

QUESTIONS: ANSWERS

FRANK KEE



The Technical Editor will, through these columns, be pleased to help readers experiencing trouble with their sets. Queries are limited to three—for more than this a shilling fee is charged, and a similar fee is payable for queries answered by post. Supplying layouts, circuits and solutions of intricate theoretical problems is beyond the scope of this service.

A coupon must accompany all requests for information. Non-appearance of the coupon in any issue cannot be regarded as a reason for its not being used.

Address all queries, The Technical Editor, Box 1032, Wellington.

H. A. T. (Kaitia). We cannot pass any comments about your set as one has not found its way to the laboratory. It appears, however, that you are getting fairly good results. You could use a short-wave converter on this, and we advise you to inquire from some of the better known dealers to find out the cost of same.

PETRYGOTUS (Dunedin). Your circuit is correct. It is possible that you have the connections to the detector coil reversed, and it would be well worth while trying them round the other way. If there is no improvement then revert to the original connections. If the adapter does not oscillate over the whole ranges, add a few more turns on the plate coil. You will find much to help you in the series of articles on the superheterodyne now appearing in the "R.R."

B. T. (Christchurch). I cannot apply "B" voltage to my commercial six-

valve set. I have had transformers and valves tested, but when I use the set without bias the "B" battery runs down rapidly. There is no volume.

A.: Evidently there is a break in the grid circuit of either the first or the second audio valve. Have the secondaries of your transformers tested. Check between GB of your transformer and the "C" battery. You may possibly find a break-down in your cable. Also check over the connection between "G" of the transformers and the valve. See that the valves are tight in their sockets. Go over the contact of the first audio jack, if it is present.

2. How is this set neutralised?

A.: The screw type condensers are the neutralising ones. Commence with the third radio valve, that is the one nearest the detector by tuning in to a station on about 3YA's frequency. Remove the valve and cover one of the filament legs with silk or tissue paper to prevent it coming in contact with the socket. Replace it in

the socket and adjust the balancing condenser nearest it until the signals are at minimum. Now take off the silk, replace the valve and repeat the performance with the two other valves. The two mid-set condensers are to balance up on the main tuning condensers. You merely tune to a station about the centre of the dial and then adjust the two midsets until the loudest volume is obtained. In this case the valves are left in a normal operating state.

3. Where do I connect the earth-wire, as there is no earth terminal?

A.: To the "A—", "B—" and "C—" connection.

A. E. S. (Wakefield).—Your question is outside the scope of Questions and Answers. Explaining how to obtain and control regeneration on a commercial receiver is the job of an expert, and the chances are that even if we told you what to do you would not get satisfaction. In the first case you would throw the condensers out of alignment, and that would offset any gain brought about by regeneration. Often you can make a set of your type oscillate by carefully balancing the condensers.

RADIO (New Plymouth).—What is the capacity of the midset condenser in the aerial circuit?—**A.:** .0001 to .00005.

2. Why should I not arrange the set for complete sub-panel mounting?

A.: There is no reason whatever. If you depart from the layout, see that you get the vital wires short.

3. Why are the shorting condensers used across the .0001 condensers?

A.: In order to use the set for broadcast or short-wave work. When the .0001 condensers are in the circuit the effective capacity of the tuning condensers is reduced to about .0001, and this is admirably suited for short-wave. When the condensers are shorted out they assume their ordinary capacity.

A. C. E. (Wanganui).—Your queries were answered in the "R.R." dated September 18.

E. H. L. (Waitara).—No doubt power interference is causing the trouble about which you complain. It is strange, however, that you can use your set in the power-house and get better results than you can a few hundred yards away. The power-house may be shielding the transformers to some extent, or it may be a case of "skip distance." Take off the aerial and see what happens then. If the noise persists, perhaps to a less degree, install the filters. Better results can probably be obtained by using shielded cable for the down lead and earthing the shield to a separate earth.

SHIELD (Auckland).—I have a power pack delivering voltages from 45 to 300. Would this obviate the use of resistance in the a.c. s.g. short-wave set described in the "Radio Guide"? **A.:** You could take the lead direct, but it is far better to make the set exactly as described. By using long separate leads you are liable to get back coupling and other unsatisfactory results.

2. Could my variable condensers of .0002 and .00045 be used with fixed condensers to reduce the capacity?

A.: Yes; a .00023 will be required in series with .0002 to reduce the capacity to .00005. The .00045 to be made suitable for the tuning circuit will need .00022.

3. Could push-pull amplification be effect-

ed using an ordinary audio transformer as input with resistances between the grids and cathodes to earth, and a tapped choke as output?

A.: Yes; the arrangement should work satisfactorily.

NEMO (Masterton).—Would it be a big improvement to the H.R. set to incorporate a stage of r.l.s.g.?—**Yes.**

2. Could you let me have "Detector's" address to find out what results he obtained?

A.: If you send a stamped and addressed envelope for a reply we shall send it to you.

FALCON (Remuera).—Is there any way in which I can convert my seven-valve battery receiver to an all-wave set without the use of an adapter?

A.: There is no practical way of doing so. We advise you to use the adapter.

2. Would I be able to bring in England, etc., on the short-wave?

A.: If your adapter is a good one, yes.

3. I am using 201A valves. Are there any other suitable valves?

A.: Yes, the new 221's are up-to-date 201A's.

L. P. O. (Bluff).—Would my reception be improved if I erected another 40 to 50 feet pole alongside the house? The present aerial slopes down to a point where the lead-in enters the house 16 feet from the ground.

A.: Decidedly yes; it is unwise to slope your aerial down to the point where it enters the house. Always use a second mast.

RECEPTIONIST (Wellington).—Would converting my aerial from an "L" type 80 feet or 90 feet top span to a "T" make it more selective?

A.: Yes; it would shorten its effective length to about 40 feet plus the lead-in, thus reducing the pick-up.

2. What type of earth do you recommend when using a set on the second floor?

A.: It depends. If you are near the sink or water-tap, connect to that. Otherwise

Information Coupon

(To be used with all requests for information.)

Name of set

Number of valves

Name

Address

.....

.....

Nom de plume

To be kept in subsequent inquiries

Date

Please Note:—

- (1) Be specific and brief, tabulating, if possible.
- (2) Write legibly, and on one side of the paper.
- (3) We do not design circuits, but accept suggestions for feature articles.

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