

THE RADIO ENTHUSIAST



In the early days of radio there was only one type of enthusiast, and that was the man who constructed everything and had a wireless set going out of the most varied assortment of odds and ends imaginable. In fact, in those days the only man who listened was the enthusiast, for it required a vast technical knowledge to operate a set.

With the improvement of radio generally and more particularly with the improvement of parts, it became uneconomical to manufacture all one's components. The manufacturers could turn them out much cheaper and better than ever they could be made, and so the enthusiast confined his attention to making up and trying different circuits. Furthermore, the amateur receiving enthusiast became different from the transmitting man. But now a third class has come into being, and very often they know nothing of the technicalities of radio. In fact, they do not know what is beyond the dials of their set, but they are extremely interested in radio and their chief object in their radio life is to receive long-distance stations. These people keep most uncanny hours, and sometimes receive some very weird stations. These people we call the DX enthusiast, DX meaning long distance.

We still find a large number of people interested in the construction of sets. Although the advent of the a.c. set has undoubtedly killed a very large proportion, still there are very large numbers who cannot afford such a set, and if they want to listen, must do so on simple home-constructed apparatus. Undoubtedly the simplest set is the crystal. Anyone can make a crystal set, and he can do so for a matter of a few shillings. For about three pounds he can provide a crystal set, earphones, aerial equipment, and pay his license for a year. Compare this with the £50 that has to be paid for a really first-class a.c. set, and you will see why constructors will not die out for a long time.

A great deal of fun can be had from constructing different types of crystal sets, but they all boil down to the same circuit, a coil of wire, the top of which runs through a crystal, through the phones and to earth. The bottom connects with earth. Now, if you want good results a tuning-condenser is used and connected between the top and the bottom of the coil. That is simple, isn't it? Special care is not needed to wind the coil, and the condenser may be of the cheapest type. It is not worth while paying big sums for precision made parts, but you do need a good aerial. So many people think that because they have a little set they need a little aerial—but the reverse is true, a small set a long aerial.

Now, when a crystal set is working there is no reason why it should not be tidily installed and wires taken from the phone terminals and run right through the house, so that you may have phones in any room. Furthermore, several pairs of phones can be used from the one crystal set.

Headphones are more or less comfortable and the constructor soon wants to use a loudspeaker and thinks about

D.X.-ing and Constructing

Outlined by

Colin W. Smith

From 2YA

adding an amplifier. This, too, is very simple, and can be built for little cost, but there is the upkeep of the batteries. The super enthusiast will use a primary battery such as the Daniel Cells and make his own B batteries from old torch cells, but such batteries require more attention than anyone who is not keenly interested cares to give. Do not expect too much from a one-valve amplifier, as at the best of times the signals are only weak. If you want real quality from the local station you must use two valves and at least 90 volts B battery, and do not forget the grid bias. This is a small battery about 4½ volts, and its use improves the tone and saves B current. With small amplifiers such as this only a small speaker can be operated, as the bigger ones are more or less insensitive.

A great deal has been written about the resistance of the Loftin-White, for it has been said that these are extremely critical, and I have seen specifications which have given resistances running into four figures right down to the last figure. This has frightened away very many who would otherwise have built it, but I can assure them that such is not the case. The main chain of resistance is not at all critical. They merely take the place of the voltage divider in the ordinary eliminator, and constructors know how this can be altered without any material effect.

What are critical, however, are the bias resistances, and, unfortunately, some of the gridleaks are not at all accurate, and may be 500,000 ohms at fault. But their replacement is a matter only of a shilling or two.

The original amplifier used the 224 screen grid and the 250 and later the 245 power-valves. It was soon shown by experimenters, mainly in Australia, that the power pentodes could be used in the last stage with advantage. There are, however, certain objections to the use of the pentode in the Loftin-White and, I think, a better valve for the last stage can be found than either the 245 or the pentode. At the present time we are working on a new combination which I believe will give unparalleled quality and greater punch than the ordinary circuit.

So much for the Loftin-White. I have dwelt upon it mainly because there are hundreds of constructors in New Zealand who are now concentrating upon it, and also because I am very interested in it. We have just shown how radio frequency amplification can be added to make a powerful set which,

Boxing Relay

The interprovincial amateur boxing tournament between Otago and Canterbury for the Waironga Shield, which takes place in the Civic Theatre, Christchurch, on Tuesday, December 2, will be broadcast by 3YA.

FROM the two-valve amplifier or other similar small set, the enthusiast usually branches into a "specialised" division. Quite a number of them become tired of constructing and go in for a commercial set, others build a four-valve set, such as the Browning Drake or Hammurilard Roberts, or perhaps confine their attention to shortwave listening. The last class search for real quality from the local station. Now to these people I want to say a few words about an excellent outfit, for it is usually contended that the local station well received is far superior to the local station ordinarily received and outside stations.

Concentrating upon this question of local station reception, our attention was attracted to the new circuit developed by Loftin and White. When the announcement was first made in America it was said that it was an almost distortionless amplifier, and succeeding tests have shown this to be true. It does away with transformers and inter-valve condensers, for the grid of one valve feeds directly into the plate of the last. Really there is nothing new about the Loftin-White amplifier, but it has been the ingenious application of an old and well-known electrical and radio principles that has made the amplifier famous.

WAIT for the "His Master's Voice" 1931

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ARRIVING EARLY DECEMBER