LF Receiver *Type CR200*

THE MEDIUM AND LONG WAVE RECEIVER Type CR200 is a self-contained receiver, designed for bench mounting and suitable for operation from AC mains, external batteries, or vibrator power-pack sources, link changeover facilities being provided.

Although the receiver is not of the double detection type, superheterodyne technique has been employed in the design of the beat frequency oscillator and signal frequency circuits, with the result that a high standard of performance, combined with simplicity of operation, has been achieved.

FEATURES

Two stages of RF amplification, employing three ganged circuits (with the option of an additional tuned aerial circuit) and variable-mu valves, precede the detector and give a high order of sensitivity and selectivity.

Generally in flexible arrangement:

(*a*) Suitable for three types of aerial input.

(*b*) Three different output levels available.

(*c*) Single knob tuning control when searching.

(*d*) Choice of either of two values of LF selectivity.

(*e*) BFO second-channel adjustment.

Frequency-calibrated tuning scale and high-discrimination logging scale.

Suitable for use with a direction finder unit and loop aerials to give approximate bearings and directional discrimination against unwanted signals.

CIRCUIT

Two RF amplifier stages work into a triode-hexode detector of which the triode section is used as a tuned beat-frequency oscillator on CW. This produces an LF heterodyne which is amplified and passed to the output stage.

A two-stage filter tuned to the beat-frequency may be inserted before the output stage to give increased selectivity. Precautions have been taken to eliminate interference due to heterodyne ambiguity of the frequency-changing oscillator, and a heterodyne vernier is fitted to vary the oscillator frequency according to the requirements after the desired signal has been located.

DATA SUMMARY

Frequency range: 15–560 kc/s continuous coverage in four bands.

Aerials: Provision is made for three types of input:
A simple vertical aerial.
An 80 Ω feeder.
A directional aerial.

Sensitivity: For 10 dB signal/noise ratio on CW signal:
Between 0·3 μV and 7 μV vertical aerial input.
Between 0·06μV and 0·18μV 80Ω feeder input.

Selectivity:
The attenuation at 2 kc/s off tune (image signal) is:
65–27 dB from 15–38 kc/s.
63–28 dB from 38–90 kc/s.
The attenuation at 5% off tune is:
70–52 dB from 90–560 kc/s.

LF filtering provides a passband of 100 c/s on CW.

Output: 1 W to 3 Ω speaker.
1·25 mW to 600 Ω line.
0·3 mW to HR telephones.

Power supplies:
AC mains: 110 V or 200–250 V 50 c/s (approx. 40 W).
Batteries: HT 220 V 45 mA, LT 6V 2·5A.

Dimensions:

Height	Width	Depth	Weight
13½ in.	19 in.	16 in.	77 lb
(34·3 cm)	(48·2 cm)	(40·6 cm)	(35 kg)

Marconi

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