SPECIFICATIONS OF MARINE RADAR
FAR-1518

1 ANTENNA UNIT

1.1	Antenna type	Slotted waveguide array
1.2	Radiator length	4 ft (XN12AF), 6.5 ft (XN20AF)
1.3	Horizontal beamwidth	1.9° (XN12AF), 1.23° (XN20AF)
1.4	Vertical beamwidth	20°
1.5	Sidelobe attenuation	
	XN12AF	-24 dB (within ±20° of main-lobe)
	XN20AF	-28 dB (within ±20° of main-lobe)
1.6	Polarization	Horizontal
1.7	Rotation	26 rpm (RSB-120), 48 rpm (RSB-121)

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	Range scale (NM)										
(Hz approx.)	0.125	0.25	0.5	0.75	1.5	3	6	12	24	48	96
3000*	S1										
2760*	S2										
1500				M1							
1000				M2							
1000						M3					
600**							L				

*: 2200 Hz approx. with TT range on 32 NM. **: 500 Hz on 96 NM range.

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	1.5	3	6	12	24	48	96
RI (NM)	0.025	0.05	0.1	0.25	0.25	0.5	1	2	4	8	16
Number of rings	5	5	5	3	6	6	6	6	6	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 type	15-inch color LCD, 304 x 228 mm, 1024 x 768 (XGA)
4.2	Brightness	
	MU-150HD	1,000 cd/m^2 typical
	MU-152	400 cd/m^2 typical
4.3	Contrast	
	MU-150HD	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	
	AC type	100-115/220-230 VAC: 3.0/1.4 A (26 rpm), 3.6/1.6 A (48 rpm)
	DC type	24 VDC: 6.7 A max. (26 rpm), 8.3 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
6.4	Transformer (RU-1803, option)	440 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	IP56
	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)

9 PERFORMANCE MONITOR (PM-32A)

9.1	Frequency range	9380 to 9440 MHz
9.2	Input power	+18dBm to +30dBm
9.3	Output power	-21 dBm (1^{st} pulse max. output), -41 dBm (1^{st} pulse min. output)
9.4	Step level	8 to 12 dBm (1^{st} pulse to last pulse)