FURUNO

MARINE RADAR/ARPA FCR-2107(-BB)/2807 Series

Operator's Guide





The purpose of this Operator's Guide is to provide basic operating procedures for this equipment. For detailed information see the Operator's Manual.

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How to select an operating mode

Put arrow on the operating mode indication and left-click. The choices are Chart Radar, Radar and ECDIS.



Radar mode indications



Chart radar mode indications



ECDIS mode indications



Radar functions		
Adjusting tuning	Radar picture adjustments	Measuring range
Adjusting tuning 1. Roll the trackball to put the arrow on the TUNE level indicator at the top of the screen. put arrow here. Tune MAN 2. Left-click to show AUTO TUNE to get automatic tune. Adjusting sensitivity 1. Roll the trackball to put the arrow on the gain level indicator at the top of the screen. put arrow inside window to adjust gain. Gain 30 2. Spin the scroll wheel downward to increase the gain or upward to decrease it. Suppressing sea clutter 1. Use the trackball to put the arrow in the SEA AUTO box. put arrow here. Sea AUTO 3 2. Push the left button to show SEA MAN. 3. Put the arrow on the A/C SEA level indicator. 4. While observing the radar image, spin the scrollwheel to suppress sea clutter. Suppressing rain clutter 1. Put the arrow on the level indicator.	 Example 1 Select item's setting. Select item's setting. Select item's setting. Spin the scrollwheel. 	Measuring range 1. Use the trackball to put the arrow in the VRM1 or VRM2 box, whichever VRM you want to use. VRM1 VRM2 The guidance box reads "VRM ON." 2. Push the left button to turn on the VRM. 3. Spin the scrollwheel to put the VRM on the inner edge of the target. No. 1 Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. VRM Juint and the inner edge of the target. To erase a VRM, select the appropriate VRM box and push the left button until the VRM disappears fr
 Push the left button to show SEA MAN. Put the arrow on the A/C SEA level indicator. While observing the radar image, spin the scrollwheel to suppress sea clutter. Suppressing rain clutter Put the arrow on the level indicator. While observing the radar image, spin the scrollwheel to suppress rain clutter. Put arrow here. Rain MAN 	 Select item's setting. Spin the scrollwheel to select desired setting. Push the scrollwheel. 	Also pears from the screen. Measuring bearing 1. Use the trackball to put the arrow in the EBL1 or EBL2 box, whichever EBL you want to use. EBL1 EBL2 The guidance box reads "EBL ON." 2. Push the left button to turn on the EBL. 3. Spin the scrollwheel to bisect the target with the EBL. No. 2 BL 30 Target Job 20 BL 30 Control 100 Control 100
		To erase an EBL , select the appropriate EBL box and push the left button until the EBL disappears from the screen.

TT functions



AIS functions

Turning AIS function on/off

Targets which are being tracked by an AIS transponder can also be displayed on the display. Put the cursor on the AIS setting in the information area then push the left mouse button to select an option (DISP OFF, DISP FILT, DISP ALL).



Activating targets

Activating specific target

- 1. Put the arrow on the AIS target and push the scrollwheel.
- 2. On the target data display, left-click the AIS check mark. Check mark present means activated target; no check mark indicates sleeping target.

Vector → / ← Heading line

Activated target

Sleeping target

Δ

Activating all targets

- 1. Put the arrow in the AIS DISP box at the right side of the screen.
- 2. Right-click to show the AIS DISP menu.



3. Select Activate All and left-click.

Sleeping all activated AIS targets

- 1. Use the trackball to select the AIS box at the right side of the screen.
- 2. Push the right button to open the AIS DISP menu.

Activate All	
Auto Disp Msgs	
Received msgs	
Transmit msg	
- I	

3. Spin the scrollwheel to select Sleep All Target and push the left button or the scrollwheel.

Displaying target data

You may display an AIS target's data by selecting it on the display.

Basic data

Use the trackball to put the arrow on an AIS target symbol and push the scrollwheel.

TGT DLG 1	×
AIS (A) 🗹	
NG XPRS	
BRG 290.7	°T
RNG 2.3	NM
COG 310.0	°T
SOG 12.4	kn
CPA 1.3	NM
TCPA -6.2	min
P/N 10	1111

Detailed target data

- 1. Use the trackball to put the arrow on the desired AIS target in the data box at the right side of the screen.
- 2. Push the left button to show detailed data.

TGT DETAILS	×
AIS (A) 🗹 🛛 Active	
VIKING XPRS	
BRG 284.4	°T
RNG 2.0	NM
COG 338.3	°T
SOG 12.8	kп
CPA 1.7	NM
TCPA -3.4	min
BCR	NM
BCT >65	min
Tracking	

To erase detailed target data, put arrow in detailed target data and left-click.

Filtering AIS targets

1. Right-click the AIS setting indication to show the AIS filter dialog box.

 ✓ Class A ✓ Class B ✓ ATON ✓ SAR Aircraft ✓ SART 	
☑ Class B ☑ ATON ☑ SAR Aircraft ☑ SART	
☑ ATON ☑ SAR Aircraft ☑ SART	
☑ SAR Aircraft ☑ SART	
🗹 SART	
🗹 Base Station	
Max. count 240	•
Max. range 48 MM	
Priority RANGE	*
Speed min. 0 🔸 kn	
Length max. 0 🔸 m	

- At the top of the window, check the types of AIS targets to show.
- Select max. count and max. range of AIS symbols to display.
- 4. Set filtering method (CPA, TCPA or RANGE) with Priority.
- Set min. speed and max. length for displayed target.

Creating a safety message

- 1. Display Menu/Info/Chart Menu in the guidance box and push the left button to open the Main menu.
- 2. Select Safety Message from the menu and push the scrollwheel.
- 3. Put the arrow on the triangle in the menu to show the sub menu.
- 4. Select Create Message from the menu and push the scrollwheel.



- 5. Check Enable changes.
- 6. Put the arrow in the Address box. Spin the scrollwheel to select "Addressed to MMSI" or "Broadcast to All" as appropriate and push the scrollwheel. For Addressed to MMSI, enter MMSI of ship in the MMSI input box, in the Vessel window.
- 7 Select message type at Message type box.
- 8. Enter the text of your message in the box below the Channel box.
- To send the message, put the arrow on triangle to show the sub menu, select Send Message and push the scrollwheel.

Loading S57 chart from CD-ROM

1. Set CD-ROM to drive, spin the scrollwheel to show Menu/Info/Chart Menu in the guidance box and then right-click.



2. Select "Load and Update Charts" from the menu and "from CDROM" from the sub menu.

[Load and Update Charts]
Go back
from CDROM
Manual

The system loads publisher notes and product list from the CDROM and the "Load or Update Charts from CDROM dialog box appears.

3. Select the chart to load from the "Load or Update Charts from CDROM" dialog box.



- 4. Click the Load button to start loading.
 - 1) Before loading starts the message below appears.

Loading may	take time ar OK to (nd prevent monitoring. C continue.	licł

 Click the Yes button to load chart. SENC conversion is done automatically and the SENC Convert window appears.



3) After the conversion is completed, the window shown below appears.

CD His	story		×
CD	JP W13 2000 3 30		►
Sou	rce JP Week 13 Date	e 2000 3 30	
Last	Load finished	05 October 2004 06:06	
Last	Conversion finished	05 October 2004 06:07	
F	or details and printout	see Load and Conv. History	
	Load and	d Conv.History	

4) Click the Close button to finish.



Creating a user chart

User charts are created and edited in the Planning mode. To display a user chart on ECDIS, set Points, Symbols & Tidals and Areas on the Mariner page in the Symbol Display menu.

User Chart PLAN USER CHA Х 5. Click the Area tab and then check 1. Put the arrow on User "Enable changes." To make a new Area Symbol Monitor Chart in the information O DISP area, click the Add button in the Area Area area then click the Plan 1/1 field. button. Name Define Name for area. Use the arrow Plan D DISP to select position for points and then D On Radar 2. Put the arrow on the push the left button. triangle in the dialog box, Add Import Delete choose Create from the × mer Points of A Enfor name of the new User Chart menu and then push the 14 scroll wheel. Enter a name HELSINKI-HAMBURG 59°43,147'N for the user chart. Click the 023"02 500'E OK OK button to finish. Add Delete PLAN USER CHA ... 🗙 3. Click the Line tab and then check Line Area St "Enable changes." Click the Add Rec 1 / 14 button. Spin the scrollwheel -Name 6. Click the Tidal tab and then check PLAN USER CHA. in the Element type box to choose "Enable changes." To mark a tidal on the screen, use the mouse to locate the Symbol Tidal line type and then push the nent typ 11 scrollwheel. To start a new line from Navigation line 🖡 arrow and then push the left button. a new position, check "New start Define Name, Type, Orientation, position". Start positio 35°12.522'N Strength and Time for Tidal. The Tidal 139°47.415'E Predicted symbol is displayed on the chart End position 35°15.167'N <Line type> radar and ECDIS displays. 59°43 147'N ---- Coast line 139°47.352'E 023°47 294'E Depth line tart position <Types> Onentation 38.1 mport Delete Predicted: Predicted current flow Route line 1.2 F Strength Actual: Actual current flow Navigation line Time-UTC +9:00 06:00 Import Delet E E 4. Click the Symbol tab and then check PLAN USER CHA ... X "Enable changes." Click the Add Symbol Tidal 4 > button. For symbol, set style (symbol or 111 label). Use the arrow to select location for symbol or line and then left-click. SYMBOL FLAN USER CHA. 7. Click the Point tab and then check "Enable changes." Use arrow and left Point Line As 4 > <Symbol style> button to define location of point. 11 Symbol: Alphabet, numeric Label: Entered name 34°30.291'N 59°47 659%) 115415 75115 024°09.365'E Display on radar Add Import Delete Danger Symbol Import Delet Ø

Notes

Not Creatir

Creating Notes	
 Put the arrow on Notes in the information area and then click the Plan button to show the Notes dialog box. Select Create from the menu and then push the scrollwheel. 	Select Notes X Monitor OISP Plan DISP Plan DISP Backup and Restore Report Close
2. In the Notes name entry box, spin the scrollwheel to choose character, and then push the scrollwheel. Repeat to enter name desired and then click the OK button.	Enter name of the new Notes
3. In the Edit Record page of the Plan Notes dialog box, check "En	able changes".
4. Roll the trackball to put the arrow on the location desired for Not button.	es and then push the left mouse
5. In the Range box, enter the range from own ship at which to acti	vate the Notes.
 To show text message on the screen, enter desired message in scrollwheel to choose character and push the scrollwheel to con 	the text window; spin the firm.
Displaying Notes	
To show Notes on the chart, turn on Notes in the Mariner page of the	ne Symbol Display dialog box.
 There are four ways to show pilot data on the chart: 1. Position marker only 2. Position marker and alphanumeric information 3. Position marker, range ring 4. Position marker, range ring and alphanumeric information 	
1. 2. 3.	4. THISNS A TEST
i i [i) (i)

Creating a new route

[Route Plan] Select Route Х 1. Put the arrow on Route in the information area, and then click the Plan Select button to open the Plan Route dialog box with Route Plan menu. Select Monitor O DISP Create and push the scrollwheel. Cre Exchange with Monitored Copy from Monitored Plan) DISP Backup and Restore Report Full WPT Report Passage Plan Report Close × 2. Spin the scrollwheel to choose character, and then push the scrollwheel. Repeat to Enter name of the new Route Plan enter name desired and then click the OK button. HELSINKI-HAMBLIR OK FLAR ROUTE - EMILY 13 Jul 2009 12 R. 3. Check "Enable changes" in the Plan Route dialog box. Choose
 WPT
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 WPT
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 position of a waypoint by placing the arrow on the location LON 135-15.51 desired on the electronic chart display and then pushing the left mouse button. After entering a waypoint, edit Name, Steering IT THE ble changes WPT count 20 Total length ETD(1) - ETA(20 40.9 NM mode, Radius, Channel limit and Speed (Min, Max) as Insert before Insert After Delete V/PT Import appropriate in the Plan Route dialog box. • PLAN ROUTE - CCC / 19 Aug 2010 18:3 4. Open the Alarms page to define safety contour and other specified WPT Alerts Check Parameters Pre Setting for Check conditions for checking the route. Choose item from a list and then Safety Contour ning ma storingclick Indication (to get a visual indication), Alarm (to get the ar To De J Traffic Separation Zone Traffic Zone audible alarm) or Ignore (to remove check item) button as ert Area m DC w appropriate. 5. Open the Check page to detect areas where depth is less than the WPT Alerts Check Parameters Prepare Legs. 9 Alerts: 12 safety contour or where specified conditions exist. The chart radar ed User Charl erts: Safety Contour Safety Contour HELSIN can examine chart database against planned route to make a list Alerts Leg 1 Locale leg Planned Notes of alarms where a route crosses a safety contour or specified .eg 11 Locate legi 01.00 Start areas used in chart alarms. E Enable changes > PLAR ROUTE (IBHD / 13 Jul 2008 12:06 6. Open the Parameter page to enter Estimated Time of Departure WPT Alects Check Parameters Pro (ETD) and Estimated Time of Arrival (ETA), if you are using Time 13 .84 2009 12:16 -40.0 table optimizing. Choose desired optimizing mode from the 20 13 Jul 2009 12:18 Optimize window. 22.1 km 5000 \$ E Enable changes 13 Jul 2009 14:09 Total Long Symbol Display × Manner Route 4 + Displaying planned route Monitored rout Pl Center line Channel Ima 1. Spin the scrollwheel to show Symbol Display/Info/ in the guidance box and left-click to show Safety margin the Symbol Display dialog box. 12 WPT mark Leg marks D Wheel over line 2. Right click to show the Route page. 3. Check or uncheck required item (Center line, Channel limit, Leg marks, etc.). tuos ber E Center Ime Channel limit Safety margi E WPT-mark Leg marks

Route monitoring

Selecting route to monitor

Set arrow on Route in the information area, click the Monitor button, spin the scrollwheel to select route then push the scrollwheel.





Setting destination waypoint

- 1. Open the Monitor Route dialog box, select route at the information area and click the Monitor button.
- 2. Set the arrow in the To WPT box, spin the scrollwheel to select waypoint.
- 3. Push the scrollwheel to confirm selection.



Displaying route to monitor

- 1. Spin the scrollwheel to show Symbol Display/Info/ in the guidance box and left-click to show the Symbol Display dialog box.
- Click the arrow tab to show the Route menu.
 Check or uncheck Center line, Channel limit, Leg marks, Wheel over line.
 (WPT mark is permanently checked.)
 - Leg mark: Show planned speed and planned steering in nav route.
 - Wheel over line: Show point where turn on next waypoint is to begin.



User has to choose safety depth suitable for the own ship. To choose suitable depth, do the following:

- 1. Set the safety contour.
 - 1) Spin the scrollwheel to display Chart Display/Info/Primary (Standard) Display in the guidance box and then left-click.
 - 2) Click the triangle to open the Chart page.
 - 3) Enter depth for safety contour.

Note: If the chart does not contain chosen depth contour, the system will automatically select the next depth contour.

- 2. Enable display of chart alert.
 - 1) Show the Chart page of the Chart Display dialog box.
 - 2) Show OFF or ON in the Chart alert highlight box.

3. Selecting objects for use in chart alarms.

- 1) Spin the scrollwheel to show Menu/Info/Chart Menu in the guidance area and then push the left button.
- 2) Choose Initial Settings from the menu and then push the scrollwheel.
- 3) Put the arrow on the triangle inside the Initial Settings dialog box to open the Initial Settings menu.
- 4) Choose Chart Alert parameters and then push the scrollwheel.
- 5) Click Alerts tab in Chart Alert dialog box.
- 6) In the Ignore box at the top of the window, use the left button to click the alarm item you wish to process.
- 7) Click the Indication button to display visual alarm, or Alarm/Warn button to get the audio alarm. The item chosen is moved from the Ignore box to the Indication or Alarm/ Warning box as appropriate.
- 8) To remove an alert, click it in the Indication or Alarm/Warning box with the left button and then click the Ignore button.
- 9) To change an alarm alert method, click it in the Indication or Alarm/Warning box with the left button and then click the Indication or Alarm/Warn button as appropriate.

Set watch s	ector for	own s	ship.
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- 1) Click the Check Area tab in the Chart Alerts dialog box.
- 2) Set Ahead and Around for sector.
- 3) Click the Close button to finish.

Chart Display			×
Chart :	Standar	d 🔳	•
	DISF C.	⁾ dimn ALIB	ner
Palette	DAY E	RIGH	Т
Shallow	contour	10	m
Safety de	epth	30	m
Safety co	ontour	30	m
Deep co	ntour	50	m
TM rese	t	80	%
Chart ale	ert 🖵	ΩN	
highlight		UI1	_
Symbols	PAPEF	CHAP	₹T
Depths	TWO	COLO	R
Boundar	ies 🛛 I	PLAIN	
Lightsect	iors [] Ll	MITE	\sum
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Update highlight	DET.	AILED	



Navigation sensors

The operator can choose navigation sensors to use for navigation and view their current values on the Sensors dialog box. To access this dialog box, do as as follows place the cursor on the Position field in the information area then push the right button.

1. Put the cursor on the Position field in the information area.

2. Push the right button.

SPD/CRS page

Manual speed: If checked, user can enter value (kn) for speed. This is used only if there are no other speed or SOG sensors chosen.

Log: If checked, a log is used as water speed source. If you have a dual-axis doppler log which can measure both water and bottom track, then installation parameters can be set to receive water tracking as log device.

Dual log (water): If checked, a dual log is used as speed and course source. "(water)" is used to indicate that this information is from water track of dual log.

Dual log (bottom): If chosen, a dual log is used as speed and course source. "(bottom)" is used to indicate that this information is from bottom track of dual log.

Ref tgt: Speed according to reference target.

Gyro1: Heading source is a gyrocompass. "(mag)" means the source is magnetic heading. True heading source has no indication. If the source of Gyro1 is a gyro with synchro or stepper interface, the indication "(require set)" appears when you need to set a new initial value for the gyro.

Rate gyro: Heading source is a Rate of Turn gyro. "(calc.)" means the rate of turn is calculated from gyro movement.

POSN page

The field of a position sensor contains a label (here DGPS-GLL and GGA+ZDA) which indicates the name of the sensor; a status (primary/secondary/off) which indicates if the sensor is used or not; position at conning position and local datum; speed and course which has (MAG) if the course is referenced to magnetic north. A DGPS position sensor has additional text Diff, if differential signal is in use. Latitude and longitude values will appear in red and with additional text in the following conditions:-

- Kalman filter has excluded the sensor from its estimated position. Additional text is "Excluded"
- Received position from position sensor is in another datum as set to be received in the chart radar. Additional text is "Datum"
- If position sensors have position discrepancy active. Additional text is "Discrepancy".

SPD/CRS	B POSN	Þ
🗆 Manu	al speed	
☑ Dual I < ^ 2	og (wa 1.2 kn 0.7 kn	iter)
☑ Dual I < ^ 1:	og (botti 1.9 kn 9.2 kn	om)
⊐ Reftg	t	kn °
I Gyro	1	
359.	9 ° Svro (CA	LC)



Memo

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