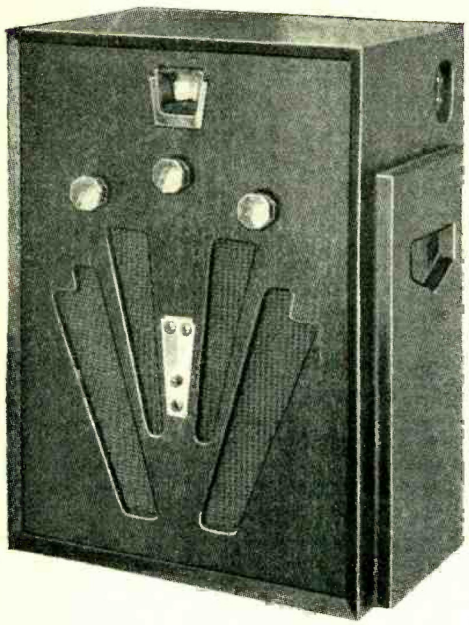


MARCONIPHONE TYPE 248 RECEIVER.

A Two-valve Battery Set for Less than £5.

IN the early days of broadcasting the listener with limited means had no difficulty in equipping himself with adequate apparatus for receiving the B.B.C. programmes. Crystal sets and single-valve receivers for use with headphones were plentiful, and there can be little doubt that this factor was responsible for the rapid establishment of the broadcasting service in this country. The market for inexpensive battery-operated receivers has never diminished, but during the past two or three years the leading firms seem to have neglected it in their efforts to supply the demand for all-mains receivers—chiefly of the 3-valve type, costing about £20.

There are signs, however, that the balance will soon be restored, and the Model 248 Marconiphone set is an excellent example of the type of receiver which is required. It is a quality job throughout, and definitely disproves any suggestion that a receiver costing less than £5 must necessarily be skimped either in specifications or materials.

High Standard Maintained.

The cabinet, for instance, is constructed of solid oak, and in design and finish is not in the least inferior to any of the more expensive sets in the Marconiphone range. The same high standard is maintained in the receiver unit, which consists of a channel-section aluminium chassis mounted above the loud speaker cone inside the cabinet. The press-work and riveting have been exceptionally neatly executed, the materials are obviously of the best, and the switches and condensers work smoothly and with precision. An Exide 2-volt 20-ampere-hour battery is used for the L.T. supply, and one of the reintroduced Marconiphone dry batteries provides both H.T. and grid bias. Marconi valves are, of course, included.

The circuit consists of a metallised HL2 detector, followed by an LP2 power valve. Special attention has been paid in designing the tuning coils to the problem of selectivity, and three alternative tappings are provided to meet all possible local conditions. Both the tuning and reaction condensers are of the bakelite dielectric type, and the tuning condenser is driven through a friction slow-motion dial. A very simple and efficient rotary switch performs the combined functions of switching on the filaments and changing the wave-range.

The anode circuit connections of the leaky-grid detector are interesting on account of the unconventional position of the by-pass condenser. Instead of being connected directly between the anode and earth, it is joined to the "output" side of the reaction feed condenser. This arrangement has been found to give better distribution of reaction over the tuning scale, particularly on long waves.

Adequate Selectivity.

The transformer coupling the detector to the power valve is of universally generous design for a set of this type, and the windings of the balanced armature loud speaker unit have been specially wound to provide the correct working impedance for the LP2 output valve. As a result the reproduction is clear and remarkably free from harmonic distortion. The volume, too, can be increased to a higher level than is normally required in the average living room without signs of distress. One does not expect the same degree of response in the bass as one would demand, say, in a set equipped with a moving-coil loud speaker, but even so the quality of reproduction of music is definitely pleasing and is of a type that can be listened to for long periods without tiring. Speech is clear, and the character of individual voices faithfully rendered.

The makers' claims in the matter of selectivity were amply substantiated by a test at a distance of five miles from Brookmans Park. Here no difficulty was experienced in obtaining clear separation of the twin transmitters even in the least selective of the aerial tappings (A_1). Further, the overall sensitivity of the set was exceptionally good, having regard to the high degree of selectivity provided. There can be no doubt that alternative B.B.C. programmes would be available even in remote parts of the British Isles, while under favourable conditions five or six foreign stations would be received at moderate volume. The number of strong carrier waves to be found on the medium waveband considerably exceeds this figure, but difficulty was experienced in resolving all but those with fairly deep modulation.

On long waves the Brookmans Park stations showed a tendency to break through near the bottom of the scale, but this effect was not serious outside a radius of ten miles. Daventry (5XX), Radio Paris, and Eiffel Tower all came in at good volume, with Hilversum, Motala, and one or two others in reserve at moderate strength.

FEATURES.

General.—*Two-valve battery-operated receiver incorporating a balanced armature loud speaker. Designed for use with an external aerial.*

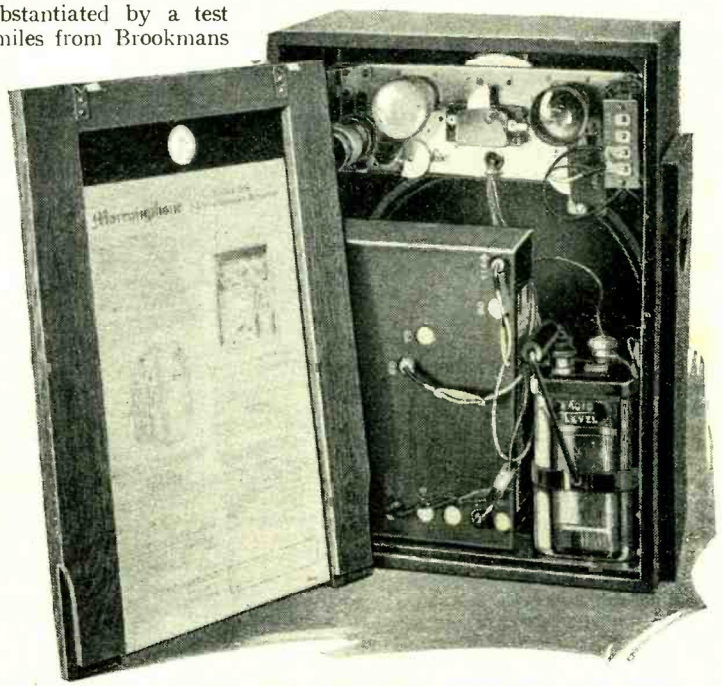
Circuit.—*Single-tuned input circuit with alternative aerial tappings. Metallised grid detector with reaction, transformer coupled to three-electrode power output valve. Provision for an extra loud speaker.*

Controls.—*(1) Tuning, with slow-motion dial. (2) Reaction. (3) Combined wave-range and on-off switch.*

Price.—*£4 19s. 6d., including valves and batteries.*

Makers.—*The Marconiphone Co., Ltd., 210-212, Tottenham Court Road, London, W.1.*

Without a shadow of doubt, the purchaser of a Marconiphone Type 248 set receives a very full measure of value for his money. High-tension battery replacements cost 11s., and should last at least six months as the current consumption of the set is very low. In the model tested it was 4.3 mA., or less than half that of the average portable.



The back panel, which carries full operating instructions, is completely detachable, giving ready access to valves and batteries.