



## 3 cm Marine Radar Equipment Type NR 502/2

50 kW 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 display 9 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 couplings provided for, for stabilizing the display in a north-upwards position.

Two remote displays may be accommodated in addition to the main display.

The whole equipment is operational within  $1\frac{1}{2}$  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. A waveform monitor is built-in and there are comprehensive facilities for metering feeds and voltages.

**Display.** The display is compact and robust in construction. The display unit (illustrated below), which can be fitted to either a desk or a pedestal, is trunnion-mounted to provide adjustment of the viewing angle. Main and remote versions are similar apart from the omission of certain control facilities on the latter.

A transparent front screen is fitted to the 9-inch tube, engraved with a cursor line and mechanically rotatable to give bearing indication.

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 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 or 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 c/s.

**Pulse length:**

0.2  $\mu$ s on ranges 1 and 2.

1.4  $\mu$ s on ranges 3 and 4.

**Azimuth beamwidth:** 1.5°.

**Vertical beamwidth:** 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:**

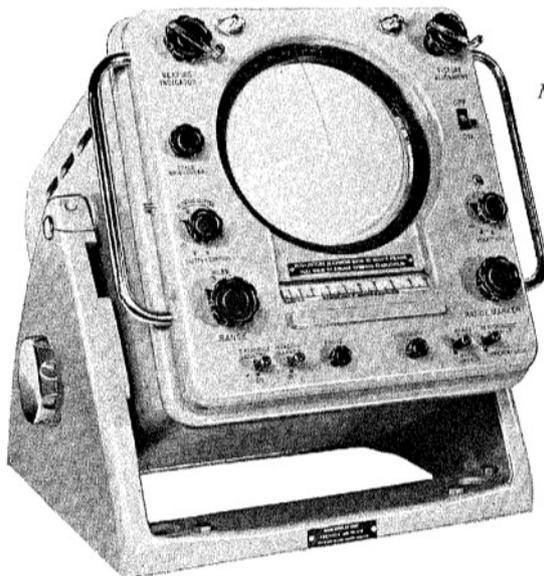
With 1 display unit 1.9 kW.

With 2 display units 2.05 kW.

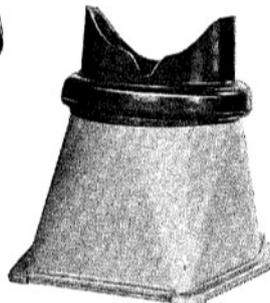
With 3 display units 2.2 kW.

**Dimensions:**

	Height	Width	Depth	Weight
<i>Main display</i>				
	18 in. (46 cm)	19½ in. (49 cm)	31 in. (78 cm)	145 lb (65 kg)
<i>Remote display</i>				
	18 in. (46 cm)	19½ in. (49 cm)	31 in. (78 cm)	140 lb (63.6 kg)
<i>Transmitter</i>				
	52 in. (132 cm)	19½ in. (50 cm)	28 in. (71 cm)	500 lb (227 kg)
<i>Aerial</i>				
Sweep	40 in. (102 cm)	67 in. (170 cm)		155 lb (70 kg)



Main display unit.



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### Marconi

Marconi's Wireless Telegraph Company Limited  
Marconi House, Chelmsford, Essex  
Telephone: Chelmsford 3221 · Telex: 1953  
Telegrams: Expanse Chelmsford Telex