

NOW 4 KW !

# FURUNO®

Super clear picture, Easy operation using programmable function keys

## 10-INCH DAYLIGHT RADAR

### MODEL 1932 MARK-2

- 4 kW transmitter output, 16 range scales, 0.125 - 48nm
- Rugged die-cast, display housing
- 3 data ports
- User-programmable function keys
- Automatic optimization of radar picture
- Enhanced short range performance
- Cursor position data, tracked target data\* and radar system data output (\*TTM target data output with optional ARP-10)
- Head-up, Course-up, North-up and True Motion Presentations
- Economy Power Mode, Guard Zone Alarm\* and Watch Mode
- Optional Autoplotter ARP-10\*\* (10 targets auto/manual acquisition and auto tracking)

\*US patent No. 5,032,842

\*\*Heading and speed data input required

The FURUNO MODEL 1932 MARK-2 is a remarkable new 4 kW radar designed for fishing boats and pleasure craft. Radar images are painted in 8 gradations of green on the daylight bright 10-inch CRT.

The MODEL 1932 MARK-2 has a variety of standard features usually found only in commercial radars like dual EBLs and VRMs, Echo Trails, Guard Zone Alarm\*, Off-center and a Watch Mode. Automatic control of

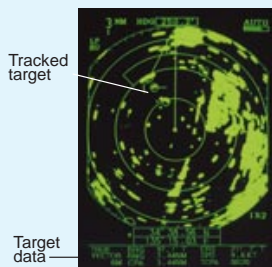


receiver tuning and anti-clutter ensures optimum system performance, target detection and simplified radar operation.

The Guard Zone Alarm\* generates audio and visual alarms when a target enters a user-defined area. This alarm system can be switched to the Anchor Watch Mode, where an alarm is generated when a target leaves the area. The Economy Mode feature reduces power consumption during stand-by.

When connected with appropriate nav sensors outputting data in NMEA 0183 format, the MODEL 1932 MARK-2 can display the following information: ship's position in L/L or Loran-C TDs, cursor position readout in L/L, ship's speed, course and range/bearing to the targeted waypoint, XTE, EBL readout in true bearing and a Lollipop waypoint mark. In addition, you can select North-up, Course-up and True Motion presentations as well as Head-up. The cursor target L/L (TLL) and radar system data (RSD) can be output in NMEA 0183 format to a compatible video plotter or computer. A tracked target message (TTM) can also be output from the optional ARP-10.

#### Autoplotter ARP-10 (option)



Optional Autoplotter ARP-10 acquires 5 targets automatically plus 5 targets manually, or 10 targets manually. All acquired targets are automatically tracked with numerical displays of range/bearing, speed/course, closest point of approach (CPA), time to CPA (TCPA) of an operator selected target. The Autoplotter greatly reduces the navigator's workload and enhances normal radar navigation. (Heading and speed data input required)



The future today with FURUNO's electronics technology.

**FURUNO ELECTRIC CO., LTD.**

9-52 Ashihara-cho, Nishinomiya City, Japan Telephone: +81 (0)798 65-2111  
Telefax: +81 (0)798 65-4200, 66-4622, 66-4623

Catalogue No. R-168d

# SPECIFICATIONS OF MODEL 1932 MARK-2

## ANTENNA RADIATOR

1. **Type** 3.5-ft center-fed waveguide slotted array
2. **Rotation Speed** 24 / 48 rpm
3. **Wind Load** Relative wind 100 knots (24 rpm)  
Relative wind 70 knots (48 rpm)  
Hor: 2.4°, Vert: 27°
4. **Beamwidth**

## RF TRANSCIVER

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, 16, 36, 48 nm)  
*\* Pulselength & PRR for 1.5 and 3 nm ranges can be selected in menu*
3. **Peak Output Power** 4 kW nominal
4. **Mixer, Local Oscillator** Microwave Integrated Circuit
5. **IF** 60 MHz  
Bandwidth: 25 MHz (0.08/0.3 µs), 3 MHz (0.8 µs)
6. **Noise Figure** 6 dB nominal

## DISPLAY UNIT

1. **Type** 10-inch, green phosphor CRT (8-level quantization)  
481 (H) x 640 (V) dots
2. **Display Modes** Head-up, Course-up\*, North-up\*, True Motion\*\*  
*\* Heading input required \*\* Heading and speed inputs required*
3. **Range Scales (nm)**  
Range: .125, .25, .5, .75, 1, 1.5, 2, 3, 4, 6, 8, 12, 16, 24, 36, 48  
Ring: .0625, .125, .125, .25, .25, .5, .5, 1, 1, 2, 2, 3, 4, 6, 12, 12
4. **Echo Trail** Interval: 15 s, 30 s, 1 min, 3 min, 6 min, 15 min, 30 min or continuous
5. **Interface** (NMEA 0183 format ver 1.5/2.0) --: any talker (menu selection)  
Input  
\$ - -APB, \$ - -BWC, \$ - -BWR, \$ - -DBK, \$ - -DBS, \$ - -DBT, \$ - -DPT, \$ - -GGA,  
\$ - -GLC, \$ - -GLL, \$ - -GTD, \$ - -HDG, \$ - -HDM, \$ - -HDT, \$ - -MDA,  
\$ - -MTW, \$ - -RMA, \$ - -RMB, \$ - -RMC, \$ - -VTG, \$ - -VHW, \$ - -XTE  
Output:  
\$RATLL, \$RARSD, \$RATTM (ARP-10 required)

6. **Autoplotter ARP-10 (Internal option)** For 24 rpm type only  
Acquisition: 5 auto + 5 manual, or 10 manual  
Tracking: Auto  
Display: Speed, course, Range/bearing and CPA/TCPA  
(Heading data in AD-10 format and speed data inputs required)

## ENVIRONMENT (IEC60945 test method)

- Temperature: -15°C to +55°C (Display unit)  
-25°C to +70°C (Antenna unit)  
Waterproofing: IEC 60529 IPX5, USCG CFR-46 (Display unit)  
IEC 60529 IPX6 (Antenna unit)

## POWER SUPPLY

- 10.8 - 41.6 VDC, 61 W (24 rpm), 67 W (48 rpm)
- 115/230 VAC with optional rectifier RU-3423

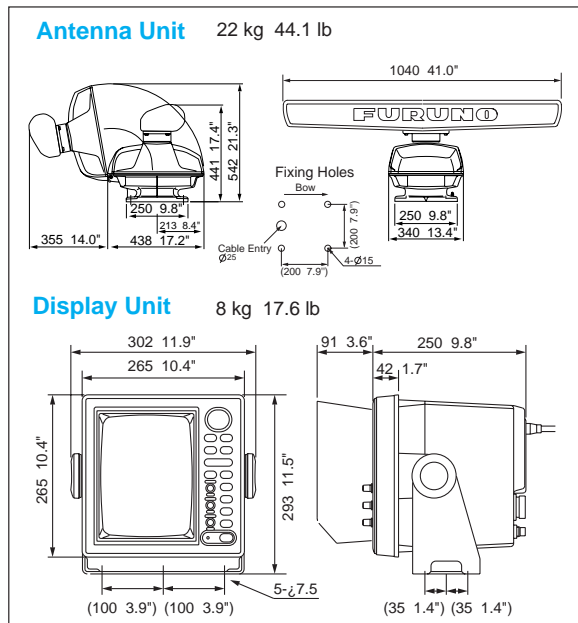
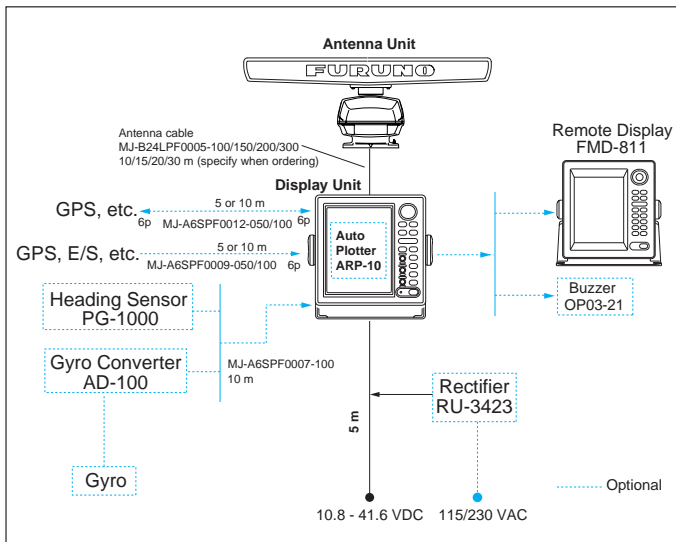
## EQUIPMENT LIST

### Standard

1. Display Unit RDP-118 1 unit
2. Antenna Unit (Specify when ordering) 1 unit
  - RSB-0082 (24 rpm)
  - RSB-0083 (48 rpm)
3. Antenna Cable MJ-B24LPF0005-100/150/200/300  
10/15/20/30 m (Specify when ordering)
4. Power Cable (03S9332), 5 m
5. Standard Spare Parts and Installation Materials 1 set

### Optional

1. Rectifier RU-3423
2. Autoplotter ARP-10 (24 rpm scanner only)
3. Data Cable  
MJ-A6SPF0012-050 (5 m), MJ-A6SPF0012-100 (10 m)  
MJ-A6SPF0009-050 (5 m), MJ-A6SPF0009-100 (10 m)  
MJ-A6SPF0011-050 (5 m), MJ-A6SPF0011-100 (10 m)
4. Compass Cable MJ-A6SPF0007-100 (10 m)
5. Buzzer OP03-21
6. Display Hood with Lens 03-121-1500
7. Flushmount Kit OP03-145



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

### FURUNO U.S.A., INC.

Camas, Washington, U.S.A.  
Phone: +1 360-834-9300 Telefax: +1 360-834-9400

### FURUNO (UK) LIMITED

Denmead, Hampshire, U.K.  
Phone: +44 2392-230303 Telefax: +44 2392-230101

### FURUNO FRANCE S.A.

Bordeaux-Mérignac, France  
Phone: +33 5 56 13 48 00 Telefax: +33 5 56 13 48 01

### FURUNO ESPAÑA S.A.

Madrid, Spain  
Phone: +34 91-725-90-88 Telefax: +34 91-725-98-97

### FURUNO DANMARK AS

Hvidovre, Denmark  
Phone: +45 36 77 45 00 Telefax: +45 36 77 45 01

### FURUNO NORGE A/S

Alesund, Norway  
Phone: +47 70 102950 Telefax: +47 70 127021

### FURUNO SVERIGE AB

Västra Frölunda, Sweden  
Phone: +46 31-7098940 Telefax: +46 31-497093

### FURUNO SUOMI OY

Helsinki, Finland  
Phone: +358 9 341 7570 Telefax: +358 9 341 5716

00055KS Printed in Japan

