

Eddystone

AN EFFICIENT ALL-WAVE RECEIVER OF RUGGED CONSTRUCTION

THE experience of this firm in catering for tropical markets is of long standing and their preference for solid cast chassis and coil screens is well known. From the point of view of durability the advantages of this form of construction are obvious, but in temperate climates the justification for the additional cost must be sought in the improvements which it confers on the overall performance.

Stability is the keynote of the whole design; frequency stability contributed to by the rigidity of coil mountings, and stability from the point of view of uniform amplification resulting from the elimination of unwanted feed back by the efficiency of screening.

Air dielectric trimmers are used in the three-circuit IF band pass filters and a separate oscillator is used on a circuit designed to give the minimum of frequency drift. The frequency changer is a triode-hexode in which the hexode portion alone is used for mixing. An RF amplifier tuned on each of the four wave-bands pre-

cedes this stage and is controlled with the IF amplifier by AVC, in which the conditions of operation have been chosen primarily to suit the short-wave ranges.

That this claim is not without good foundation was proved when the set was inadvertently operated on the lowest wave-band with only the short connecting lead projecting from the side of the chassis as an aerial. Incidentally, twin leads are provided here for a doublet aerial, one of these being joined to the earth terminal at the back when a single wire aerial is used. When the outdoor aerial was connected the signal strength of an American station which had been tuned in without any difficulty on the short aerial lead rose by only a few db. A more remarkable feature of this unrehearsed incident was that the signal-to-noise ratio gave no clue to the fact that the aerial was off, neither was sensitivity obviously deficient by the standard of performance which is expected

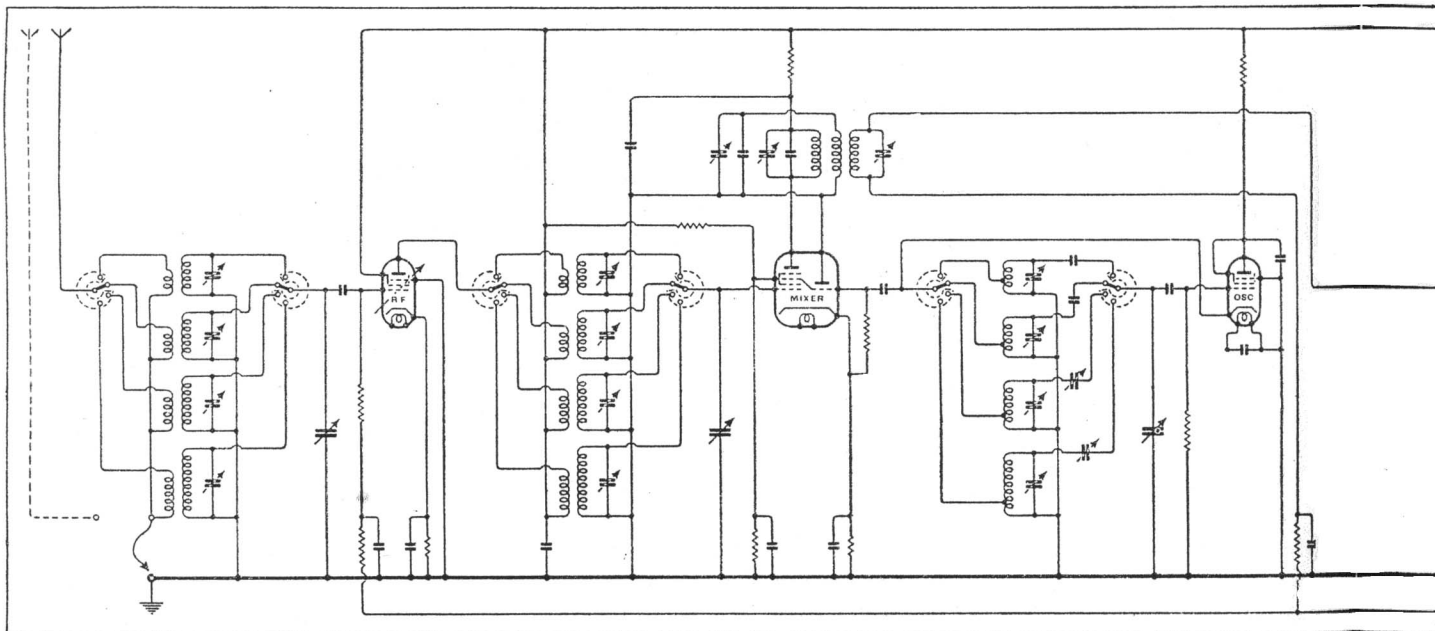
FEATURES. Waveranges.
 —(1) 12.95-34.9 metres. (2) 31.98-85 metres. (3) 205-550 metres (4) 900-2,000 metres.
Circuit.—Pentode RF amplifier —hexode mixer—pentode oscillator — pentode IF amplifier (465 kc/s)—double diode triode second detector —pentode output valve. Full-wave valve rectifier. **Controls.**—(1) Tuning. (2) Volume. (3) Tone. (4) Waverange. (5) On-off Switch. **Price.**—(Chassis, valves and loud speaker) 21 guineas. **Makers.**—Stratton & Co., Ltd., Bromsgrove Street, Birmingham, 5.

of a normal all-wave broadcast set. Many sets of outstanding performance from the point of view of overall magnification seem to show an avidity for any and every type of impulse picked by the aerial, but the E.R.A.7's best response is undoubtedly reserved for carriers and other CW transmissions.

Second channel interference is negligible, and under the conditions of test, with the loud speaker mounted on a separate baffle, microphony was entirely absent even at full magnification on the strongest carriers.

Sensitivity is well maintained down to 13 metres, and an unusually good performance was given on the 13.8-metre broadcast band relative to the 16- and 19-metre groups. The scale is pro-

Complete circuit diagram. The use of the hexode portion of a triode hexode valve as mixer in conjunction with a separate oscillator is the principal deviation from standard practice.



one E.R.A.7

vided with subsidiary graduations on all broadcast and amateur bands to facilitate logging of stations, and the slow motion obtained when the direction of rotation of the tuning knob is reversed conveniently covers each of these bands.

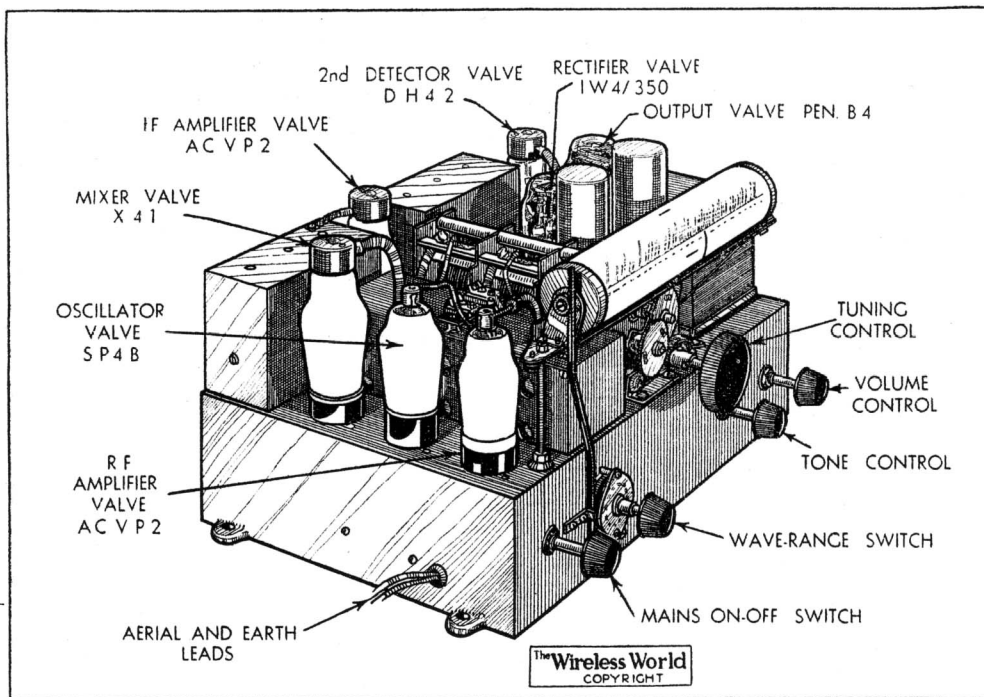
Calibrations are in megacycles and metres on the two short-wave ranges, and in metres and station names on medium and long waves. Each scale is 10 inches long and is brought into view automatically by a rack and pinion mechanism coupled to the waverange control. Mechanically the arrangement works smoothly and the change over from one waveband to another is

Aluminium alloy castings are used for the IF and signal frequency tuned circuits as well as for the main chassis. The rotary tuning scale drum is actuated through a rack and pinion mechanism by the wave-range control.

electrically silent—an important point in a receiver with high overall magnification. Uniformity of sensitivity is as much a quality of the ordinary broadcast wave-

bands as it is of the short waves, and the signal-to-noise ratio is very much better than usual below 250 metres. Not a single self-generated whistle could be traced anywhere, and the selectivity on medium waves was sufficient to give a

have affected adversely the quality of reproduction. There is no apparent deficiency of top and the treble response is quite free from harshness. This is not one of those sets where the tone control is an essential element in the ultimate



clearance from the modulation of London Regional well within one channel on either side of its normal setting at a distance of 15 miles. On long waves the Deutschlandsender is easily received clear of its neighbours and at excellent programme strength.

The high selectivity does not appear to

achievement of good balance, and its function is confined to the mitigation of background noise under poor conditions of reception on short waves.

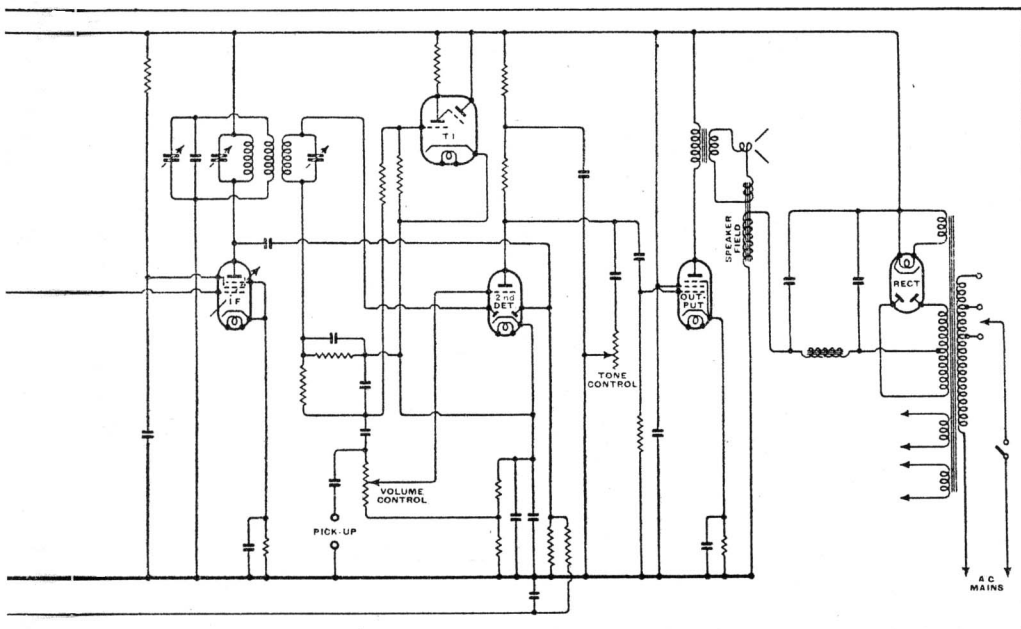
The energised loud speaker supplied with the set is of massive construction and makes use of a 12-inch curved sided diaphragm. The speech coil diameter is above the average, and in spite of a fairly tight surround there is no lack of bass response. Frequency doubling is not obvious, and judging from the output power the rating of the final stage (5 watts) is not merely a catalogue figure.

Sound Construction

Workmanship underneath the chassis is in keeping with the clean exterior. Ceramic valve bases are employed, and porcelain is also used for wiring anchorages at many points.

This is an instrument which cannot fail to catch the eye of the experienced wireless enthusiast. He will find the performance no less attractive, for the makers have mopped up all the minor troubles which often accompany high magnification and selectivity in a superheterodyne circuit. Furthermore, the quality of reproduction makes it an excellent receiver for the general use of the household.

Cabinet work is more or less left to the purchaser, but a solidly built and attractive-looking console is obtainable to order through the manufacturers.





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