

QUESTIONS AND ANSWERS

P. W.F. (Christchurch): I have replaced the three type 24 r.f. valves in my set with type 24A's, but after the set has been switched on for about two minutes the volume gradually dies down to about half and then remains constant. I have tried six new type 24A valves which have all been tested, but with no difference in results. Can you suggest any explanation?

A.: It is difficult to understand why inserting 24A type valves should cause this noticeable drop in volume, as it is quite in order to replace 24's with 24A's in a set such as yours. Have you tried realigning the condenser gang with the new valves in the set—this may cure the fault. If not, then the only solution we can suggest is that you take your set to a qualified radio serviceman for overhaul.

"CASER" (Gisborne): Replace with the valve types you are at present using—they are quite satisfactory for your set. The loud hum you are experiencing is no doubt mainly due to the fact that the level of the electrolyte in the rectifier of your "A" eliminator is too low. However, as you have a battery charger on hand we advise you to discard your "A" eliminator and use a battery for the "A" supply. "A" eliminators are rarely satisfactory.

"POLANDO" (Hawke's Bay): The noises you mention could be due to a run-down "B" battery, a faulty grid leak (R1) or grid leak holder, or perhaps to a defective volume control. Another possibility is that the plug-in coil is not making good contact with the socket. Try cleaning the prongs with sand paper and tightening up the springs in the socket. The clicks you mention are quite normal, and do not indicate a defect.

G. C.B. (Wellington): The condenser you have on hand has a capacity of .0005 mfd. To reduce this to .00035 mfd., pull out four of the moving plates. The silk-covered wire you enclose is 34 gauge and the double cotton-covered, 24 gauge.

Information Coupon

(To be used with all requests for information.)

Name of set

Model

Name

Address

Non de plume

To be kept in subsequent inquiries

Please Note:—

- (1) Be specific and brier, tabulating if possible.
- (2) Write legibly and on one side of the paper
- (3) We do not design circuits.
- (4) Limit three questions unless 1/- is enclosed
- (5) Postal queries limit 3 questions. Enclose stamped and addressed envelope and 1/- fee.

M. J.S. (Papakura): By placing a piece of board at the side of your set the inductance of the coil is altered slightly and hence this explains the drop in volume. This would not necessarily result in a serious drop of efficiency but would mean that the tuning would be altered a degree or so on every station. One way of overcoming this difficulty would be to shift the coil holder nearer the centre of the baseboard.

Note: Many thanks for sending along the circuit of your converter.

C. S.D. (Waihi): A short-wave converter specially designed to work with your set is available from the manufacturers in Auckland, and we advise you to get in touch with them.

J. R. (Dunedin): The circuit you enclose is quite in order, except that "B—" should be earthed. Also, try the effect of returning the grid leak to "A +" instead of "A—." You will probably find that while reaction might not be as smooth, the signal strength will be improved appreciably. The capacity of the tuning condenser you are using is not very clearly marked in your sketch, but, assuming it is .00035 mfd., then details for a suitable broadcast coil are as follows:—Primary 24 turns, secondary 105 turns, reaction 25 turns. Use 28 or 30 d.s.c. wire and a valve-base former.

"AUDIO" (Blenheim): Could I use an HL2 as detector and a 33 pentode as output valve in the "Midget III" described in the March "Radio Times"? Also, would the improvement in reception warrant the change?

A.: Using an HL2 as detector in place of the type 30 you will need to increase the detector voltage to 67½ or 90 volts. You would get much greater volume and better quality by substituting the 30 output valve with a 33, but on the other hand battery consumption, both "A" and "B," would be appreciably higher.

2. Could I use a differential reaction condenser and how is it connected?

A.: Yes. Connect the moving plates and one set of fixed plates as shown in the circuit diagram and make another connection between the other set of fixed plates directly to the plate of the detector valve.

3. Using fixed condensers in series with the tuning condensers and building my own coils, could I make this an all-wave set?

A.: Yes, quite easily. The "Tiny Tim," described in the 1934 "Radio Guide," gives details of a suitable switching arrangement. Incidentally, as you are planning to make the set an all-waver, you would find that it is an improvement to place a small upright aluminium shield between the two tuning condensers to prevent inter-locking.

E. R. (Auckland): I have built up the "Viking Short-waver" and the "Viking Power Pack" and am more than satisfied with the results given by both. Could you give me details for broadcast coils and also for 160-metre coils?

A.: Three sets of coils will be needed, all wound on valve-base formers. 160-metre band: Aerial primary 12 turns, secondary 80 turns, r.f. primary 35 turns, secondary 80 turns tapped at the tenth

turn. The next set of coils should be wound as follows: Aerial primary 16 turns, secondary 140 turns, r.f. primary 45 turns, secondary 140 turns, tapped at the tenth turn. The largest pair of coils should have 190 to 200 turns on each secondary. Details of the primaries and the tap are the same as for the second pair of coils.

M. A.C. (Westport): I would like to change the coupling in my set between the 27 and pushpull 45's from transformer to resistance coupling. Is it practicable to make this change?

A.: Yes, though there will be an appreciable decrease in volume. However, if you do not mind this then you could follow the audio circuit used by the "Standard Superhet," described in the "Radio Times" dated August 10, 1934.

B. D.B. (Auckland): You could obtain a copy of the Public Works Regulations from the Te Aro Book Depot, Courtenay Place, Wellington. No one who is not a registered serviceman is permitted to service radio sets. Provided a good aerial and earth were used, a set

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