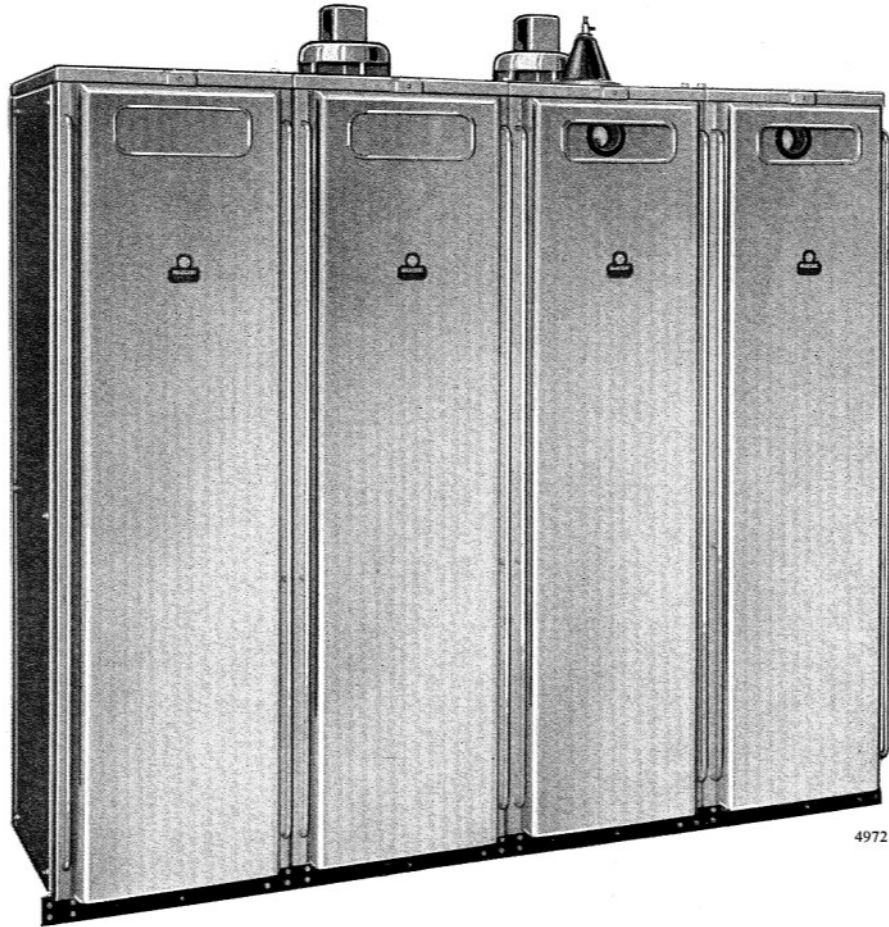




## 3 kW MF Telegraph/Telephone Transmitter *Type TGM 651*



4972

THE TYPE TGM 651 TRANSMITTER is a medium-power equipment designed to give a high performance combined with ease of operation. It is especially suitable for land stations operating to ships.

Although the standard frequency range is 550–275 kc/s, the lower limit can be extended to 100 kc/s. The transmitter is then known as the Type TGZ 651.

The set is housed in a four-bay cabinet. Each unit can be withdrawn on runners from the cabinet, giving complete accessibility to any part of the transmitter for servicing. In order to protect operating personnel, safety switches are fitted which ensure that no unit can be withdrawn until the power is cut off. When required, covers can be supplied which completely enclose the

equipment with the exception of the aerial ammeter and final stage anode current meter dials.

The technique of enclosing all units in a single cabinet enables inter-wiring to be in factory-made cable-forms, thus reducing the 'onsite' installation wiring to a minimum. The cabinet splits into four bays for easy handling during transport and installation, each bay being approximately 6 ft 10 in. high by 2 ft square.

## FEATURES

Immediate switching to any one of six pre-selected crystal-controlled spot frequencies.

Simple and rapid frequency changing in approximately 15 seconds.

Control may be either local or remote, all controls being centralised into one unit in both cases.

Service selection of CW, MCW, and telephony.

A voice-operated carrier-switching unit can be fitted internally to the transmitter for telephony operation.

'Listening through' facilities are provided.

Both visual and aural monitoring are possible at local and remote points.

## CIRCUIT

A crystal oscillator provides the drive which is fed into a capacity-coupled, resistance loaded pentode buffer stage. This is followed by an isolator and RF amplifier operating under class A conditions, and the output is capacity coupled to the intermediate amplifier. This stage consists of two beam-tetrodes in parallel suitably arranged so as to be kept in the safe dead-loss condition when no drive is applied. Two parallel-connected pentode valves comprise the final stage which is suppressor modulated for MCW and telephony operation.

## DATA SUMMARY

### Power rating (to aerial circuit):

CW: 2.5-3.0 kW

MCW: 1.0-1.2 kW

Telephony: 730-880 W  
(carrier)

With provision for  $\frac{1}{4}$  or  $\frac{1}{16}$  full-power working.

**Modulation:** Up to 85% by suppressor-grid modulation of final stage.

**Frequency range:** 550-275 kc/s.

**Frequency stability:**  $\pm 0.02\%$ , conforms to the Atlantic City standards.

**Keying:** High speed up to 100 bauds; with partial absorption.

**RF harmonics:** Less than 200 mW radiated with either low or high-power output.

**AF response:** Within  $\pm 1$  db from 200-4000 c/s. (Note—These figures do not include sideband cutting due to the characteristics of the aerial circuit.)

**Speech input level:** Modulated to a depth of 85% by a level 15 db below 1 mW.

**AF harmonics:** Less than 10% at 85% modulation.

**Power supply:** 340-430 V, 3-phase 4-wire 50 c/s AC mains.

**Power consumption:** 7 kVA at 0.85 PF on CW mark.

### Dimensions (overall):

Height	Width	Depth	Weight
6 ft 10 in. (208 cm)	7 ft 1 $\frac{3}{4}$ in. (218 cm)	2 ft 2 in. (66 cm)	2200 lb (998 kg)

**Marconi**

MARCONI'S WIRELESS TELEGRAPH COMPANY LIMITED

Head Office: Marconi House, Chelmsford

Telephone: Chelmsford 3221. Telegraphic Address: Expanse, Chelmsford