



# Questions and Answers



"L.S." (Hawera) asks the correct method of neutralising an electric set.

A.: These sets are best left alone by amateurs. They have to be neutralised when the set is switched on, and the very high voltages generated are likely to cause bad shock and even death.

2. How can I tell the filament pins of a 5-pin base?

A.: A diagram of a base indicating the connections was given in our issue of September 20, 1929.

3. Why is it necessary to place a transformer between a gramophone pick-up and the detector valve in this set?

A.: The gramophone output is very much weaker than the radio signals of

an average station stepped up by the R.F. amplifier. An input transformer increases the voltage from the pick-up and gives louder signals.

4. I am told not to remove the valve from the set with the current turned on. Is this harmful?

A.: Yes, the power pack is constructed so that it will supply the exact amount of current at the correct voltage when all the valves are operating. If you take out one of them, a surge is caused and the other valves are overloaded.

"R.A.S." (Wellington) is making an A. and B. eliminator and wishes to use 25 S.W.G. wire. He wants to know the number of turns.

A.: The number of turns is the same as for 26 enamelled wire. D.C.C. will take up a greater space, and the window will probably have to be larger. You should leave this until you have finished the transformer.

"S.G.S." (Foxton) wants to know the most suitable eliminator for a 5-valve set. He has tried one which caused the set to motor-boat.

A.: The set motor-boated because the eliminator was not capable of supplying sufficient current. An eliminator supplying 150 volts and 40 to 50 milliamps. would be required for the job. This would allow for the use of a power valve in the last stage.

"H.C." (Wellington) asks for the particulars of a short-wave adaptor using valve-base coils.

A.: Use the circuit described on page 103 of the 1929 "Radio Listeners' Guide" and the coil specifications given on page 90 of the 1930 "Guide."

"H.W.Y." (Herekino) states that although we have specified that grid and plate wires should not be parallel, we have made them so in the "Round the World" series.

A.: Although we examined these circuits fairly carefully, we could not see a case in point.

2. If it is unavoidable that they run parallel, how far apart should they be?

A.: At least two inches, but they should be kept as short as possible.

3. What does "split primary" mean, and how does this method of neutralisation apply to the Browning Drake?

A.: A diagram on the next page shows the connections. It can be seen that the primary is divided into two equal parts, and the B plus tap taken to the centre.

4. Will 30 gauge SWG be all right for the choke for a short-wave set?

A.: Yes, it will be more bulky than the smaller wire specified. Battery consumption is not affected by the gauge of wire. If it is too fine, the amount of current drawn by the valve will burn out the wire.

5. To neutralise the Browning-Drake I shut off the rheostat controlling the

R.F. valve, and then cannot get a whisper even of 2YA. My neighbours cannot hear the set, when I turn the neutralising condenser.

A.: A regenerative receiver is neutralised not by dimming the filament of the R.F. valve, but by tuning to a station toward the centre of the dial, advancing the reaction until the set bursts into oscillation, and then adjusting the neutralising condenser until the squeal either disappears or becomes low in intensity. If it disappears, the reaction is further advanced and the procedure repeated.

6. The layout of the Browning Drake says "do not crowd the R.F. side." Exactly what does this mean?

A.: It is really a precaution against placing the R.F. transformer too near to the detector transformer. So long as the parts are fairly close together with these two coils six inches or more apart the stage is not crowded.

7. Is it possible to use .00014 condenser and .00025 condenser for Round the World Two?—Yes.

"F.W." (Napier) asks us the sizes for the sound box of a gramophone cabinet.

A.: Sorry, F.W., we can tell you what you want to know about electric gramophones, but not about mechanical ones. Try one of the gramophone shops.

2. Would you give me the dimensions of an exponential horn.

A.: They were fully given about three weeks ago in the "Radio Record."

"P.OP" (Nelson) wants to know if there are any stations between 500 and 550 metres.

A.: Yes. 7ZL, Hobart, on 516.

"K. de R." (Wellington) wants to know the following concerning the Hammarlund Roberts Four in the "Radio Listeners' Guide":

1. The capacity of the aerial and secondary condensers—.00085.

2. Detector and R.F. rheostats—20 or 30 ohms.

"R.S.O." (Wellington) has a six-valve set with three stages of radio frequency, but he cannot cut out 2YA. He has tried several wave traps, and encloses the circuit of one which reduces the interference from 15 degrees to 8 degrees.

A.: With three stages of R.F. you should be able to eliminate Wellington in favour of 4ZL without difficulty. It seems as though the design of your receiver is inherently wrong. If you tried one of the formodensers used in the Radcord wave-trap in series with the aerial as well as the wave-trap depicted, you might further limit the interference band.

"L.H.H." (Auckland) asks, should the aerial be higher at any one end?

A.: It should be horizontal, if possible. It makes very little difference which end is the higher, though it is generally recognised that the lead-in end should be the lower.

"W.E.D." (Blenheim) asks concerning an aluminium base.

1. Which is the best way to clean this metal?

A.: Clean with Bon Ami.

2. Can aluminium be painted, and what is the procedure?

A.: It can be painted with any metal paint.

"L.G." (Geraldine) asks if he can get better reception by having his lead-in directly down to the set or from an angle?

A.: The lead-in should come down directly if possible, or equally as good is a lead-in the set end of which travels back toward to distant end.

"S.W." (Queenstown) has a set of plug-in coils and cannot reach the minimum wave-length of one of them.

A.: Take a few turns off the coil.

"L.W.L." (Dunedin) has made the Rotorua Portable, and had great success with it. He wishes to know if the Tongariro Portable is better.

A.: It is a more powerful receiver, but requires considerable care in the making. It is difficult to say what you would get with it, but with the loop the original model could bring in the three main New Zealand stations at speaker strength.

"NARKED" (Wanganui) asks the following questions concerning "A" eliminators:—

1. I am using a 4-valve receiver the filaments of which do not take a great deal of current, but I find that the Australian stations and even some of the New Zealand are weak.

A.: Why not test the voltage of the smoothed current, for it seems that either the choke will not pass sufficient current or the charger will not deliver enough for the valves. This charger is rated at 6 volts  $\frac{1}{2}$  amp., so that unless there is a defect, it should supply enough current. Keep the rheostat as little in the circuit as possible. The A+ on the charger is in reality A—when used as a battery eliminator.

2. Would it make any difference by having the leads of the "B" and "C" eliminator and the "A" eliminator from the same plug?—No.

3. How many valves would I be able to use with such an eliminator?

A.: It depends on how much "A" current they are going to take. You will get just under  $\frac{1}{2}$  amp.

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