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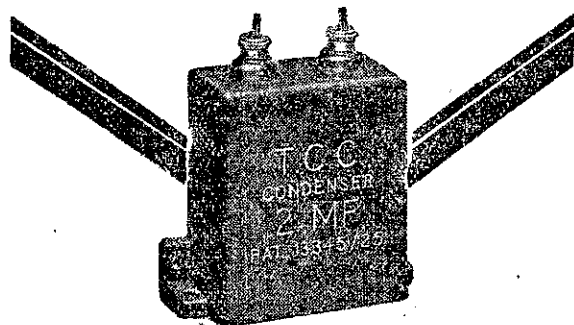
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## Questions and Answers

**J.W. (Dunedin):** Is the condenser shown under the first r.f. valve in the "Cathode Super" between the resistance and the potentiometer 1 mfd?—Yes.

**2.** Is the condenser on lead from cathode of first detector to oscillator marked .02 to be of any special type?

**A.:** Mica type would be best.

**3.** The list of parts shows 14-1 mfd. condensers. I can only make it 13.

**A.:** The list of components was supplied first, when it was intended to use 14. However, it was found that one could be done away with, and the list of components was unfortunately not amended.

**TIMOTHY (New Plymouth):** In writing to us regarding previous queries, please re-state your problem. In your case we do not have your previous correspondence, and of course cannot understand clearly what you require. C1 should be about .00005.

**2.** The number of turns to tune to the broadcast band with a .00025 condenser and 2in. coils are: Secondary coil, 100 turns of 28 d.s.c. wire; tickler coil, 30 turns of 32 d.s.c. wire.

**W.H.W. (Wellington):** My one-valve set works satisfactorily on the long waves, but I can get but little reaction on the short waves, and in many places on the dial no reaction at all.

**A.:** What type of h.f. choke are you using? You should use the special short-wave type. Try this, and if you are not successful in getting smooth reaction try altering the 2 megohms grid-leak to a higher value for short-wave and increasing the detector voltage. Yes, D.E.H. #10 is quite suitable for your circuit.

**E.A.W. (Auckland):** I have a four-valve battery set, and want to make a three-valve short-wave set using the same valves.

**A.:** We are sorry we cannot supply a special circuit, but suggest you build the "Kestrel Three." You can use most of your components for this. A full description appeared in the "Radio Record" dated July 24 and 31, 1931.

**NEVA (Wellington):** If you construct the Hartley transmitter from "Handy's Handbook," you should have no difficulty in getting it to operate. We presume, by the way, that it is "Handy's Handbook" to which you refer. If it is some other handbook, then we refer you to "Handy's," as that is the standard work for amateurs. But presuming you have built from that, we suggest that you get into touch with a local ham, who will be only too pleased to help you get it to work. You have given us nothing to go by. The transmitter as described in "Handy's" will work if made up correctly, and all we can presume is that you have made a mistake. As to where that mistake is we can offer no suggestions.

**W.R. (N.E. Valley):** My aerial is a 30ft. mast, which is attached to the other end to a chimney. Should the lead-in come from near the chimney or directly over the set?

**A.:** Directly over the set. By taking the lead-in straggling back across the roof you are losing a great deal of power through induction, through the capacitive effect of the roof and the lead-in.

**ACE (Wanganui):** We regret we cannot advise as to names of speakers.

**2.** You should be able to build a power pack for from £4/10/- to £5. A 3½ transformer would be suitable for the "Eagle Five."

**HARD UP (Auckland):** I have a quantity of 26 and 30 gauge s.c.c. copper wire on hand. Can this be used for a 50 or 60 or 75 watts transformer?

**A.:** It would not be worth your while to use the wire. You would lose a great deal of efficiency through having to alter the shape and size.

**F.C.P. (Onehunga):** Will you please advise the number of turns and how tapped for 2in. coils for a three-valve B.D.? Condensers, .0005 and .00035.

**A.:** We presume you are using radio, detector, and first audio. Coils will be as follows:—Aerial coil, 26 d.s.c. wire, .0005 condenser, 72 turns, tapped at 20th turn. Regenerformer, 26 d.s.c. wire for secondary, .00035 condenser, 87 turns; for the primary, to match A615, 30 d.s.c. primary, 9 turns; reaction, 30 d.s.c., approximately 25 turns.

**J.W.D. (Oamaru):** Where should I place the switch in a power pack in order that I may first turn on the filament?

**A.:** The switch should go in series with the lead to the plate of the rectifier. By putting it otherwise a strain is placed on that particular valve.

**2.** Could I switch in a 50,000 ohms resistance between the B+ and earth? Will it throw a constant drain on the valve?

**A.:** That would not be a bad plan. It would be quite satisfactory and would allow a drain of 8 milliamps.

This correspondent says: "I would like to tell you that I consider the Loftin White Four as good, and even better, than a good many other sets I have heard. I have a fair list of stations, including 15 American and five Japanese, and all the Australians down to 220 metres. The New Zealand stations are all good strength. 2YA is tuned in now at 1 p.m. at R6. I consider the gramophone amplifier the best yet. It is a great set, and it would take better hands than mine to tell you all about it."

We are glad to hear from our correspondent as many hard things have been said against the Loftin Four.

**MUSIC LOVER (Wainuku):** The makers of a certain valve state that their rectifier's life may be shortened if a filter condenser exceeding 4 mfd. is placed across its output. Why?

**A.:** The greater the capacity of a condenser the greater is its ability to store charges and the greater the charge built up the greater the resulting potential across its terminals. If a big charge is built up across a rectifier it is possible that there will be an internal flash. However, we think you could use an 8 mfd. condenser quite safely, although it is preferable to make the first condenser after the rectifier a 2 or 4 mfd. followed by a choke or speaker field, and then the 8 mfd. condenser.

**H.J.F. (Hawera):** I have two condensers, one of .0003 and one of .0005 capacity. I want to put an s.g. valve on a three-valve s.w. set, but my s.w. condensers are .00025 and .00015. Will either the .0003 or .0005 fit in as a tuning condenser to the s.g. circuit? What capacity will I get by removing half the plates?

**A.:** If you take out half the plates of the .0003 you will get .00015. Half from the .0005, .00025. You could reduce .0003 to .0001 approximately by using a .001 condenser in series with it.

**JUMBO (Otago Central):** The 1930 "All-wave Advance" is not stable on the broadcast band, but is all right on the short-wave.

**A.:** Probably your chokes are at fault. They are quite satisfactory for short-wave, but their resonance point falls within or close to the broadcast band. Try changing them over, preferably to better quality ones, and see how this will help you.