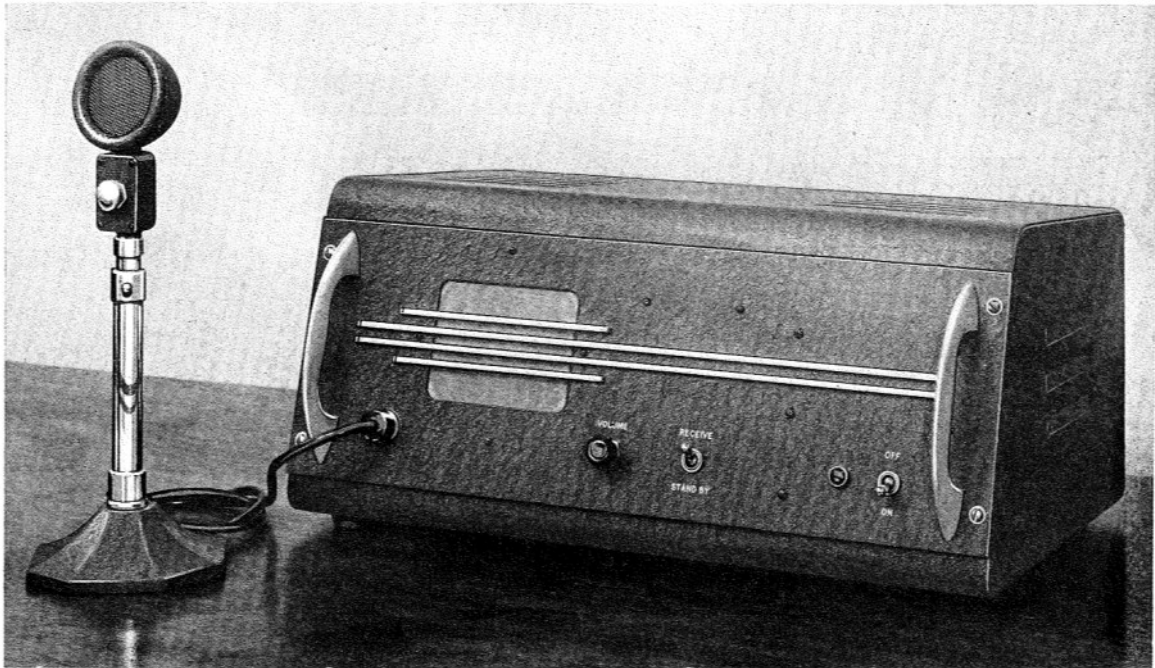




## 3-5 Watt VHF Telephony Equipments

### *HX10 Series* FORMERLY TYPES L111 AND H111



5503

PRIMARILY DESIGNED as control stations for operating with mobile units equipped with VHF equipment, the Marconi-BCC HX 10 series represent the latest development in low-power VHF sets. Entirely self-contained and of neat and attractive appearance, they can be installed in any headquarters office and are being used by police and fire services, public utilities of all types, newspaper offices, airline operating companies, harbour masters, and many others. GPO and Home Office approval has been given for these equipments.

Amplitude modulation is employed, and the equipments permit either common frequency or dual frequency operation on a simplex basis.

Either quarter-wave rod or concentric centred half-wave dipole aerials are normally employed.

#### CONSTRUCTION

The equipments are sturdily built, light and robust. The transmitter and receiver are assembled on a common chassis which is simply removed from the case by releasing four captive screws on the front panel. All operating controls are mounted on the front panel of the transmitter/receiver assembly and the sockets for fixing interconnecting leads, aerial and microphone cables are made foolproof.

Normally a table microphone is supplied with

this equipment, but a standard telephone handset may be substituted if required.

### CIRCUITS

A total of only six valves are used in the transmitter which comprises a crystal-controlled oscillator followed by three multiplication stages and power amplifier stages.

The speech input from the microphone is applied through a step-up transformer direct to the push-pull modulator operating under class

AB1 conditions. The output of the modulator is applied to the RF amplifier for normal working but may also be the energising source for a PA loudspeaker.

The receiver is a crystal-controlled superheterodyne employing double-frequency changing and has a second IF of 5 Mc/s. The detected output voltage is passed through an efficient noise limiter which operates on impulse noise and clips off peaks with a modulation depth of more than 60%. Delayed AGC is provided.

## DATA SUMMARY

### Frequency ranges:

Type HX 11, 56–75 Mc/s.

Type HX 12, 75–100 Mc/s.

Type HX 13, 156–184 Mc/s.

Type HX 14, 118–132 M/cs.

Operation on one spot frequency in the selected band.

### Power consumption:

Supply	Transmit	Standby	Receive
100–110 V or 200–250 V AC	85 VA	70 VA	60 VA

### Dimensions:

Height	Width	Depth	Weight
8½ in. (21·6 cm)	19 in. (48·3 cm)	11½ in. (29·2 cm)	34 lb (15·4 kg)

### TRANSMITTER

**Power output:** 3–5 W (depending on frequency band).

**Frequency stability:** Two parts in 10<sup>6</sup> per degree centigrade.

**Modulation:** AM: 95%.

**Spurious radiations:** All at least 65 db down.

**AF response:** Within ±1 db from 150 c/s to 3000 c/s.

**Modulator output:** 4·5 W.

### RECEIVER

**Sensitivity:** 1 μV for 12 db signal-to-noise ratio.

### Selectivity:

6 db down at ±25 kc/s off tune.

30 db down at ±50 kc/s off tune.

90 db down at ±100 kc/s off tune.

**AGC:** 6 db output change for 60 db change of input signal.

**Image protection:** 65 db.

**Audio output:** 1 W.

**AF response:** Flat to within 6 db from 200 c/s to 3000 c/s.



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