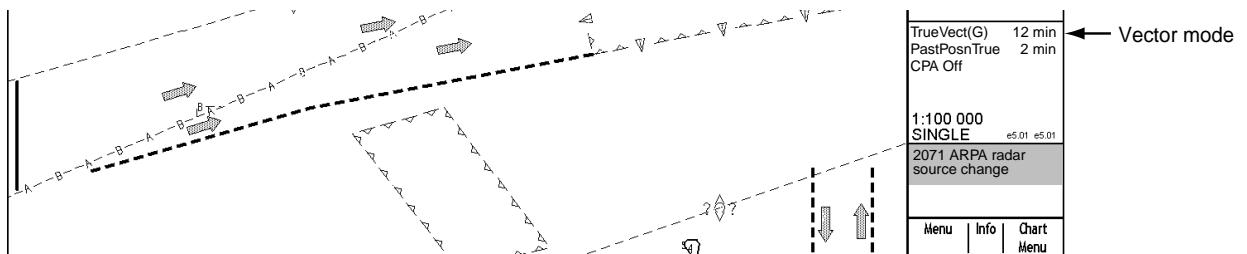


Presentation of true vector (TrueVect)



Presentation of relative vector (RelVect)

Vector time (or the length of vectors) and presentation mode can be set at the location shown in the figure below. Place the cursor on the time figure of True(Rel) Vect, spin the scrollwheel to choose setting and then push the scrollwheel.



Own ship past track

To set up own ship track:

1. Open the Chart Display dialog box with the mouse.
2. Click an arrow tab in the dialog box to open the Tracking page.
3. In the Past Tracks window, the first panel below this title refers to own ship. Use the cursor and select button to activate desired settings.

Off	Tracking information is switched off.
Std	Tracking information is switched on.
Other	Tracking information is switched on until the Standard Display feature is activated, with the mouse or the STD DSP key on the keyboard.
Length	Adjust length of track history.
Labels	Specify interval between dots on the history track.

ARPA target past track

Open the Targets page following steps 1-3 above. Set up the ARPA target related items as follows:

ARPA targets	Tracking information of ARPA target is displayed.
Off	Tracking information is switched off.
Std	Tracking information is switched on.
Other	Tracking information is switched on until the Standard Display feature is activated, with the mouse or the STD DSP key on the keyboard.
Length	Adjust length of track history.
Labels	Specify interval between dots on the history track.

Charts, Datums and Alarms

Charts

Chart types

The user can select between two different chart types: ARCS raster chart or S57 (ENC) vector chart.

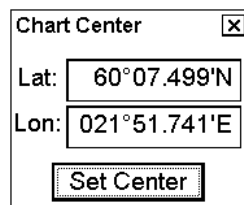
To select desired chart material, do the following:

1. Spin the scrollwheel to show Menu/Info/Chart Menu in the mouse functions area and right-click to show the Chart menu.
2. Choose Activate ARCS chart or Activate S57 chart as appropriate and then push the scroll-wheel.
3. In the sub menu, Sync Scale is used to open another type of chart with the same scale, and Ignore Scale is used to open another type of chart with the same scale as it was used last time.

Browsing around your charts

You may view S57 charts using different positions and different scales. The basic tools for browsing charts are **Range -**, **Range+**, **Set Chart Center**, **ShipOffcenter** and **TM Reset**.

Set Chart Center allows you to look ahead from a place other than own ship's current position. Choose Set Chart Center from the Main menu to display the dialog box shown below. Use the scrollwheel to set the latitude and longitude position for chart center and then click the **Set Center** button.



Note: The chart can also be centered (with less precise positioning) by placing the cursor at desired location, displaying Set Chart Center/Info/Activate Scroll in the dialog box and pushing the left mouse button.)

To turn off automatic true motion reset, display and click TM Reset (in the guidance area). When true motion reset is off, the indication "Ship off screen" appears in the information area.

To restore own ship's position to the screen center, display TM Reset/Info/ShipCenter in the mouse functions area and then push the right mouse button.

Range - and **Range+** change the chart scale. If true motion reset is active, ZOOM IN and ZOOM OUT keep the relative position of the own ship with respect to the display. If true motion reset is on, ZOOM IN and ZOOM OUT keep the relative position pointed by the cursor with respect to the display.

The system automatically chooses next larger or smaller scale. If a chart with larger compilation scale available at your current viewing position, the message "Larger Scale Data Exists" appears.

Presentation of ARCS material

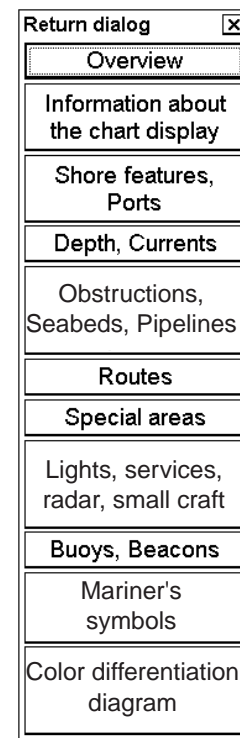
ARCS charts are facsimile copies of BA paper charts, and as such share a common numbering system and the raster images are identical to the paper ones.

Presentation of S57 charts

You can familiarise yourself with the symbols used on S57 charts by browsing the IHO ECDIS Demo Chart 1, which is included in this ECDIS. Note that it behaves as any S57 chart and it follows your selections.

To open the IHO ECDIS Chart 1 on display, do the following:

1. Spin the scrollwheel to show Menu/Info/Chart Menu in the mouse functions area and then push the right mouse button.
2. Roll the wheel to choose ECDIS Chart 1 from the menu and then push the scrollwheel. The menu shown right appears.
3. Spin the scrollwheel to choose desired item and then push the scrollwheel.



Display Base

A subset of chart features is called a Display Base. As required by IMO, these features cannot be made invisible under any user selection. The Display Base consist of following chart features:

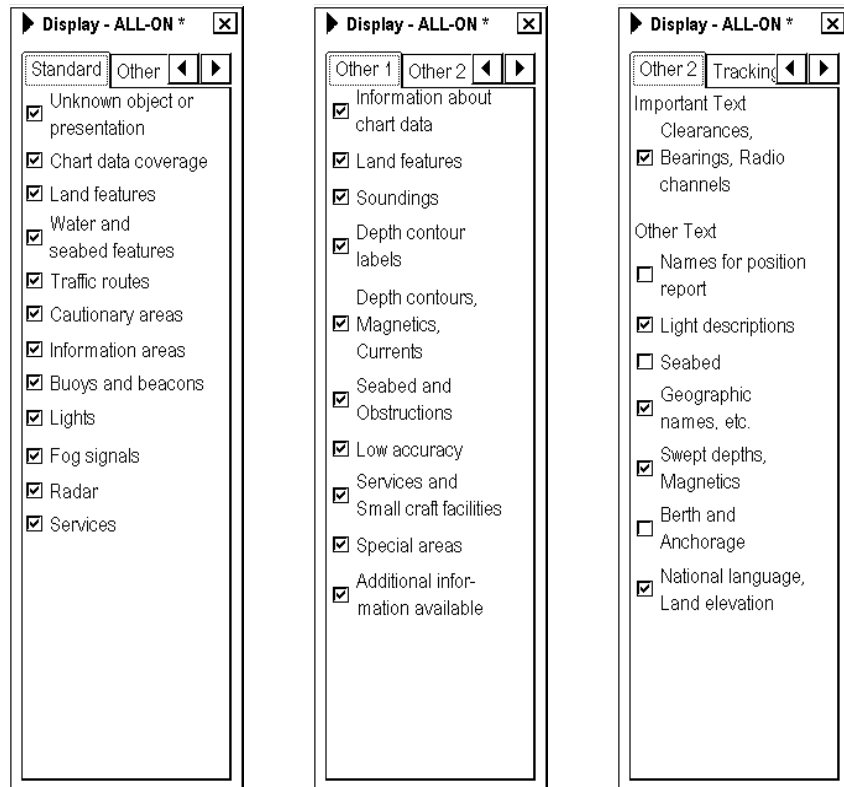
- Coastline (high water)
- Own ship's safety contour, which is selected by the user
- Indication of isolated underwater dangers of depths less than the safety contour, which lie within the safe waters defined by the safety contour
- Indication of isolated dangers, which lie within the safe water defined by the safety contour such as bridges, overhead wires, etc., and including buoys and beacons whether or not these are being used as aids to navigation
- Traffic routine systems
- Scale, range, orientation and display mode
- Units of depth and height

Control of visible chart features

Visibility of chart features which are not included in the Display Base can be controlled on Standard, Other 1 and Other 2 pages in the Chart Display dialog box. You can turn chart features on or off from these pages.

The Standard page includes chart features which IMO has defined to be displayed as the Standard Display. (These options will be displayed when the Standard Display feature is accessed, with the mouse or with the **STD DSP** key on the keyboard.

The Other 1 and Other 2 pages contain additional chart features. This information is turned off when the standard display is activated.



Control of visible navigation features

Visibility control of the navigation features is divided into three pages:

- Route page controls planned and monitored routes.
- Tracking page controls past tracks and some other features.
- Mariner page controls pilot data, user charts and chart alarms.

To access these pages, choose Chart Display in the mouse functions area. Click the arrow tab in the dialog box (or **NEXT** key on the keyboard) to choose page desired.

"Std" and "Oth" turn on chosen item. When the standard display is activated items selected to Oth are turned off.

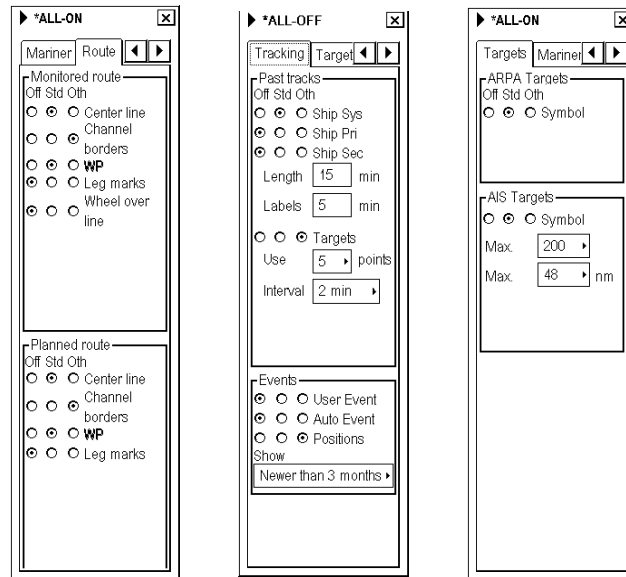


Chart datum

Chart datum of S57

The datum used in S57 charts is always WGS-84.

Chart datum of ARCS

The difference between ARCS chart local datum and WGS84 datum is known as WGS84 Shift. For most of the ARCS charts this is known and the system can do the conversion automatically. For some ARCS charts, however, this is unknown and the user must define the shift. For some ARCS charts this is partially known and the user define the shift for the unknown areas of partially known ARCS charts. For details see the paragraph 9.2.1 "Difference between ARCS chart local datum and positions in WGS-84 datum" in the Operator's Manual.

See also ARCS Navigator User Guide. It has a chapter "Use with GPS" about the datum in question.

ECDIS datum

If you use paper charts together with electronic chart material, it is recommended that you use the same datum as your current paper chart to avoid misalignment between your electronic system and points taken or plotted on your current paper chart. This selection of the datum does not change anything inside the ECDIS for navigation calculation processes or for electronic sea chart display processes. However, it changes the numerical values of positions displayed on the ECDIS screen into the user-selected datum.

Alarms

There are three kinds of alarms generated by ECDIS or Trackpilot processors. To see a list of the alarms, see the chapter on alarms in the Operator's Manual.

Alarms generated by navigation calculation

Navigation calculation generates the following alarms:

- Error detected in any sensor
- Radar communication error
- Software alarms, etc.

Alarms generated by chart calculation

Chart calculation generates the following alarms:

- New pilot data notebook page available
- Chart alarms based on S57 charts
- Chart alarms based on user chart's dangerous symbols, lines and areas

Alarms generated by steering calculation

Note that all steering-related functions are available only if the ECDIS processor is also connected to the optional Trackpilot processor. Some of the alarms such as Outside Channel limit are also available without the optional Trackpilot processor. Without the Trackpilot processor, all alarms generated by steering calculation appear in the same alarm queue as alarms generated by navigation calculation.

Description of the alarm priority system

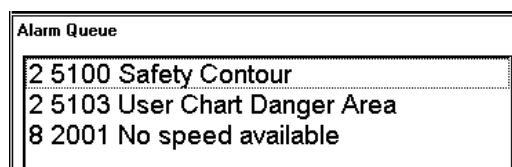
The permanently visible alarm is the top most urgent alarm at any moment. Alarms have priority from 1 to 10 to control urgency. Priority 1 is the highest. The list of alarms chapters show these priorities for each alarm with following syntax: "/1" at the end first line means priority = 1, "/1/8" at the end of first line means that priority is = 1, if unacknowledged and priority = 8, if acknowledged but the state of alarm still exists. Unacknowledged alarm is shown in black text (or white depending on color scheme) on red background and acknowledged alarm which still exists is shown in orange text on white background.

You may view the alarms in the Alarm Queue. Place the cursor on the alarm text and then push the right mouse button. See the example below.

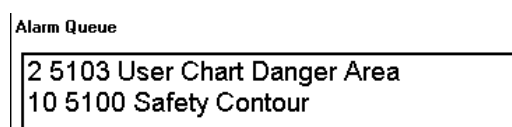
How to read the Alarm Queue (first row as an example):

- First digit "2" indicates alarm priority.
- Second four digits "5100" indicate alarm number.
- Text indicates reason of alarm "Safety contour".

The first example shows how alarm 2001 changes its priority from 1 to 8 after it is acknowledged. Then, lower priority alarm 5100 is the most urgent out of the remaining alarms.



Alarm Queue	
2	5100 Safety Contour
2	5103 User Chart Danger Area
8	2001 No speed available



Alarm Queue	
2	5103 User Chart Danger Area
10	5100 Safety Contour

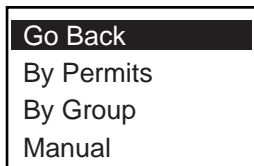
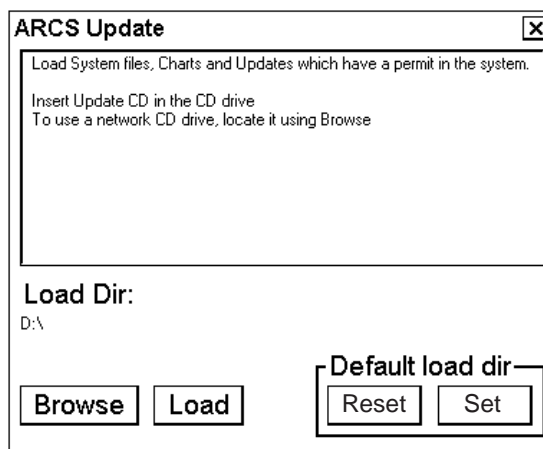
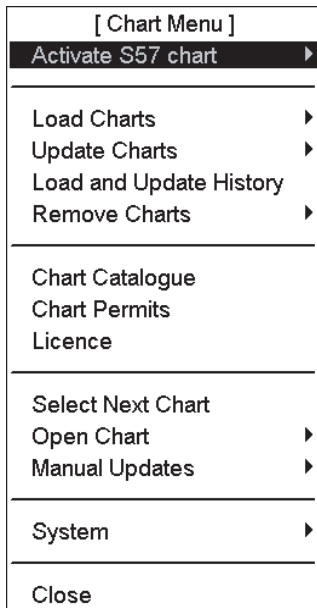
The second example show how alarm 5100 changes its priority to 10 after it is acknowledged. Then, alarm 5103 is the most urgent out of the remaining alarms.

Updating Charts

ARCS charts

The updates are delivered separately in an Update CD ROM. To update ARCS format raster chart into the system, you have three choices, update by permit, update by active group or update manually. The procedure below shows how to update by permit.

1. Spin the scrollwheel to display Menu/Info/Chart Menu in the mouse functions area and then push the right mouse button.
2. Choose Update Charts from the menu and By Permits from the sub menu.



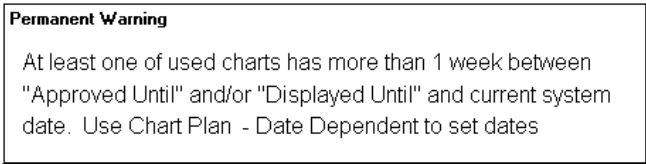
3. Insert Update CD ROM to drive and then click the Load button. The system will automatically update charts for which you have a permit.

For detailed information, see paragraph 9.4.9 "Updating ARCS charts" in the Operator's Manual.

S57 charts

Date dependency

If you currently use a chart which has Display Until and/or Approved Until dates (set in the Set Chart viewing dates in the Chart menu) more than 1 week from current system date, you have a permanent reminder on your chart display.

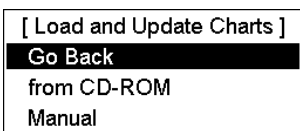
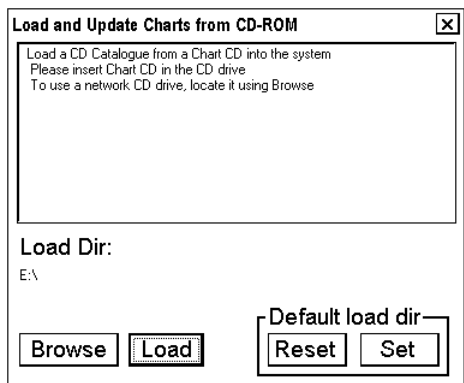
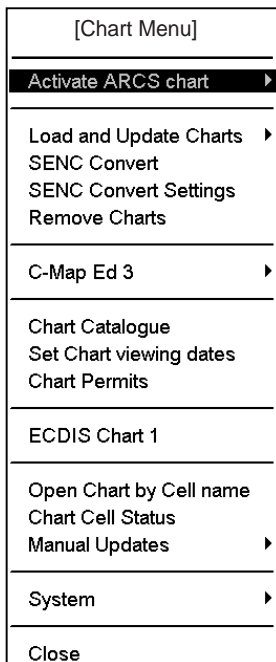


To remove this warning, set "Approve Until" and/or "Display until" as current system date. For how to set these dates, see paragraph 8.12.3 "Setting 'display until date'" and paragraph 8.12.4 "Setting 'approve until' date in the Operator's Manual.

Loading S57 charts from a CD ROM

To update S57 with an Update CD ROM, do the following:

1. Spin the scrollwheel to show Menu/Info/Chart Menu in the mouse functions area and then push the right mouse button.
2. Choose Load and Update Charts from the menu and "from CD ROM" from the sub menu.



3. Insert CD ROM into drive and click the **Load** button.

If you receive an Update CD from Hydrographic Office, see paragraph 8.3.2 "Loading S57 charts from a CD ROM, floppy disk or LAN" in the Operator's Manual.

If you receive an Update CD from a RENC (Regional ENC Co-ordinating Centre), for more information, see paragraph 8.8.5 "Update CD ROM from an RENC" in the Operator's Manual.

Update of S57 charts using Telecomm

If you are using Telecomm services to keep your S57 charts up-to-date, see paragraph 8.6 "S57 Chart Service from an RENC" in the Operator's Manual.

ECF

(Elemental Chlorine Free)

The paper used in this manual
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