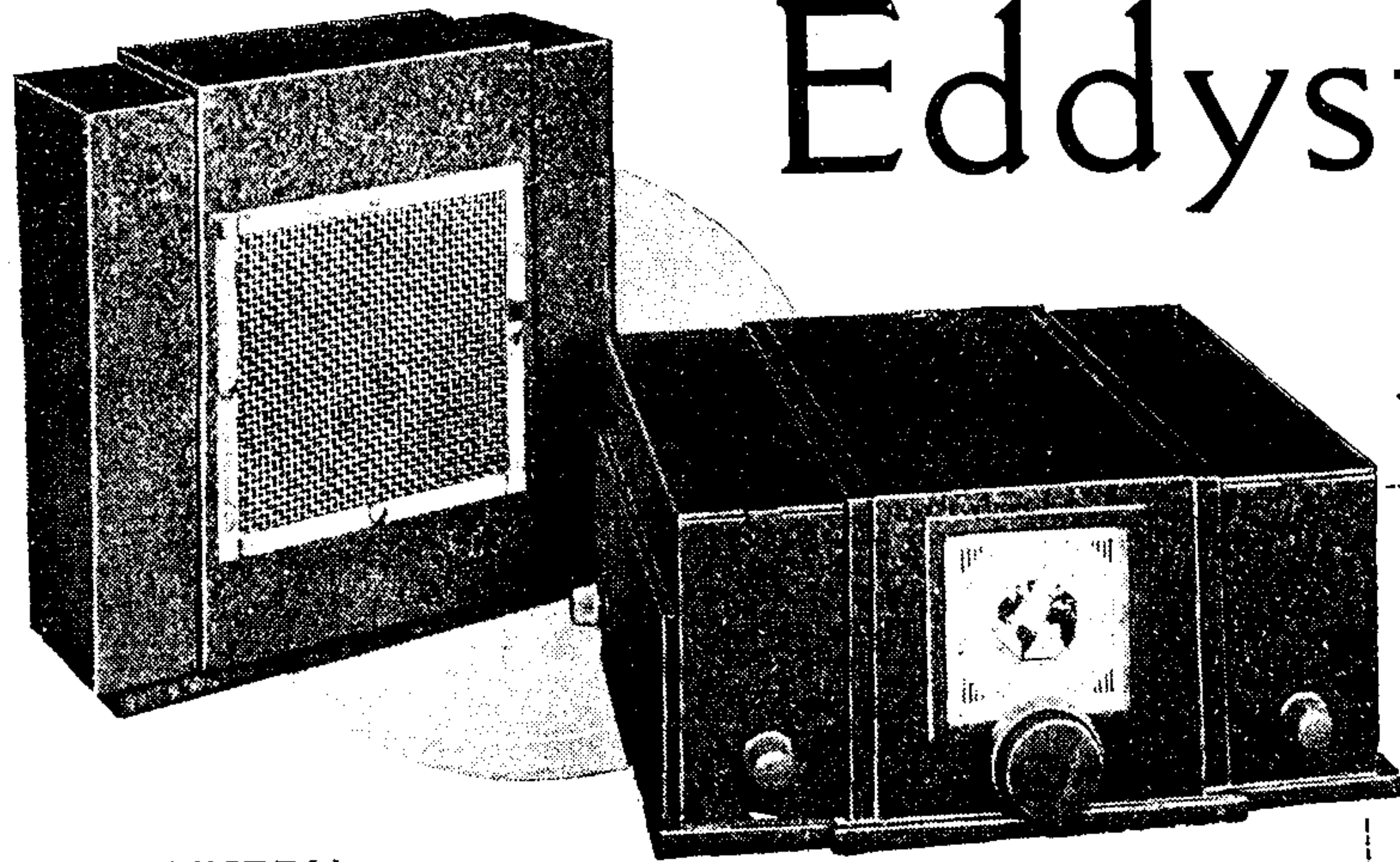


Eddystone



All-World



FEATURES. *Type.*—Table model battery superheterodyne with interchangeable waverange units. *Waveranges* (supplied with receiver) (1) 13.4-34.6 metres. (2) 27.2-69.2. metres. (5) 240-573 metres. *Circuit.*—Var.mu pentode RF amplifier — pentode oscillator — pentode frequency-changer — two var.mu pentode IF amplifiers—double-diode-triode second detector—push-pull triode output valves. *Controls.*—(1) Tuning. (2) Volume. (3) Amplification. (4) Tone. (5) On-off switch. *Price.*—Receiver only, £27 10s. Loud speaker £3 10s. *Makers.*—Stratton & Co., Ltd, Eddystone Works, Bromsgrove Street, Birmingham, 5

A BATTERY SUPERHETERODYNE DESIGNED FOR USE IN THE TROPICS

THERE are many all-wave receivers which from the point of view of long-distance short-wave reception can be confidently recommended for use in any part of the world. For the most part, however, they follow domestic broadcast receiver practice in chassis design and layout, and although in a few details the construction may have been modified with an eye to the export market, there seems always to be an element of uncertainty regarding the time that will elapse before the wooden cabinet or even some vital part of the chassis will disintegrate in the hot and humid atmosphere of the Tropics.

No such uncertainty exists in the case of the "All-World Eight," for the designers have made a complete break with the constructional conventions of broadcast receivers and have built with an eye to permanence under any climatic con-

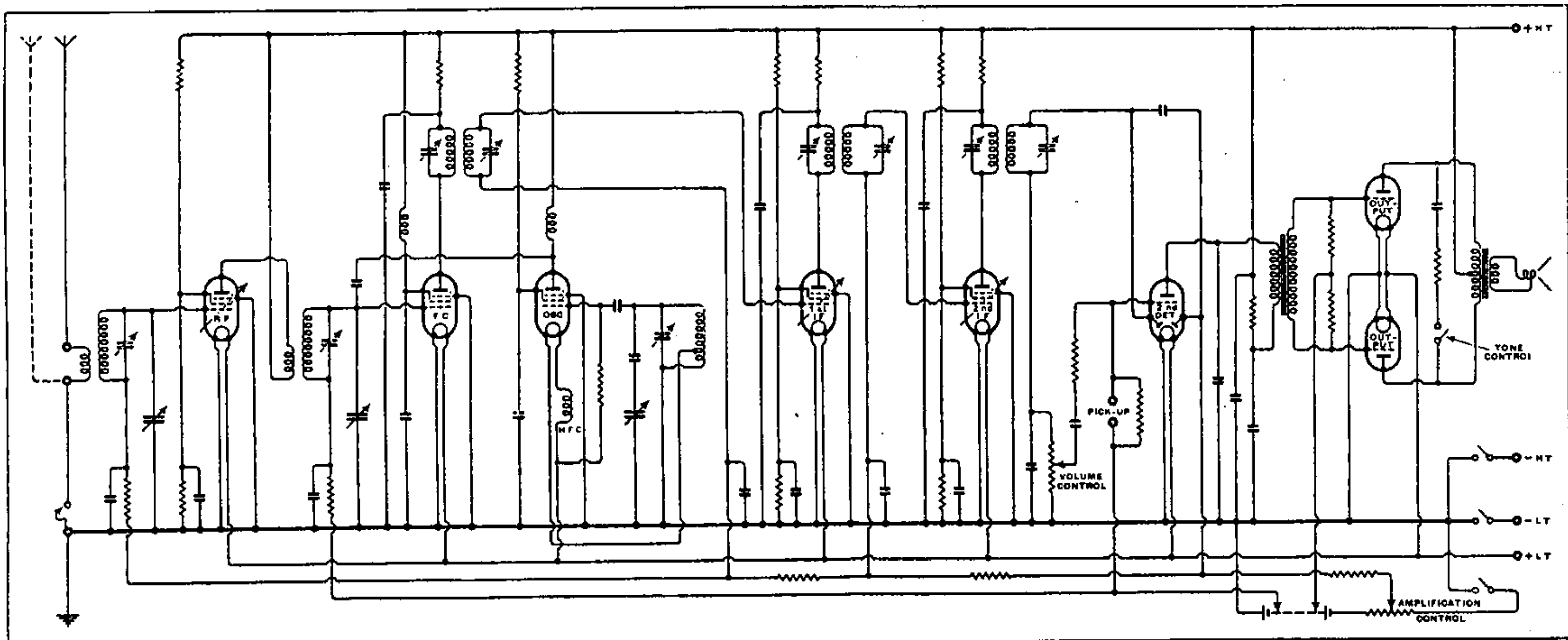
ditions which are likely to be found anywhere on the surface of the earth. Both the cabinet and the chassis are aluminium alloy castings, protected by a hard crystalline enamel. Valve holders, coil bases, etc., are of a special insulating compound known as DL9, which has a wide application in short-wave work. Porcelain pillars are used as anchorages for the wiring and for supporting small components, while every soldered joint is painted over to obviate subsequent deterioration from corrosion.

The decision to use a cast chassis has presented the designers with an excellent opportunity of improving the electric efficiency of the circuit by thorough screening. Both above and below the chassis is divided into cells by integrally cast webs, and the main tuning con-

denser, as well as the IF transformers, are totally enclosed in this way. In addition, all vital leads carrying HF currents are conducted through copper tubing, which, in the case of the valves, is taken to within a fraction of an inch of the caps.

Trouble-free Wave-changing

In multi-range receivers the wave-change switch has always been one of the most vulnerable points, and although important improvements have recently been made in switch design, the makers have in this case wisely played for safety by providing interchangeable coil units housed in cast aluminium boxes, together with their trimmers. Three coil units are provided as part of the standard equipment of the receiver, and additional coils



An input RF amplifier and two IF stages give good sensitivity and a push-pull output stage excellent volume for a total HT consumption of only 8 mA.

can be supplied to bridge the gaps between the standard ranges, thus giving a complete coverage from 13.4 to 2,000 metres.

Eight

The circuit is designed for use either with a normal single wire aerial or with a doublet. There are eight valves in the circuit, the first of which is a variable-mu pentode RF amplifier. The oscillator is a separate valve and is coupled to the frequency-changer grid through a small

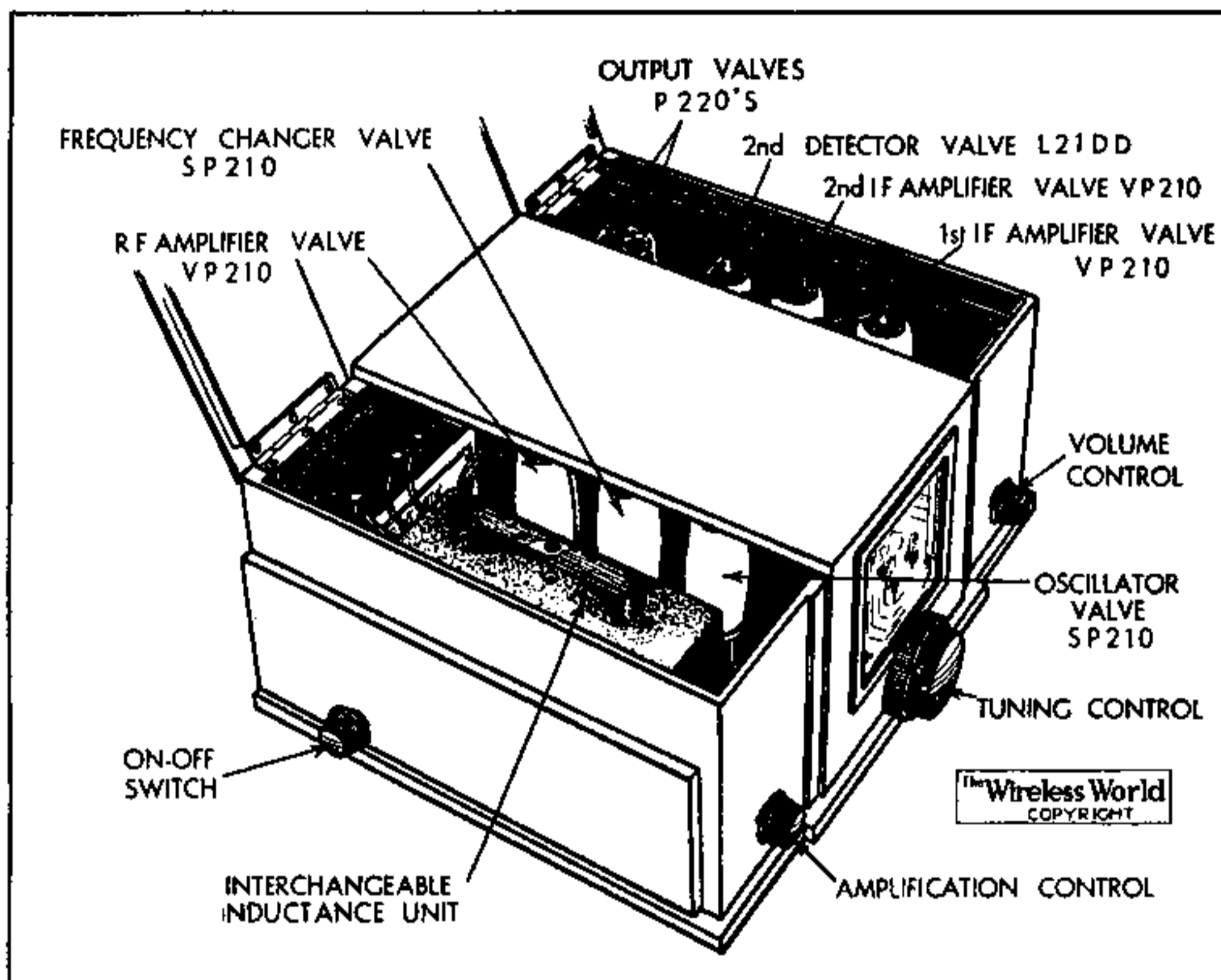
performance on the short-wave ranges is really the result of an exceptionally good signal-to-noise ratio, and if the more powerful continental short-wave stations fail to rattle the loud speaker in the manner to which we have become accustomed, this is only because of the restraint exercised by the efficient AVC system. There is, in fact, very little difference in the signal strength and steadiness of the principal short-wave programmes from either side of the Atlantic, and we were particularly impressed with the excellence and reliability of the morning programme from Pittsburgh W8XK, on 13.9 metres.

The quality of reproduction from the permanent magnet loud speaker unit designed for use with this receiver is well suited to distant reception. It is true that on account of the small baffle area there is not much true bass, but on the

which provides upwards of twenty or twenty-five continental transmissions in daylight, adjacent channel selectivity was possible with the exception of the two Brookmans Park stations, where one channel was lost on either side of their normal settings when using the set in Central London.

The tuning dial is driven by a two-speed reduction gear with ratios of 22:1 and 115:1. The calibrations for the three inductance units supplied with the set are engraved on a glass scale, behind which the pointer moves with the minimum of parallax error. There is also an arbitrary 0-100 scale, for which a calibration curve is supplied in the case of any extra inductance units which may be subsequently purchased. The tuning scale is backed by a white background which is spaced away from the glass panel, and we think it would have been an advantage, in view of the low current consumption of the set, if a dial light could have been provided. Our reason for making this suggestion is that on account of the low background noise there is every possibility that the receiver may be inadvertently left with the valves running. Actually the measured LT consumption was 0.52 amp. and the HT current consumed at 120 v. varied from 5-8 mA, depending upon the setting of the amplification control.

This is a receiver which provides reliable long-distance reception with unostentatious efficiency, and its construction and workmanship are such that it can be confidently recommended for use in any part of the world.



Both cabinet and chassis are aluminium alloy castings. Close-fitting lids give access to the valves and interchangeable coil units.

capacity. There are two stages of IF amplification, and the double-diode-triode which follows them performs the usual functions of signal rectification, AVC supply and first stage AF amplification. The RF amplifier and both IF valves are controlled, and there is a variable initial bias derived from a potentiometer across the grid bias battery. This provides a smooth and efficient control of over-all sensitivity and contributes materially to the ease of handling the receiver. The output stage consists of two triodes in push-pull, with a fixed tone control across the anodes which is brought into operation by means of a switch.

The performance of the receiver is at first somewhat deceptive, for it lacks the excess vitality which often passes for efficiency in many of the popular all-wave receivers. But its quiet and unobtrusive

other hand, there is complete absence of false resonance, and the top register is of the type which gives clarity without emphasising background noise. In fact, throughout the period of the tests no necessity was felt for making use of the tone control either on short waves or normal broadcast bands.

On Medium and Long Waves

Although the receiver has been designed primarily for short-wave reception, the performance on the medium and long wave broadcast bands could not well be improved upon if the set had been designed from this point of view. On the long waves the selectivity gives clear reception of Deutschlandsender without the necessity of calling in the aid of the tone control, and on the medium waveband,