

## SPECIFICATIONS OF MARINE RADAR FAR-1513

### 1 ANTENNA UNIT

- 1.1 Antenna type                    Slotted waveguide array
- 1.2 Radiator length                4 ft (XN12A), 6 ft (XN13A)
- 1.3 Horizontal beamwidth        1.9° (XN12A), 1.4° (XN13A)
- 1.4 Vertical beamwidth            20°
- 1.5 Sidelobe attenuation  
       XN12A                        -24 dB (within ±20° of main-lobe)  
       XN13A                        -28 dB (within ±20° of main-lobe)
- 1.6 Polarization                  Horizontal
- 1.7 Rotation                        24 rpm (RSB-0070), 48 rpm (RSB-0073)

### 2 RF TRANSCEIVER

- 2.1 Frequency                      9410 MHz ±30 MHz, P0N
- 2.2 Output power                  12 kW
- 2.3 Minimum range                25 m
- 2.4 Range discrimination        25 m
- 2.5 Range accuracy                1 % of range in use or 10 m whichever is the greater
- 2.6 Bearing accuracy              ±1°
- 2.7 Range, Pulselength and Pulse Repetition Rate

PRR (Hz approx.)	Range scale (NM)																
	0.125	0.25	0.5	0.75	1	1.5	2	3	4	6	8	12	16	24	32	48	96
2100	S																
1200						M											
600*								L									

\*: 500 Hz on 96 NM ranges

- 2.8 IF frequency                    60 MHz

### 3 PROCESSOR UNIT

#### 3.1 Range scales and ring interval

Scale (NM)	0.125	0.25	0.5	0.75	1	1.5	2	3	4	6	8	12	16	24	32	48	96
RI (NM)	0.025	0.05	0.1	0.25	0.25	0.25	0.5	0.5	1	1	2	2	4	4	8	8	16
Number of rings	5	5	5	3	4	6	4	6	4	6	4	6	4	6	4	6	6

- 3.2 Echo tones                      32 levels
- 3.3 Warm-up time                    90 s approx.
- 3.4 Presentation mode              Head-up, STAB Head-up, North-up (TM/RM), Course-up, Stern-up
- 3.5 Marks                            Cursor, Radar ring, Heading mark, North mark, Bearing line,  
Vector, Map mark, Zoom, VRM, EBL, Acquisition zone
- 3.6 Target tracking (TT)            Auto or manual acquisition: 50 targets in 0.2-32 NM  
Tracking: 5/10 pts on all target  
Time of vector: 30 s to 60 minutes
- 3.7 AIS                                Display capacity: 300 targets, Tracking: 5/10 pts on all target  
Time of vector: 30 s to 60 minutes
- 3.8 Echo trail                        True/Relative, Trail length: 0 to 30 minutes (30 s steps) or continue
- 3.9 Radar map                        5,000 pts
- 3.10 Interswitch function           Selected from menu

**4 MARINE DISPLAY/MONITOR UNIT**

- 4.1 Screen size 15-inch color LCD, 304 x 228 mm, 1024 x 768 (XGA)
- 4.2 Brightness
  - MU-150HD (-CV15) 1,000 cd/m<sup>2</sup> typical
  - MU-152 400 cd/m<sup>2</sup> typical
- 4.3 Contrast
  - MU-150HD (-CV15) 600:1
  - MU-152 900:1
- 4.4 View angle 160° typical
- 4.5 Radar effective diameter 205 mm

**5 INTERFACE**

- 5.1 Number of ports on processor unit
  - Heading 1 port: AD-10 format or IEC61162-2
  - Serial IEC61162-2: 2 ports (AIS/HDG)  
IEC61162-1: 4 ports (GPS/LOG/AMS/ECDIS)
  - Contact closure Alert output: 4 ch, Remote ACK input, System fail, power fail
  - Remote display 2 ports (Signal: HD, BP, Trigger and Video)
  - LAN Ethernet 100Base-TX: 1 port
  - DVI DVI-D: 1 port for main display
  - RGB 1 port for VDR or RGB monitor
- 5.2 Data sentences
  - Input ABK, ACK, ACN, ALR, BWC, BWR, CUR, DBK, DBS, DBT, DPT, DTM, GBS, GGA, GLL, GNS, HBT, HDG, HDM, HDT, MTW, MWV, RMB, RMC, RTE, THS, VBW, VDM, VDO, VDR, VHW, VSD, VTG, VWR, VWT, WPL, ZDA
  - Output ABM, ACK, ALC, ALF, ALR, ARC, BBM, EVE, HBT, OSD, RSD, TLB, TLL, TTD, TTM, VSD

**6 POWER SUPPLY**

- 6.1 Processor unit 24 VDC: 5.0 A max. (24 rpm), 5.6 A max. (48 rpm)
- 6.2 Marine display/ Monitor unit
  - MU-150HD 12-24 VDC: 4.5-2.2 A
  - MU-152 12-24 VDC: 1.9-0.9 A
- 6.3 Rectifier (RU-1746B-2/RU-3424, option) 100-115/220-230 VAC, 1 phase, 50/60Hz

**7 ENVIRONMENTAL CONDITIONS**

- 7.1 Ambient temperature
  - Antenna unit -25°C to +55°C (storage: +70°C or less)
  - Processor unit -15°C to +55°C
  - Marine display (Monitor) -15°C to +55°C
- 7.2 Relative humidity 93% or less at +40°C
- 7.3 Degree of protection
  - Antenna unit IP26
  - Processor unit IP20 (IP22: option)
  - Control unit IP22
  - Marine display (Monitor) IP56 (panel), IP22 (chassis)
- 7.4 Vibration IEC 60945 Ed.4

## **8 UNIT COLOR**

- 8.1 Antenna unit N9.5 (fixed)
- 8.2 Processor/control unit N2.5 (fixed)
- 8.3 Marine display (Monitor) N2.5 (fixed)