

QUESTIONS AND ANSWERS

"OKI" (Frankton Junction): You could quite easily replace P220 in your set with a PM22A, providing of course that you apply the correct voltages to the latter valve. For best results you would need an output transformer or tapped output choke to enable you to match your speaker to the pentode.

"ALL-WAVE" (Otago): I am interested in amateur transmitting and radio generally, and would like to improve my knowledge of the subject. What books would you advise me to read?

A.: The 1934 "Amateur Transmitter's Handbook" will give you an excellent grounding of the theory and practice of radio, both on the transmitting and receiving sides. Another excellent text-book is Keith Henncy's "Principles of Radio."

2. My receiver, a short-wave and broadcast model, does not operate above 40 metres on the short-wave band, so I am unable to pick up the amateurs. Could I construct a converter to enable me to listen on the 80-metre band?

A.: Yes. Why not build the "Viking Shortwaver" described in the November, 1933, "Radio Times."

3. The dial of my broadcast set is calibrated up to 1700 k.c. What is the purpose of that part of the dial between 1500 and 1700 k.c.?

A.: Your receiver is of American make, and the additional wave-band coverage is to enable users in that country to listen in to broadcasts from police stations, which generally use wavelengths of from 160 to 200 metres.

A.E.C. (Tirohia): I wish to put up aerials of three different lengths, but as the winds here are rather strong at times I do not think that the poles would stand three wires suspended the full distance between them. Would the efficiency, if any, be impaired if I erected them as per enclosed diagram?

A.: Your diagram is not at all clear. However, if you brace all three aerials against undue swaying, and, if possible, run them at right angles to each other, then the efficiency will remain high.

2. I have a set identical with the "Tiny Tim" described in the 1934 "Radio Guide," which I use for short-wave listening. On adding the r.f. stage described in the "Guide" would it be of any advantage to wind the primary on a smaller former and slip it inside the secondary, connecting the bottom of the primary direct to earth and apply —3 volts to a 34 through the secondary winding?

A.: This would be quite in order, provided the coupling between the primary and the secondary was not made too tight. However, there is no objection whatever to winding the primary and secondary on the same former. When applying bias to the 34 the way you mention, the bottom of the secondary should be connected to earth through a condenser of approximately .05 to .1 mfd.

"TENDERFOOT" (Whakatane): I am about to construct the "Elfin Four" described in the 1934 "Radio Guide." Would the addition of reaction improve this set?

A.: As a diode detector is employed, reaction cannot be used.

2.: Is the "Elfin Four" capable of logging American stations?

A.: With a good location and an efficient aerial and earth it might be possible to pick up one or two of the more powerful ones.

"25" (Hastings): I have built up the "Quality Five" described in the "Radio Guide," but find that the reaction condenser will not control oscillation over the lower half of the dial, while there is no oscillation present above IYA's frequency. I am using an eliminator for the "B" supply.

A.: The trouble seems to be that there is oscillation in the r.f. stages on the lower part of the dial. See that the grid and plate leads of the r.f. valves are short and direct as possible, and well spaced from the remainder of the wiring. Also, as you are using a "B" eliminator you could, with advantage, improve the decoupling provided for the screens of the two r.f. valves by connecting resistors of from 5000 to 10,000 ohms in each screen lead, and by-passing the s.g. terminal of each valve to earth with a .1 mfd. fixed condenser. Also, by removing the r.f. valves from their sockets and connecting the aerial directly to the fixed plates terminal of the detector section of the gang, you will obtain a good indication of how the reaction control is operating. However, it is almost certain that by rearranging the wiring as indicated above, and also perhaps incorporating a little additional decoupling, the fault will be overcome.

F.R.H. (Ohaupo): Using valve-base formers, suitable coil details for your set are as follow:—Aerial primary 16 turns, secondary 75 turns; detector primary 35 turns, secondary 75 turns;

reaction 45 turns. However, your reaction condenser is of far too small a capacity, and it is doubtful whether you will be able to control oscillation over the full tuning range. A condenser of from .002 mfd. to .003 mfd. would be much more satisfactory. If you use one of these, then reduce the number of turns on the reaction winding to 25.

"SILVER" (New Plymouth): The heater terminals of the 56 should, of course, not be connected together, but taken to one of the 2.5 volt windings on the power transformer.

M.J.S. (Auckland): It is very doubtful whether you could cover from 15 to 30 metres, using a 13-plate midge tuning condenser. Unfortunately you do not mention at what part of the dial the 31-metre stations come in, though no doubt if you take one turn off the grid winding you will be able to tune down below 19 metres.

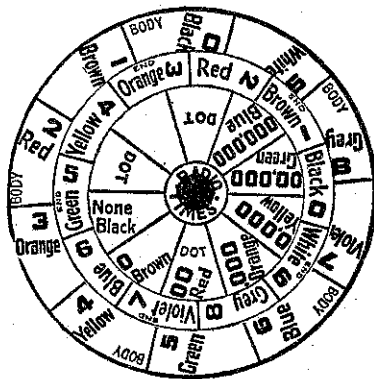
NOTE.—We would be interested to see a copy of the circuit your converter uses.

W.T.S. (Blenheim): I have a dynamic speaker with a 6-volt field which takes approximately 2 amps. I wish to rewind it with a 2500 ohm field to use as a choke in my a.c. set. What gauge of wire and how many turns would be required?

A.: The gauge of wire depends on the size of the speaker, i.e., on the room that is available for winding on the field. However, approximately 38 gauge enamelled wire would be suitable. It will be necessary to wind on about 1½ pounds to obtain the resistance you require.

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