



# 100-Watt HF/MF Telegraph Transmitter *Type TSY 501* 'Oceanspan II'

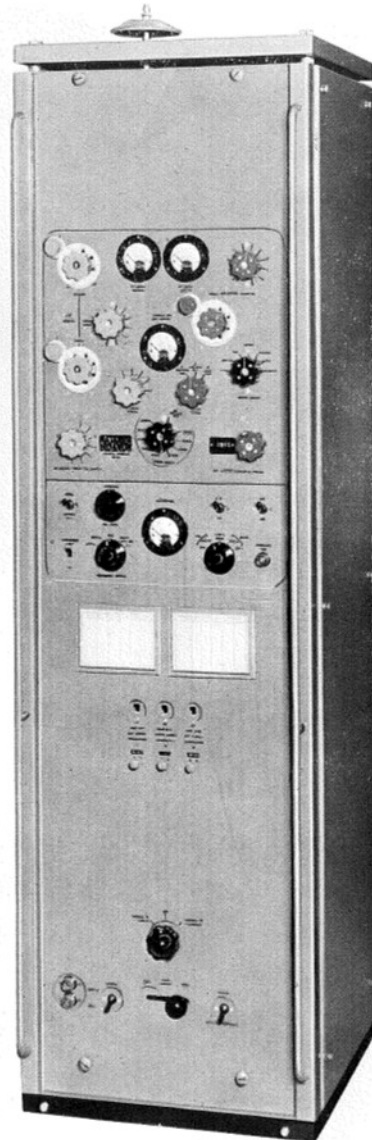
SPECIFICALLY DESIGNED for shipboard operation, the Type TSY 501 Transmitter is robustly constructed and suitable for general shipboard applications, including naval auxiliaries. It is a reliable equipment, easily installed and simple to operate.

The transmitter is built up in five units which are contained in the main cabinet. A front cover is fastened in position by means of four knurled screws, cut-outs being left to allow free operation of all controls. Click stop selector switches facilitate quick tuning to predetermined frequencies. Seven LC-controlled spot frequencies including a 500 kc/s distress and calling signal, can be set up in the MF band and as many as thirty crystal-controlled frequencies may be spaced throughout the HF band. Immediate selection of any one of seven operational spot frequencies in each band is provided. Mechanical interlocks ensure the safety of operating personnel and make it impossible to remove any unit whilst the HT power supplies are connected.

## CIRCUITS

On HF, drive is obtained from the crystal oscillator whose output circuit is aperiodic so that crystals may be switched in or out of circuit without the need for retuning. An intermediate amplifier acts as a straight amplifier and harmonic generator, and delivers drive to the final stage at the radiated frequency; a second harmonic generator being incorporated in the 22 Mc/s condition.

The MF drive, however, is derived from a master oscillator of the transitron type. High discrimination tuning is possible and bimetal temperature compensating elements ensure a high standard of stability. The oscillator output is taken from the anode through a pre-tuned



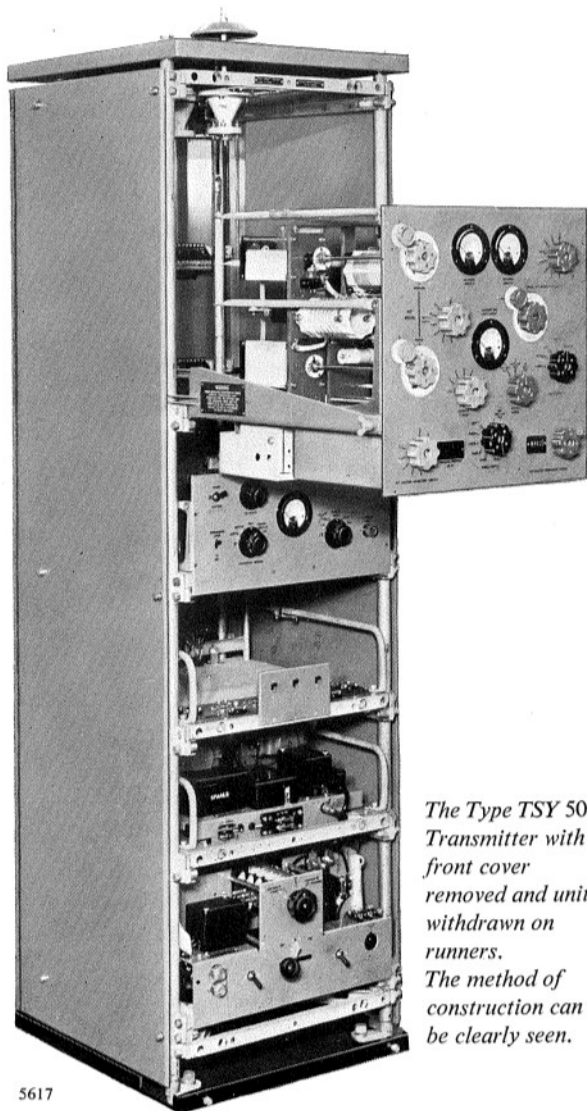
band-pass filter so arranged that its response combines with that of the final stage MF grid circuit to maintain a reasonably constant input level to the final amplifier stage. An isolator precedes the final stage which employs three valves connected in parallel, special care being taken to avoid any parasitic oscillations.

High level modulation is employed for MCW operation. Two parallel-connected valves comprise the oscillator, a circuit pre-tuned to 1000 c/s being connected in the anode circuit. The aerial

circuits are divided into two sections for MF and HF tuning.

Battery charging facilities are also incorporated in the equipment so that the two 24 V batteries used for filament heating and as a standby power supply source, may be always ready for immediate use.

Provision is made for mounting up to three receiver supply units. The supply units are connected into circuit by plug and socket connectors and can be arranged to supply a main receiver, an auto-alarm or a direction finder.



*The Type TSY 501 Transmitter with front cover removed and unit withdrawn on runners. The method of construction can be clearly seen.*

5617

## DATA SUMMARY

### Power rating

(to aerial circuit):	CW	MCW
	MF 100 W	120 W
	HF 65-90 W	80-110 W

### Frequency ranges:

MF	365-540 kc/s
HF	3,500-3,790 kc/s
	4,060-4,400 kc/s
	5,330-5,770 kc/s
	6,080-6,580 kc/s
	8,120-8,800 kc/s
	10,660-11,540 kc/s
	12,160-13,166 kc/s
	16,240-17,600 kc/s
	21,320-23,080 kc/s.

Operation on any one of seven pre-set frequencies in each band or continuous tuning.

### Frequency stability:

MF (LC Drive)	$\pm 0.1\%$ .
HF (Crystal Drive)	$\pm 0.02\%$ .

**Transmission:** CW and MCW.

**Modulation:** AM to a depth of 80%.

**Power supplies:** 110 or 220 V DC mains and 2, 24 V batteries.

**Power consumption:** 550 W approximately.

### Dimensions:

Height	Width	Depth	Weight
6 ft 4 in.	1 ft 10 $\frac{1}{4}$ in.	2 ft 0 $\frac{3}{4}$ in.	450 lb
(193 cm)	(56 cm)	(63 cm)	(204 kg)

# Marconi

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