SIMRAD®

Simrad R5000

◀ S-BAND RADAR ⊙

Simrad R5000 radar systems are available in a range of configurations to meet the requirement for an IMO type-approved X/S-Band radar system aboard CAT 1(H) and CAT 2(H) SOLAS vessels. A modular design makes it easy to create a single or multi-radar system for commercial vessels of any size and type.

▲ SRT LAN ⊙ RADAR

▲ M5000 ⊙

▲ **NEW** R5000 ⊙

Easy to Learn and Operate

Our R5000 systems are designed for ease of use, and feature a modern interface with intuitive keypad and trackball controls. Widescreen displays give operators constant access to key information, alerts, and settings without distracting from the central PPI. The same interface is used across our complete series of X-Band and S-Band solutions, offering a consistent experience for operators of multi-radar systems.

Simple and Flexible Installation

Each of our modular systems is based on the R5000 radar processor: a high performance 'black-box' system that connects to the radar transceiver via a thin and easy-to-route Ethernet cable. Multiple R5000 processors can be networked together to create multi-radar systems, and to provide access to radar from multiple stations. Any networked station can control any connected radar system, offering both flexibility and redundancy.

Type-Approved X-Band Radar Solutions

X-Band radar delivers high-resolution coverage with optimal target separation. We offer type-approved X-Band radar solutions for use aboard CAT 1 and CAT 2 SOLAS vessels, including high speed craft (HSC). Choose from a 12 or 25 kilowatt up-mast transceiver for simple and cost-effective installation, or a 25-kilowatt down-mast transceiver for enhanced serviceability and resistance to harsh environmental conditions. Open array antennas are available in 6, 9, and 12-foot diameters to suit a variety of operational requirements and vessel sizes.

Type-Approved S-Band Radar Solutions

S-Band radar serves as a secondary system aboard SOLAS vessels of 3,000 GT and above, and offers superior target detection to X-Band radar in poor weather conditions such as rain or fog. We offer IMO type-approved S-Band radar

solutions for use aboard CAT 1 and CAT 2 vessels, including high speed craft (HSC). A lightweight 12-foot open array antenna is paired with a 30-kilowatt S-Band transceiver; the transceiver is available in an up-mast configuration for simple and cost-effective installation, or down-mast configuration for enhanced serviceability and resistance to harsh environmental conditions.

FEATURES

- Solutions available to suit CAT 1 (H) and CAT 2 (H) SOLAS vessels
- Modern user interface with intuitive keypad and trackball controls
- 24 and 27-inch widescreen display options (category dependent)
- Modular system for ease of installation
- Create multi-radar and multi-station systems

X-Band
- X-Band radar offers high resolution and optimal target separation
- 6, 9, and 12-foot open array antennas are available to suit a range of vessels
- Choose from a 12 or 25 kW up-mast transceiver, or 25 kW down-mast option

S-Band
- S-Band radar offers superior target detection to X-Band in harsh weather conditions
- Lightweight 12-foot open array antenna
- 30 kW up-mast or down-mast transceiver

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SPECIFICATIONS

	M5024	M5027
IMO Display category	CAT 2(H)	CAT 1(H)
TFT Active Matrix Panel diagonal (inch)	24	27
Native resolution (pixels)	1920 x 1080	
Screen glass	Anti-reflective and anti-fingerprint coating, optically bonded	
RADAR DISPLAY FEATURES		
Minimum Range (m)	< 40	
Range discrimination (m)	< 40	
Range Accuracy (m)	1% of the maximum range of the scale in use or 30m, which is the greater	
Bearing Discrimination (Deg)	2,3 (6X), 1,5 (9X), 1,2 (12X), 2,3 (12S)	
Bearing Accuracy (Deg)	< 1	
Azimuth on-screen resolution (Deg)	0,1	
RADAR PRESENTATION		
Relative Motion (RM)	Head Up, Course Up and North Up	
True Motion (TM)	Course Up and North Up	
Off-centering	Up to 75% of range scale in use	
Cursor	Polar and Geographical coordinates, continuously displayed when cursor is activated	
TARGET TRACKING (TT)		
Tracking acquisition in background	Automatic, up to 2500 targets within 24NM	
Presentation	Manual/Automatic, up to 100 targets	
TARGET AIS		
AIS Capacity	Up to 6000 receivable target messages	
Display Capacity	Totally 300 target capacity, of which all of 300 can be activated. AIS overflow mechanism of priority	
I/O INTERFACES		
VDR	DVI-D output to VDR. (Same resolution as Monitor output)	
Serial Ports	2 x IEC 61162-2 (AIS, GYRO) 4 x IEC 61162-1 (BAM input, GNSS, LOG)	
Ethernets	3 x RJ45 Ports at 100Mbs	
USB	2 x USB 2.0	

	X-BAND	S-BAND
Nominal peak power (kW):	12 or 25 up-mast, 25 down-mast	30 up-mast and down-mast
Operating frequency (MHz):	9410 ± 30	3050 ± 30
Pulse length (ns):	60 (25kW, 30Kw) 80 (12kW) – 250 – 800	
PRF (with 3 alternative PRF sets) (Hz)	3000 (3040, 2900, 3100) – 1500 (1520, 1450, 1550) – 750 (760, 725, 775)	
Modulator:	MOSFET technology	
IF amplifier:	Logarithmic	
IF bandwidth (MHz): – short pulse: – medium pulse: – long pulse:	24 5 2	
Overall noise figure (nominal dB):	< 5 dB nominal	
Sector blanking:	Two different sectors to be set at time of installation	
ENVIRONMENTAL		
Relative wind velocity	100 knots wind tunnel test at 20 RPM (According to IEC 62388)	

	6 ft CRX-Band	9 ft CRX-Band	12 ft X-Band	12 ft S-Band
Antenna type	End-fed-slotted wave guide			
Polarization	Horizontal			
Antenna length/swing circle (ft/mm)	6 / 1800	9 / 2650	12 / 3618	12 / 3695
Gain (dB)	≥ 29	≥ 31	≥ 32.5	≥ 27
Horizontal beam width at –3 dB	1.3°	0.9°	0.7°	1,9
Vertical beam width at –3 dB	22°	22°	22°	24
Horizontal side lobes (dB): – within 10° – outside 10°	– 27 – 30	– 27 –30	–27 –30	–23 –30
VSWR	Lower than 1.20			
Rotation speed (RPM): – Standard – HSC	> 20 and > 40 > 40		> 20 N/A	> 20 > 40
Maximum Wind resistance (knots)	100			
De-Icer	Optionally available as unit upgrade heater kit			

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- 2 Year Warranty
- Extended Warranty Options
- Global Service Network
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- 24 Hour Replacement*

*Applies to certified vessels only

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