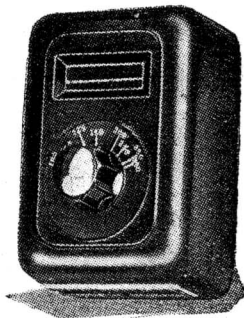


# New Apparatus

## Reviewed

### GLIMM VOLTMETER

THIS is quite a novel type of voltmeter, as it does not include any moving parts, voltage being indicated by a glow in a small neon tube. It can be used on either AC or DC supplies, and will answer as an indicator for direct or alternating current by the position of the glow about the electrodes. On DC the glow is confined to one electrode only, whereas on AC it is equally distributed about both.



Neon-type voltmeter for AC and DC measurements.

The meter is provided with a knob and scale calibrated from 100 to 440 volts. Having joined the instrument across the points where a measurement is required, the knob is adjusted so that a faint glow just appears between the two electrodes. The voltage is then read off the scale. It is surprisingly accurate for a neon device, and its measurements agree very well with those made with other instruments.

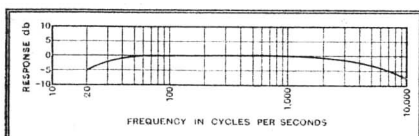
Its most useful feature is that current consumption is practically nil; for example, at 200 volts it passes less than 0.05 mA.

It is obtainable from Eugen J. Forbat, 28-29, Southampton Street, Strand, London, W.C.2, and the price is 27s. 6d.

### L.T.P. OUTPUT TRANSFORMER

THE transformer illustrated is one of the new range now being made by London Transformer Products, Ltd., L.T.P. Works, Cobbold Road, Willesden, London, N.W.10.

This particular model provides two ratios, viz.,  $2\frac{1}{2}$  to 1 and 15 to 1, and is designed

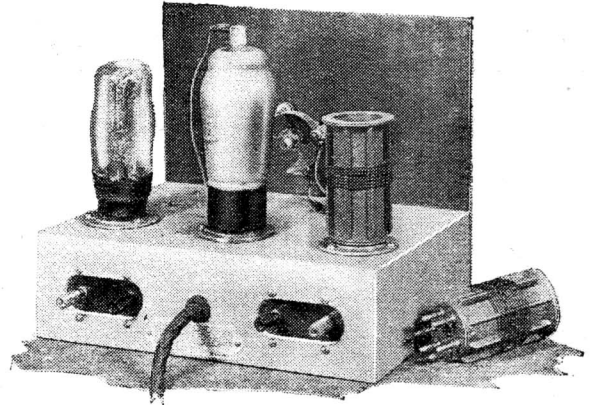


Response curve of the L.T.P. two-ratio output transformer.

to carry DC currents up to 90 mA., and is suitable for use with power valves giving up to about 10 watts AC output.

The windings are sectionalised to keep the

### Recent Products of the Manufacturers

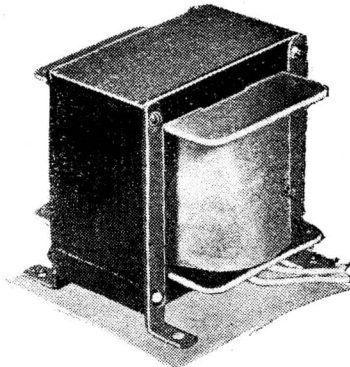


Eddystone All-World-Two receiver assembled from the kit of parts.

leakage inductance small, and to render it suitable for tropical use it is thoroughly impregnated.

Our measurements give the primary inductance as 35 henrys without DC flowing, 29 henrys with 40 mA., 24 with 60 mA., and 20 henrys with 90 mA. The resistance of the primary is 270 ohms.

The response characteristic was taken following a valve requiring a load of 4,000 ohms and the 15 to 1 ratio was employed with a suitable resistance joined across the secondary. The curve obtained with this combination is given in the accompanying graph. It is quite satisfactory, as the response is virtually constant over the major part of the audible scale.



Manufacturers' type two-ratio output transformer made by London Transformer Products.

As a skeleton, or manufacturers' type, the price is 24s. 6d., but the transformer can be obtained in a more attractively finished form with shrouded windings and terminals for an additional 4s.

### EDDYSTONE ALL-WORLD-TWO RECEIVER

THIS new Eddystone receiver is a compact two-valve model designed expressly for short-wave reception. It is supplied as a kit of parts, but the assembly is perfectly straightforward, the layout being very well planned so that all components are readily accessible.

An HF pentode is used for the detector, and this is resistance-capacity coupled to a small power output valve, for, as a rule, headphones only will be used with this set. Either a triode or a pentode can be used in the output position, and a choice of valves is given in the instructional booklet. These have been chosen with a view to economy in operation, and by adopting the maker's recommendations the total HT

consumption can be kept within 5 mA. with a 120-volt battery.

Reaction is obtained by capacity-feed-back through a reaction coil, but control of detector oscillation is effected by varying the screen voltage.

This arrangement is very satisfactory in practice, for the smoothness of the regeneration is one of the outstanding features of this receiver.

The Eddystone band-spread tuning system is employed, the small band-spread condenser, which has about 20 m-mfd capacity, being mounted in the centre and fitted with a neatly engraved scale, while the "tank" unit is located on the left and below the chassis.

The drive reduction ratio of the band-spread unit is about  $8\frac{1}{2}$  to 1, but this is quite slow enough in view of its small capacity.

Standard six-pin plug-in coils are used, and with the Eddystone Type 6LB size the waverange covered was found to be 15.75 to 29.6 metres. At the bottom end of this band the band-spread condenser gave a coverage of two metres, whilst at the top it was reduced to just over one metre.

The band-spread system is a great help, for, despite the small capacity of this condenser, some care is needed in tuning, especially at the lower end of the Type 6LB coil.

The next size coil, Type 6Y, overlapped the other one amply sufficient to take care of variation in stray capacities in different sets, its range being 27.3 metres to 54 metres.

The sensitivity of this set is exceptionally good, so also is the selectivity, for it is possible to receive DJN Zeesen, 31.45 metres, clear of its companion transmitter DJA on 31.38 metres, with one an R8 signal, and yet leave a clear space between them. For a simple detector-LF set this is very satisfactory.

European and American short-wave stations were received well during the time the set was on test, though conditions must be favourable for good reception of the latter.

To sum up, the All-World-Two is a soundly designed and very efficient detector-LF set, and as it is so easy to operate it is ideal for the beginner, yet it forms a valuable stand-by for the more experienced short-wave experimenter.

The price of the complete kit is £3 7s. 6d., and the valves cost 20s. 6d. extra. The makers are Stratton & Co., Ltd., Bromsgrove Street, Birmingham, 5.