



THE all-electric receiver, with its simplicity of operation, excellent tonal qualities, and freedom from servicing troubles, has, without doubt come to stay. Very many would-be listeners have been awaiting the advent of a receiver that dispenses with batteries, battery chargers, and aerial and earth equipment. The all-electric set is the one they have been awaiting, and although it does not fulfil all the requirements of a perfect set it is a good compromise that anyone who now waits for a vast improvement is missing very much that they might otherwise be enjoying.

The all-electric receiver has very many advantages other than those cited, and where it is possible to use the household alternating current the A.C. set will be popular. Greater power can be supplied to the A.C. valve, giving it a greater amplification factor and excellent tone.

The range of these new receivers is equal to the battery set. One has only to glance through the D.X. columns to realise this. Japan, America, and Australia can be heard quite regularly by some owners of 7-valve sets. The problem of selectivity has been, to a very large extent, solved, in that the local station can, on most receivers, be eliminated within a very few degrees of the dial. This makes it possible to listen to other New Zealand or Australian stations while the local is operating.

A very large number of these receivers is now on the market, and although a large number of listeners could give advice concerning battery sets, few are in a position to do so with regard to the all-electric.

Choosing a Receiver.

THERE are a few specific points that the purchaser of an all-electric set should bear in mind. They are:—

1. Cabinet. The modern radio set is no longer an untidy piece of apparatus stored in the corner, or all over the room, as the case may be. It is no longer necessary to make frequent adjustments within the set, so that the console model has become popular. A console is a receiver in which power pack, receiver proper, and speaker are built into the one cabinet, which, in itself, is a piece of furniture. Very little can be said about design, as much rests with the purchaser. If the radio set does not combine with itself an electric gramophone, provision should be made for a gramophone pick-up.

2. Number of valves. With the rapid perfection of the all-electric set, the number of valves need not exceed that of the D.C. set for equal performance. In the larger sets, the number is usually seven. This number has been made possible because battery power has no longer to be considered. Such a set is usually the equivalent of a six-valve, the last two valves being in push-pull, but this is not always the case. It is becoming customary to refer to a certain number of valves, plus rectifier. The rectifier does not enter into the amplification of the signal, but is merely a valve which transforms alternating current into direct current.

3. Types of valves. There are mainly two types of alternating current valves, and full reference to these has been made in another section of this paper. For silence, and amplification, the four-electrode valve is the better, but it is rather more expensive. It is certainly the better valve, though the 226 is not far behind. An almost silent background can be had in a

carefully designed receiver. It is always used as detector, and sometimes in all positions except the last stage, when it is replaced by a power valve.

4. Power valves. The electric set has made possible the use of adequate power valves in the last stage. Some of these require up to 450 volts on the plate, and take over an ampere of filament current. This would be impossible unless the set were all-electric, consequently there can be no comparison in tone between both models. The question of power valves has been further discussed elsewhere.

5. Selectivity. By selectivity is understood the power of the set to separate one station from another when they are operating on an adjacent frequency. A good set will tune out a powerful local station in two or three degrees; and will separate distant stations ten kilocycles apart. Over-sharpened selectivity spoils the tone. Technically speaking, the side bands are cut off, leaving the tone impoverished.

6. Hum. With the advent of the four-electrode valve, hum has been reduced to an almost perceptible minimum, and should not be audible more than a few feet from the set. Where hum is more pronounced than this, tone is very much impaired.

7. Rectification. It was explained previously that the rectifier converts A.C. current to D.C. There are mainly two types of these valves, filament and filamentless. Of the filament type there are two distinct valves, half-wave and full-wave. Sufficient power for true tonal qualities can be obtained only from full-wave rectification. Where high voltages and heavy current are required two half-wave rectifiers (two 281's) give the best results. The filamentless Raytheon valves are adapted for medium work, where up to 300 volts and 125 millamps. have to be delivered. It is understood that Raytheons giving a greater output than this have been developed in America. The 280 (full-wave with filament) valve will deliver up to 260 volts, with an output of 125 millamps. In addition, there is the metal rectifier which is earning wide popularity.

8. Speaker. There is no question that the dynamic cone is the only one possible where the purest tone is required. Almost invariably these are used in consoles. Where table models are used, it is possible to employ a good magnetic cone speaker, or even a good horn.

9. Tone. This is one of the most important points in selecting a receiver. Good tone is manifested by a set that gives a good over-all reproduction. Listen carefully for the upper registers. They should ring clear, giving a brilliance as apart from the preponderance of the bass. This latter, if over emphasised, makes the music heavy and dull; although it may sound good to anyone who has been accustomed to a poor horn or cone, yet it will soon become wearying, and once capital is out-laid, the purchaser will not wish to feel that his set is not coming up to expectations. Remember, if you are

The Choice of a Radio Receiver

All-Electric Advantages

Schneider Cup Race

ALL the YA stations took the opportunity on Sunday, September 8, of announcing the results of the Schneider Cup race, and for this purpose remained on the air until 3.13 on Sunday morning. Reception of 5SW in Christchurch was fairly satisfactory, and the noise of the 'planes and the announcer's remarks could be clearly heard, especially earlier in the evening from 3YA's rebroadcast.

At 1.45 a.m. the announcement came through that Waghorn had completed the course record of seven laps at an average of 328 miles per hour, a world's record, and on completion of the course by the other 'planes, it was learnt that Waghorn had won the race at this speed. Reception towards the close of the rebroadcast was somewhat marred by static and singing, but the description could be heard for the most part quite well and the YA stations' enterprise in conducting a rebroadcast and announcing the results, was appreciated by listeners.

To Increase Production

Tree-Growing on Farms

"YE may be aye stickin' in a tree, Jock, it will be growin' when ye're sleepin'," was the text upon which Mr. R. G. Robinson, Superintendent of the Selwyn Plantations Board, based a very interesting "Talk to Farmers" from 3YA on forestry matters recently. Mr. Robinson proved himself a complete master of his subject, and discussed the merit of afforestation on a big scale. The principal point of his address, however, was that even medium or small farmers can profitably use trees as a means of both beautifying and benefiting their homesteads. Many farmers have portions of land where surface cultivation is either difficult or undesirable—steep hillsides, light or shingly surfaces, gorse or broom infested land being easily convertible into timber belts.

Farmers were advised not to "put all their eggs in one basket" by using only one species of tree, but, rather to include various soft and hard woods that would combine usefulness for fencing, shed-building, fuel, culverts, telephone poles, etc. These should not be associated indiscriminately in a single plantation, but in small blocks, so that the fast-growing trees would not overpower the slower-growing trees.

While certain pests had particularly affected gum growing in Canterbury, it was hoped that the liberation of parasites recently undertaken would have the effect of counteracting them and making this tree a profitable speculation again in that district. Spring planting was recommended as being better than autumn planting.

not critical now, you will be before long.

10. Line voltage control. Unless provision is made to regulate the input voltage from the mains valves will burn out quickly. For this reason automatic line voltage controls are fitted to modern receivers.



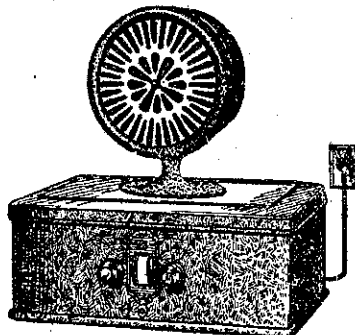
Quality Radio Apparatus

A New Tone---

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