

SPEEDBIRD OCEANIS 37 RADAR WARNINGS AND SPECIFICATIONS



Use the radar at your own risk. Your radar was designed for use as a navigation aid. It should not be used for purposes that require precise measurements of direction, distance, topography or location. Always compare the navigation information received from your radar with data from other navigation aids and sources. When a conflict arises between the navigation data from your radar and data from other navigation aids, make sure you resolve the conflict before proceeding with navigation. A **CAREFUL NAVIGATOR NEVER RELIES ON ONLY ONE METHOD TO OBTAIN NAVIGATION INFORMATION.**

Caution: International Regulations for Preventing Collisions at Sea mandate indicate that when radar is on a vessel, the radar must be used at all times, regardless of weather conditions or visibility. Numerous court decisions have not only ruled the radar must be used, but that the radar operator must be knowledgeable in all operational aspects of radar performance; or otherwise face a greater risk of liability if an accident occurs.



WARNING: High Voltage Hazard

There is dangerously high voltage present within the radar scanner unit. Technicians must exercise extreme care when working inside the unit. **ALWAYS** remove power before removing the cover. Some capacitors may take several minutes to discharge, even after switching off the radar. Before touching the magnetron or any high voltage components, ground them with a clip lead.



WARNING: Microwave Radiation Hazard

The microwave energy radiated by a radar antenna is harmful to humans, especially to the eyes. **NEVER** look directly into an open waveguide or into the path of radiation from an enclosed antenna. Radar and other radio frequency radiation can upset cardiac pacemakers.

If someone with a cardiac pacemaker suspects abnormal operation, immediately turn off the radar equipment and move the person away from the antenna. Turn off the radar whenever it is necessary to work on the antenna unit or other equipment in the beam of the radar.



Note: Most countries accept that RF power density levels below 100 W/m² cause no significant RF hazard.

Scanner Model	Vertical beam angle of scanner (degrees)	Minimum safe distance (100 Watts per m ² average power density) Note 1	Minimum safe distance (10 Watts per m ² average power density) Note 2
2 kW	30	1.6 ft (0.5 m)	4.6 ft (1.4 m)
4 kW	25	3 ft (0.9 m)	9.3 ft (2.8 m)

Note: Limits apply to exposure within the vertical beam angle.

Note 1: Peak occupational exposure limit pursuant to IEC 60936 Clause 3.27 and IEC 62252 Clause 4.32

Note 2: General public exposure limit pursuant to IEC 60936 Clause 3.27 and IEC 62252 Clause 4.32

A 2kW Radar is installed - please note safe distances to stay away from radar when operational

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12.1 2 kW radar system specifications

DC input	2 kW scanner 10.8 V to 15.6 V DC (DC 12 V system ONLY)
Scanner type	Radome
Scanner model	AA010024
Scanner dimensions	Depth: 17.7" (450 mm) Height: 8.93 (227 mm)
Scanner weight	9.26 lbs (4.2 kg) ± 5%
Vibration Amplitude	0.1" (3 mm) (0 to 500 cpm) 0.29" (0.75 mm) (550 to 1500 cpm) 0.007" (0.2 mm) (1500 to 3000 cpm)
Waterproof	IPX6
Plane of polarization	Horizontal
Preheating time	Minimum 90 seconds
Power consumption	25 W (maximum) at 12 V DC
Emission type	P0N FCC ID: CKEJMA1020 IC ID: 768381105A R&TTE: DERA-RTTE-34/01-01
Peak power output	2 kW ± 50% under any pulse conditions
Transmitter frequency	9445 ± 30 MHz
Transmitter tube	Magnetron NJRC M1537
Horizontal beam width	5.2° ± 10% (3 dB width)
Vertical beam width	30° ± 20% (3 dB width)
Side lobe level	< -21 dB maximum (within ± 10°)
Rotation rate	27 rpm ± 10%
Pulse length/PRF	0.08 μs +50/-25% (2250 Hz) 0.3 μs +50/-30% (1200 Hz) 0.8 μs ±25% (600 Hz) See Pulse Width and Bandwidth Selector table (below).
Duplexer	Microwave T-junction with diode limiter Model NJRC NJS6947
Mixer	MIC front-end
IF amplifier	Center frequency 60 MHz ± 3 MHz
IF amplifier output	14 dB for -3.2 V into 50 ohms (typical)
IF band width	10 MHz ±3 MHz (0.08 μs) 3 MHz ±1 MHz (0.3 μs, 0.8 μs)
IF characteristic	Linear
Gain	Minimum 90 dB
Noise figure	NJT1027 @ 7 dB (average) at front-end input
Temperature range	+5°F to +131°F (-15°C to +55°C)
Relative humidity	95% at 95°F (35°C)
Relative wind velocity	118.11 ft (36.0 m)/sec (maximum 70 knots)