

# FURUNO®

High-performance 4 kW  
Clear-view 8-inch display

## LCD RADAR

### MODEL 851



**High power 4 kW transmitter output  
3.5 ft open antenna**

**High-quality radar picture displayed  
in 4 gray tones on an 8" LCD  
(480 x 640 pixels)**

**A Pop-up window with zoomed  
picture for closer observation of  
targets or the wide area picture in  
the range up mode**

**Various on-screen displays including  
own ship's position, cursor  
position, ship's speed/course, and  
range/bearing to a selected  
waypoint (Nav data required)**

**A True Motion\* presentation is  
available in addition to Head-up,  
North-up\* and Course-up\* modes**

**A New Waypoint-up\* presentation is  
also available**

**Cursor position and radar system  
data output in NMEA 0183  
(TLL and RSD sentences)**

**Automatic control of receiver tuning  
and anti-clutter**

**The waterproof display unit exceeds  
IEC529 IPX5 and USCG CFR46  
specifications**

*\*Appropriate nav data input is required*



The future today with FURUNO's electronics technology.

**FURUNO ELECTRIC CO., LTD.**

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Catalogue No. R-158

# The world's first high-power open

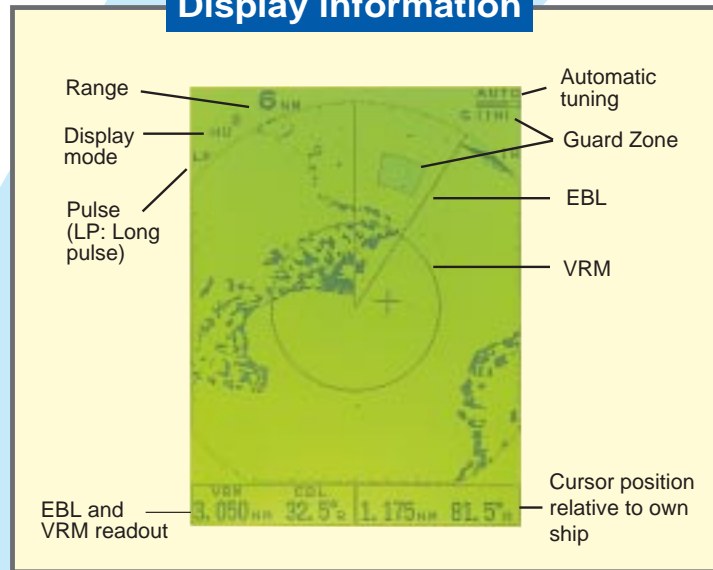
The FURUNO MODEL 851 is a new powerful 4 kW LCD radar designed for smaller fishing boats as well as power vessels of all sizes. Radar targets are presented clearly in 4 tones on an 8" LCD screen mounted within a rugged display.

Standard features include an EBL, EVRM, Echo Trails, Guard Zone Alarm, Off-center, Watch mode and Zoom.

A compact and waterproof display design allows a flexible and space-saving installation in flybridge applications and at your navigation station. The addition of the Radar system's high-performance, proven open antenna will complement any vessel on which it is installed.

The MODEL 851 allows cursor position and radar system data output in NMEA 0183 to a compatible video plotter or computer.

## Display information



## High performance with Simple operation

Continuous and automatic control of receiver tuning and anti-clutter assures optimum performance and target detection while keeping the radar's operation simple.



# antenna, LCD radar system



3.5 ft open antenna

In the Nav data display, the following information can be displayed during stand-by period when connected with appropriate sensors outputting data in NMEA 0183 format: ship's position in Lat/Lon or Loran TD's, ship's speed and course/range/bearing to the selected waypoint, XTE, EBL readout in magnetic bearing and history of water depth and atmospheric pressure (Sensor included in display unit).

## Nav data display



## Off-center



The picture center can be moved anywhere on the screen by use of the cursor and the Off-center key.

## Echo Trails



You may intuitively assess relative course and speed of other targets by the low-intensity trail painted along their track.

## Waypoint-up mode



In the Waypoint-up mode, radar echoes are displayed so that the Lollipop waypoint mark is placed on the top of the screen (waypoint data required). You can intuitively see where to go in this mode.

## Zoom



The Zoom feature magnifies and displays an area specified by the cursor in a Pop-up window. The Pop-up window never obscures the forward radar picture presented on the screen.

# SPECIFICATIONS OF MODEL 851

## ANTENNA RADIATOR

1. **Radiator** Slotted waveguide array
2. **Type** 3.5 ft open radiator
3. **Rotation Speed** 24 rpm typical
4. **Wind Load** Relative wind 100 knots
5. **Beamwidth** Hor: 2.4°, Vert: 27°

## RF TRANSCEIVER

1. **Frequency** 9410 ± 30 MHz (X-band)
2. **Pulselength & PRR**  
0.08 µs/2100 Hz (0.125, 0.25, 0.5, 0.75, 1, 1.5 nm)  
0.3 µs/1200 Hz (1.5, 2, 3 nm)  
0.8 µs/600 Hz (3, 4, 6, 8, 12, 24, 36, 48 nm)
3. **Peak Output Power**  
4 kW nominal
4. **Mixer and Local Oscillator**  
Microwave Integrated Circuit
5. **IF** 60 MHz  
Bandwidth: 7 MHz
6. **Noise Figure** 6 dB nominal

## DISPLAY

1. **Display Unit**  
8-inch LCD (4-level quantization)  
480 (H) x 640 (V) dots
2. **Display Mode**  
Head-up, North-up\*, Course-up\*/Waypoint-up\*\*\*, True Motion\*\*  
\*Heading data required \*\*Heading and speed data required  
\*\*\* Heading and waypoint data required
3. **Range Scales**  
Range scales can be selected in menu from:  
Range: 1/8, 1/4, 1/2, 3/4, 1, 1.5, 2, 3, 4, 6, 8, 12, 16, 24, 36, 48  
Ring: 1/16, 1/8, 1/8, 1/4, 1/4, 0.5, 0.5, 1, 1, 2, 2, 3, 4, 6, 12, 12
4. **Minimum Range** 37 m
5. **Range Discrimination** 25 m
6. **Accuracy**  
Range: 0.9% of range in use or 8 m, whichever is greater  
Bearing: EBL accuracy ± 1°
7. **Echo Trail**  
Interval: 15 s, 30 s, 1 min, 3 min, 6 min, 15 min, 30 min or continuous
8. **Other features**  
Guard zone alarm, Zoom, Wide (range up), Barometer, Interference Rejector, Off-center, Watchman
9. **Interface** (NMEA0183 format) -- : any talker  
Input:  
\$ - -APB, \$ - -BWC, \$ - -BWR, \$ - -DBK, \$ - -DBS, \$ - -DBT,  
\$ - -DPT, \$ - -GLC, \$ - -GLL, \$ - -GGA, \$ - -GTD, \$ - -HDG,  
\$ - -HDM, \$ - -HDT, \$ - -MDA, \$ - -MTW, \$ - -RMA, \$ - -RMB,  
\$ - -RMC, \$ - -VTG, \$ - -VHW, \$ - -XTE, \$ - -ZDA  
Output:  
\$RATLL, \$RARSD

## ENVIRONMENT (IEC945 test method)

Temperature: -15°C to +55°C (Display unit)  
-25°C to +70°C (Antenna unit)

Water resistance: IEC 529 IPX5, USCG CFR46 (Display unit)

## POWER SUPPLY

- 12/24 VDC, 48 W
- 115/230 VAC with optional rectifier RU-3423

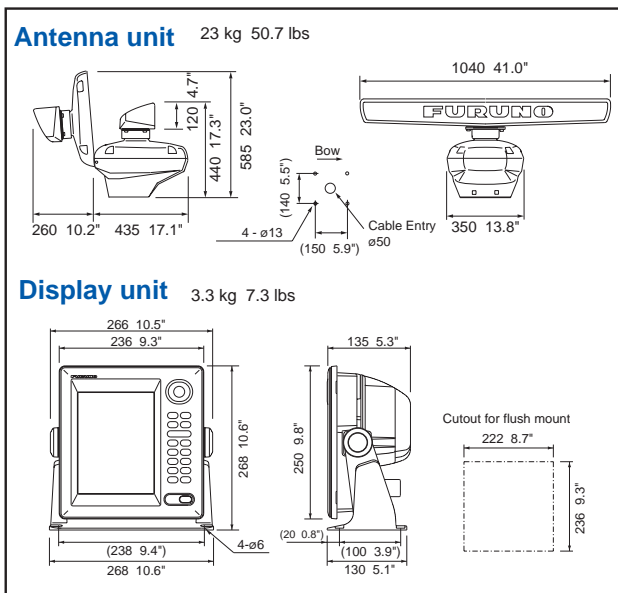
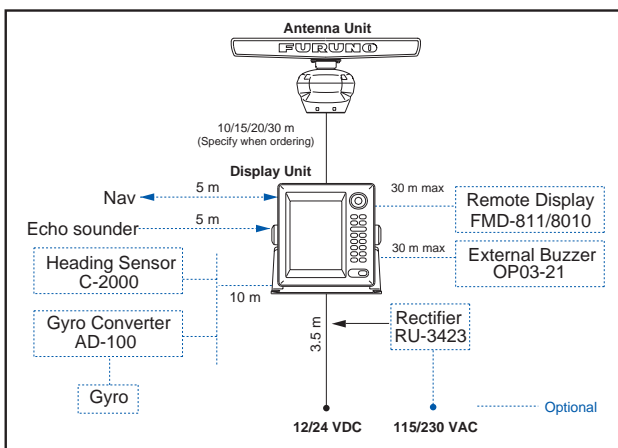
## EQUIPMENT LIST

### Standard

- |   |        |
|---|--------|
| 1. Display Unit RDP-117                                 | 1 unit |
| 2. Antenna Unit RSB-0061-53 w/XN8                       | 1 unit |
| 3. Antenna Cable, 10/15/20/30 m (Specify when ordering) | 1 pc   |
| 4. Power Cable, 3.5 m                                   | 1 pc   |
| 5. Standard Spare Parts and Installation Materials      | 1 set  |

### Optional

1. Rectifier RU-3423
2. Nav Cable 5 m (64S4071-0) or 10 m (64S4073-0)  
E/S cable 5 m (03S9202-0) or 10 m (03S9226-0)
3. Compass Cable 10 m (22S0270-0)
4. External Alarm Buzzer OP03-136 for Guard Zone Alarm



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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