

TRANSMITTER (Kerepehi): Which in your opinion is the best s.w. receiver, "The Sellens," the "Kestrel," or the "Advance," a.c.?

A.: The "Advance" a.c. and the "Sellens" are very much on a par, but one of course is a.c. The "Kestrel" is a much weaker set than either, but will give excellent results.

2. Can you supply a diagram showing the wiring of an extra s.g. stage for the Radiogram Five?

A.: At this stage, no. Within a few weeks we shall bring out an extra stage for the Radiogram Five.

CHOKE (Feilding): Can I use a power valve in the last stage of my set without using an output transformer?

A.: Providing the power valve does not draw more than 8 mas., as you say, it would be quite safe to pass this current through the speaker.

2. I intend to make a B eliminator, incorporating two chokes of the type set out in the table of the "Radio Guide." Can I wind these chokes, using 36 wire instead of 34, without affecting the inductance seriously?

A.: Yes, providing you will not be wanting more than 50 mas. the chokes will be improved by using 36 wire instead of 34, as you are increasing the batteries.

3. Will the reduction in the size of the wind affect the inductance?

A.: Not to any extent.

QUESTION MARK (Wellington): Experimenting with an L.W. amplifier I have no success in picking up the local 80-metre hams. With an ordinary broadcast coil and the plates of the condenser all out one of these amateurs came in fairly well, so I wound a smaller coil, but although I varied the number of turns from 5 to 20 I could not get good results, although I received an 81-metre ham in the middle of the condenser setting. I added a crystal and this brought the volume of the short-wave station about level with an ordinary broadcast coil, but definitely no louder.

A.: A .0005 condenser is too large for use in conjunction with a small coil for the short waves. You consequently cannot tune finely. We have not experimented with the L.W. on short-waves, and consequently cannot help you to a great extent. We do not know of anyone who has. We should be pleased to hear more from you in this respect.

2. Why will an electrical rectifier jar not form up? The solution is about 12oz. of distilled water and half a pound of ammonium phosphate for forming; I connected the jar in series with a 75-watt electric lamp, and nothing so far has happened as regards dimming. The solution is fairly cloudy, and little bubbles arose from the aluminium electrode.

A.: It is highly important that electrolytic fluid in these chargers be pure. The water must be pure, and the material dissolved in the water must likewise be pure. Any impurities would bring about the symptoms you complain of because they

allow a considerable discharge or reversal of current while the power line reverses. Ammonium phosphate is prepared by dissolving as much primary ammonium phosphate as the water will take up by making a saturated solution. The crystals should then be added until there is an excess of the chemicals that cannot be dissolved in the water. The clear solution is then poured off, and is ready for use. The aluminium rod should be composed of chemically pure metal. Commercial aluminium may work and again it may not.

3. Can you describe a method of removing the glass from the base of a valve without breaking it or damaging the base?

A.: The usual thing is what you have done, to soak the base in methylated spirits. Usually, however, by working the glass backwards and forwards, it can be pulled out. It is necessary, however, to heat the tips of the valve pins and shake the solder free. This will allow the wires to pull straight out. The cement can be scraped away. If you want to put the glass back again do not remove the cement, but liberally coat it and the bottom of the glass with seccotine, which is as good as anything for holding the valve together when the base is laid with cement.

SHUNTER (Mercer): I propose building the Radiogram Five, but understand that the connections for the American type valve are different from those shown. What alterations must I make?

A.: The grid connection from the coil goes to the top of the valve, and then on to the fixed plates of the radio condenser. The wire normally going to the top of the valve is carried to P in the valve socket. The connections shown to P of the valve socket are taken to G of the valve socket.

2. What is the value of the condenser shown across the three terminal grid condenser?

A.: .00025 or .0003.

3. What is the minimum and maximum wavelengths that the set will tune to?

A.: A normal broadcast band from 250 metres to 550 metres.

D.W.V. (Invercargill): A rattle has developed in my speaker unit which I cannot eliminate.

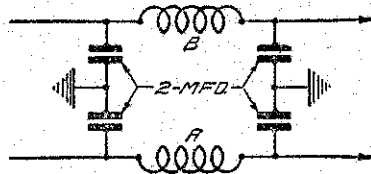
A.: You must take this to a dealer, preferably the one from whom you bought it. It will be a rather dangerous plan to try pulling the unity down yourself.

STATIC (Christchurch): I have constructed the wavetrap described in this week's "R.R." Can I use plain copper wire if I enamel it myself?

A.: Yes, but a safer plan would be to space slightly the copper windings, and allow a few less turns so that it will occupy approximately the same space as that occupied by the original coil. The smaller the space between the turns the better.

R.T.R. (Matangi): I am experiencing trouble through interference entering my set through the a.c. mains.

A.: Are you quite certain the trouble is in the a.c. mains, and not in your set? If the trouble is definitely in the a.c. mains you can reduce it by connecting two or four 2 mfd. condensers in series across the mains, and from the centre point take a lead to earth. This appears as shown in the diagram. If this does not have the desired effect, insert two choke coils as shown. These should be 150 turns of 18 gauge d.c.c. wire wound on a 3in. former.



H.S. (Waianiwa): Can you give me the specifications for the charging side only of the combined power pack and charger described in last week's "R.R."? I shall be using a 1x1 core, on which there are already wound 1350 turns.

A.: Your core should have a primary of 1875 turns, and by using a 1350 you are getting a lower number of turns per volt ratio, and probably a less economical transformer. However, if you can fairly safely reckon on 12 turns to a volt, but before actually using the outfit, it will be wise to check up your voltages either with a volt meter or with a flash lamp to the same voltage as is given for the charger in the "R.R."

NIGHT HAWK (Temuka): I have had good results with the Night Hawk, but there is a dead spot below 3YA. Can this be overcome by constructing a special coil?

A.: In all probability, yes. Build a coil intermediate between the 80-metre coil and the broadcast band, and try that.

2. What is the capacity on each side of a differential condenser having four moving plates and three fixed?

A.: Probably a .0002.

3. Do you consider a pentode in the last stage would be an improvement?

A.: It is doubtful, as your experience has shown that if not matched, the pentode does not give good results. When matched up it gives brilliant reproduction.

MARSITE (Te Aroha): I find it is hard to get the condenser for the first coil of my three stage s.g. set to cover the broadcast band. I believe that a trimmer would adjust this, but how could it be done in some other way?

A.: It could be done only by adjusting your coil; probably by adding more turns.

2. Could you give me the specifications for a set of five coils to cover from 10 to 100 metres tuned by a .0001 condenser?

A.: Use the specifications published for the differential series omitting the tickler coil.

3. Can you give me the formula for working out short-wave coils?

A.: A chart based on standard formula was published in the "Radio Guide."

4. Can you give me particulars of the best way to connect a gramophone pick-up to the detector from point of view of volume and tone so that it will not alter the tuning of the set?

A.: This has been very fully discussed in the "Radio Guide," to which we would refer you.

FREQUENCY COP (Auckland): What do you think of the enclosed circuit for a portable set?

A.: It is not the usual, such as that published for the "Home and Country," the diagram of which is published on page 30 of this issue.

2. I intend using either 199 valves or the new 230 type. Which will be the better?

A.: If you do not subject the set to much bumping about the new 230 valve will be the best.

3. How long will the A and B batteries last using the set on an average of two hours a day?

A.: If you use the small portable type B batteries they will last probably three months, whereas the A cells will last about four.

DETECTOR (Auckland): I have a four-valve set, using B406 first audio and 171 power valve. I get very loud, but blurred music from the local station, though I can move the dials just slightly off resonance, and get clearer music with less volume. Where is the overloading taking place?

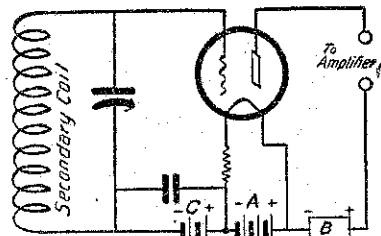
A.: It just depends upon how much volume you try to get out of your set. You may be overloading your speaker, for very few sets will take the full output of the local station, unless tuned down. You should not be using B406 as first audio. It is a power to be used in the last stage only.

2. I would like to change my detector into a power detector; how can I carry this out, and would it be as sensitive as a grid leak detector?

A.: A diagram appears herewith showing the connections for a power detector. It will be almost as sensitive as a grid leak and will handle more volume.

3. What is the gauge of the enclosed piece of wire?

A.: Either the wire was dropped out of the letter at your end or at ours, but it was not attached to your query when



Bias Variable by Tappings

we came to deal with it. Send us another sample and we will tell you what it is.

R.B. (Island Bay): I have an electric eight-valve set and have logged 50 stations with an aerial only 3ft. above

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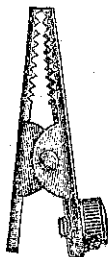
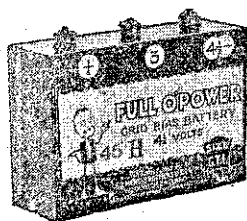
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