

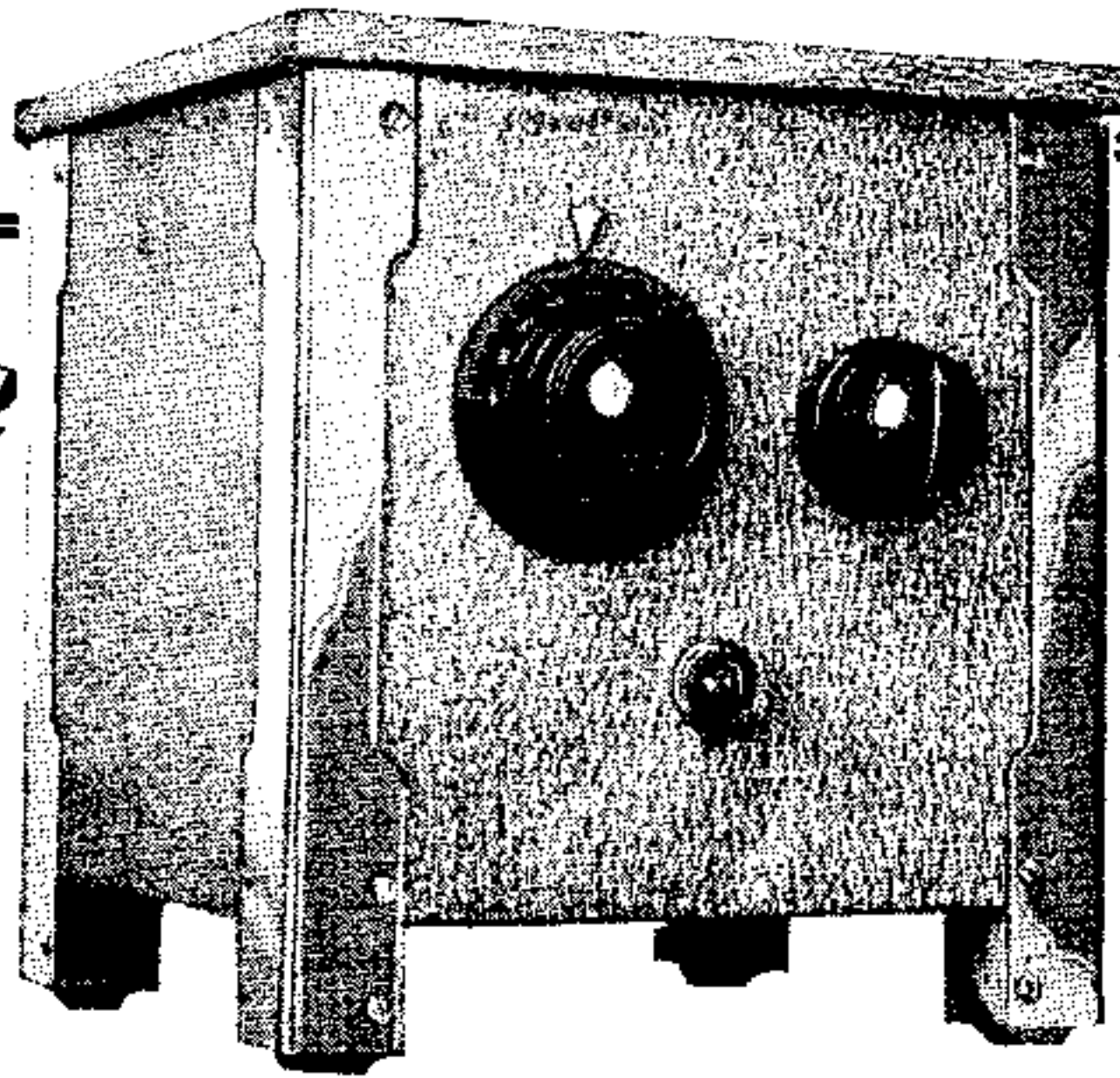
ELEX

Short-Wave

NOT many listeners take an interest in short-wave reception. Results are considered to be far too inconsistent, and the number of broadcasts too few to justify the use of a separate short-wave receiving outfit. This point of view, however, now requires revising, because the number of broadcasts on short wavelengths has considerably increased of late, and in many cases the power now used is greater than formerly. In addition, results from a superheterodyne completely modifies one's judgment on the behaviour of short-wave sets, reception being much more reliable than with the simple oscillating detector.

A broadcast receiver is capable of easy conversion to a short-wave superheterodyne, and experience has shown that a simple reacting detector tuned to the short wavelengths produces beat frequencies which can be amplified by the broadcast set when switched over to the long waves, the H.F. stages of the broadcast set corresponding to the intermediate amplifier of a superheterodyne. Such an arrangement is made use of in the "Eelex" Short-Wave Adaptor, a product of J. J. Eastick & Sons, 118, Bunhill Row, London, E.C.1. The attachment for use in front of the broadcast receiver comprises a short-wave tuner with reaction connected to a triode detector. The circuit arrangement is quite orthodox, and makes use of separating H.F. chokes in its anode circuit. It will be noticed from the circuit that a short-wave H.F. choke assists in maintaining regeneration, but this is of low reactance to the resultant long-wave beat frequency that is fed on to the broadcast receiver, a normal H.F. choke being used as a means of feeding the H.T. supply into the circuit. Circuits of this type are usually associated with a short-wave H.F. stage, not for the purpose of producing amplification, but in order to give constant regeneration and to remove the "dead spots" on the tuning dial brought about by the constants of the aerial. By carefully arranging the turns of the tuning and its associated reaction coil almost uniform regeneration results with the "Eelex" unit.

The makers recommend that the broadcast receiver shall be left tuned to a wavelength of about 1,100



A Simple Unit for Converting a Broadcast Set to a Short-wave Superheterodyne.

Adaptor TYPE "A"

metres, pointing out that this wavelength is free from interference. It was found, however, that results were improved when the broadcast receiver was tuned to the top end of its wavelength scale, and in spite of the fact that amplification at this setting was probably not so great. This circumstance was probably brought about by some other properties of one or other of the components, but the cause was not obvious. Very little amplification is required between the

short-wave unit and the detector valve of the broadcast set, and a single H.F. stage will suffice.

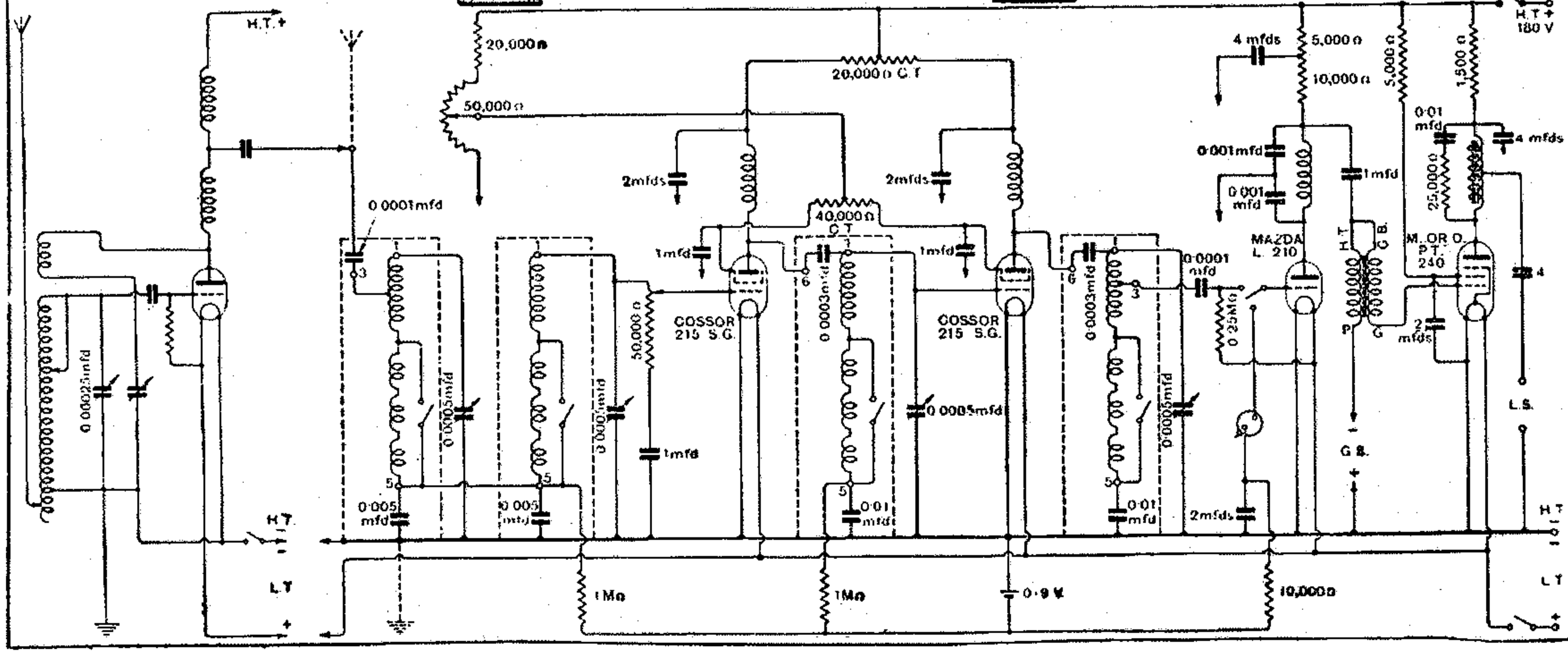
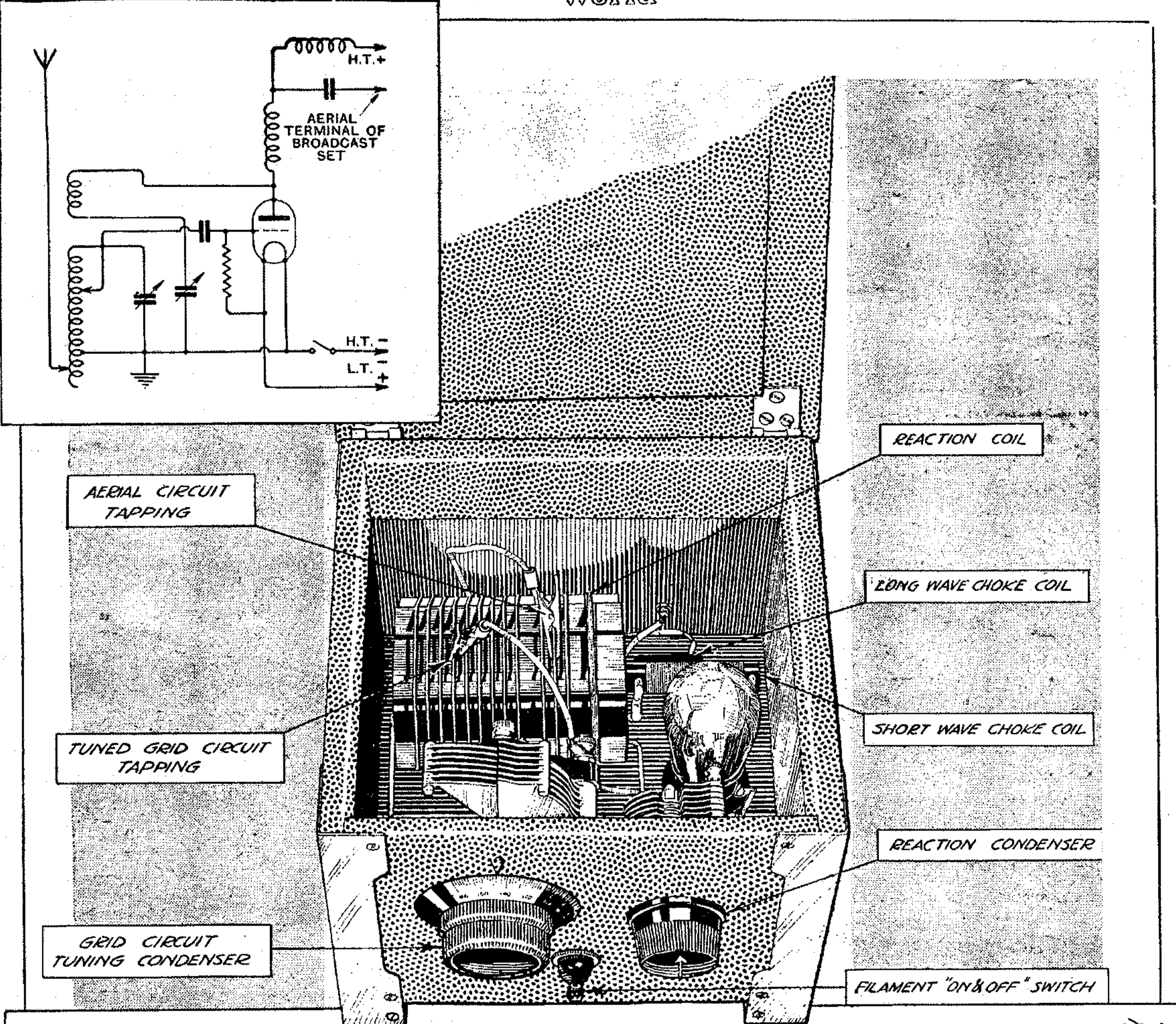
Tested in front of the "Wireless World Four," the band pass filter used in the set is no doubt responsible for the almost complete elimination of interference. The aerial input volume control was turned down to just off zero and good reception resulted when one of the H.F. valves was taken out of circuit by transferring the anode lead of the second valve across to the first. Any standard three- or four-valve set embodying an H.F. stage can be used with the unit.

Good Reception of American Stations.

In less than a minute the unit is brought into action by transferring across the aerial lead in the broadcast set. It provides the best method for listening to American programmes, 2XAD and 2XAF, the Schenectady stations, coming in, as is customary with apparatus of this class, with the strength on occasions of a local station. By adjusting the tapping point on the tuning coil, a wavelength range of 16/60 metres is covered.

As the link between the unit and the broadcast receiver is through a condenser, complete separation between the battery circuits results, and no complication will be encountered when the battery supply for the unit is picked up from a common source. Owing to fact that the unit makes use of leaky grid detection and, therefore, requires no biasing potential, it becomes quite a simple matter to adapt it for use with an indirectly heated valve. A simple form of construction is adopted for the unit, and the components are in every way reliable.

Single-valve autodyne with triode detector.
Leaky grid detection.
Choke-fed anode circuit to connect with tuned grid circuit of broadcast receiver.
Wave range 16/60 metres.
Tapped aerial and tuned grid coils. Price £3.



The Eelex short wave adaptor, for converting a broadcast receiver to a short wave superheterodyne.