



3 cm Marine Radar Equipment Type NR 502/1



THE 50 kW 3 cm Radar Type NR 502 has proved its reliability over many years of world-wide service and has become renowned for its high standard of performance.

Features

- High-definition PPI displays of 15 in. diameter.
- Choice of 1, 3, 10, 20 and 40-mile ranges by single control.
- Automatic pulse length switching for optimum performance on short and long ranges.
- Automatic tuning of receiver.
- A heading marker for indicating the ship's head, when desired.
- 'Centre expansion' available for observation of bearings of very close targets.
- Gyro coupling provided for, for stabilizing the display in a north-upwards position.
- One 9 in. remote display may be accommodated in addition to the main display.
- The whole equipment is operational within 1½ minutes of operating a single switch.

EQUIPMENT

Transmitter. The major portion of the equipment is contained in the transmitter which is a very compact unit with withdrawable sections, allowing the fullest access for maintenance. There is a special ventilating and automatic heating system which ensures a consistent operating temperature under all climatic conditions. Pulse length and receiver bandwidth are automatically changed when moving from short to long ranges and *vice versa*, ensuring high discrimination and clearly painted targets on all ranges. Automatic frequency control obviates any variation in performance due to frequency drift. A waveform monitor is built in and there are comprehensive facilities for metering feeds and voltages.

Display. The 15-inch display is a floor-mounted console with the display tube horizontal. It is designed for viewing in the standing position.

A roller blind can be drawn over the top panel when the equipment is not in operation.

The bearing scale of the display is illuminated, the brightness being controllable. Range information is provided by

range rings and a variable range strobe with associated range scale. Viewing hoods can be supplied.

Aerial. The high-gain, light-weight aerial consists of an offset-fed parabolic section rotated at 25 r.p.m. With the method of construction used no de-icing is necessary.

Motor alternator. A motor alternator, suitable for AC and DC mains is provided for power supplies, together with a control panel containing an automatic starter and voltage regulator.

Data Summary

Frequency range: 9360–9460 Mc/s.

Pulse repetition frequency:

2000 and 500 p.p.s.

Pulse length:

0.2 μ s on ranges 1 and 2.

1.4 μ s on ranges 3, 4 and 5.

Azimuth beam width: 1.5°.

Vertical beam width: 20°.

Ranges: 1, 3, 10, 20 and 40 miles,

Range accuracy:

$\pm 2\%$ of max. of range in use.

Bearing accuracy:

Within 1° at max. range of scale in use.

Peak output power: 50 kW.

Power supplies: DC: 110 or 220 V. AC:

115 V single-phase or 380–440 V three-phase, 50 or 60 c/s.

Power consumption:

With 1 display unit 1.9 kW.

With 2 display units 2.05 kW.

Dimensions:

	Height	Width	Depth	Weight
<i>Main display, 15-inch</i>				
	36 in.	24 in.	24 in.	160 lb
	(91.5 cm)	(61 cm)	(61 cm)	(72.6 kg)
<i>Remote display, 9-inch</i>				
	18 in.	19½ in.	31 in.	140 lb
	(46 cm)	(49 cm)	(78 cm)	(63.6 kg)
<i>Transmitter/receiver</i>				
	52 in.	19¾ in.	28 in.	500 lb
	(132 cm)	(50 cm)	(71 cm)	(227 kg)
<i>Aerial</i>				
		<i>Sweep</i>		
	40 in.	67 in.		155 lb
	(102 cm)	(170 cm)		(70 kg)

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