



Double-channel HF Transmitter (1 kW) Type TC 301

Designed and produced by Marconi Italiana, Genoa, Italy

THIS TELEPHONE/TELEGRAPH transmitter consists of two discrete transmitting channels, each controlled from a separate control desk which can be located away from the transmitter.

Features

- Crystal or LC drive; 3 pre-set frequencies in each case.
- Centralized control from a compact control desk.
- Operation of all services on each channel from a remote position up to 3 miles (5 km) away.
- Intercommunication between the two remote operating posts and the main control desk.
- Aural and visual calling between remote operating posts and control desk.
- Matching to vertical wire, rod aerial or dipole by separate aerial matching units.
- Capable of being fitted in vehicles.

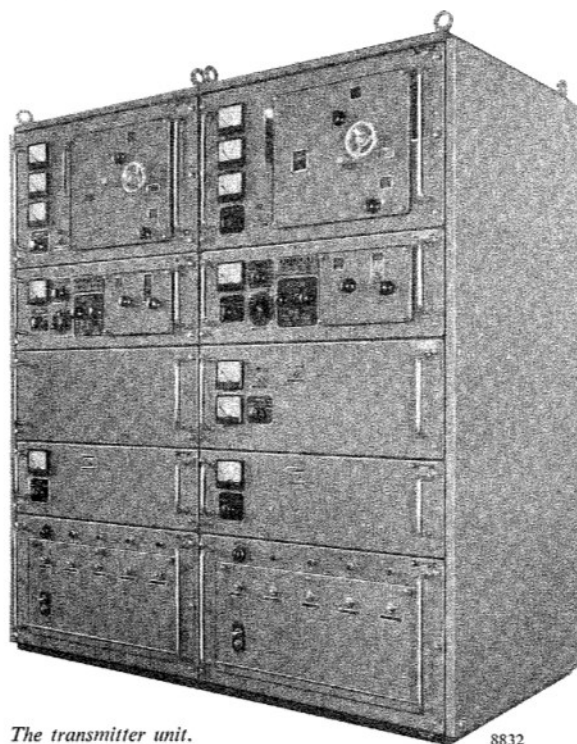
EQUIPMENT

The complete transmitter consists of the following:

- (a) Transmitter assembly comprising:
 - 2 RF units
 - 2 Oscillator & RF multiplier units
 - 2 HT power units
 - 2 Auxiliary power units
 - 1 Modulator unit
 - (b) Control desk
 - (c) Two remote operating units
 - (d) Matching unit for rod and vertical wire aerials.
 - (e) Matching unit for dipole aerial.
- The transmitter assembly consists of two cabinets bolted together, each containing five withdrawable units. One transmitting channel is contained in each cabinet, the modulator for telephony operation being fitted in one cabinet only.

The transmitter is controlled from a separate control desk. This includes facilities for control of keying and modulation on both channels, control of output, switching of channels to the two remote operating units (including intercommunication aural and visual calling) and also control of side-tone to associated receivers.

The control desk may be separated from the transmitter up to a distance of 160 feet (50 m). This allows for the transmitter to be stowed in a separate equipment room if desired.



The transmitter unit.

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Each remote operating unit can call and communicate with the control desk and can operate telephony or telegraphy on either channel, as allocated from the control desk.

The two aerial matching units are connected between the transmitter and the aerial feeder system. The vertical wire and rod antenna matching unit can be preset in three positions corresponding to the three pre-set frequencies of operation. Aerial current meters are fitted and dials and instruments are illuminated.

A separate portable standing-wave ratio meter is provided for tuning the aerial units.

Data Summary

Frequency range: 2.8–18 Mc/s in 4 bands, three preset frequencies anywhere in the range.

Frequency tolerance:

Crystal drive: 50 parts in 10^6 .

LC drive: 200 parts in 10^6 .

Output power: 1–1.2 kW min. on each channel, depending on service.

Output impedance: 75 Ω unbalanced.

Modulation depth: Up to 90%.

Modulation distortion: 6% below 90% modulation.

Harmonic level: 50 dB below radiated frequency.

Keying speed: 150 bauds max.

Operating conditions: -25 to $+50^\circ\text{C}$ and up to 95% humidity.

Power supplies: 220 V, 50 c/s, three-phase AC for main equipment 110–280 V, 42–50 c/s for remote control units.

Power consumption: Main equipment 4.2–5.4 kVA depending on service.

Remote control units: 50 VA.

Dimensions (transmitter unit):

Height 5 ft 9 in. (175 cm)

Width 5 ft 3 in. (160 cm)

Depth 2 ft 10½ in. (88 cm)

Marconi

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