

Questions and Answers



R.E.C. (Napier): I wish to convert a set into "R. the W. Three." Would an Emco and Ferranti transformer be suitable?—Yes.

2. What Philips valves would be suitable? Either four or six volts.

A.: Four volt: A415 detector, A409 first audio, B409 second audio. Six volt: A415, A609, and B605. This combination will be an excellent one.

3. What is the material required for an Edison type cell?

A.: Write to A. R. Harris Coy., Christchurch, for full particulars of this cell.

SAY SO. (North Auckland): Could the secondary coil for the H.R. be space wound?

A.: Yes; 80 turns of 24 gauge copper wire spaced by half its own width would be suitable for your purposes. It would be little, if any, better than the unspaced d.s.c.

2. Using 30 d.s.c. for aerial and regenerative primary, how many turns are required to suit 2 1/2 in. former? An s.g. valve is used in the r.f. stage.

A.: Try 30 turns tap on the aerial and for the primary 40 turns. If oscillation is troublesome reduce the number of primary turns on the regenerative primary.

3. How many turns and what size tickler should be used?

A.: 1 1/2 in. diameter and about 40 turns of wire.

4. Would anything be gained by using a primary in the regenerative of the screen grid valve?

A.: A primary gives much the better results. Look for our description of the two valve screen grid B.D. It is on its way.

5. I intend using swinging coil reaction with the broadcast band of m set and plate voltage control for short waves. Would this be satisfactory?

A.: Yes, but why not use plate voltage control for reaction on long and short waves?

6. What four volt valves would be used with a Daniell cell "A" battery to suit a three-valve screen grid set?

A.: There are a large number of valves of different makes that you could use and we do not make it a practice of recommending valves where the makes desired are not stated. Use a special detector and a high gain power valve. See that the filament consumption is under half an amp.

7. Where should fixed condensers be placed in the enclosed circuit?

A.: From the screen grid of your valve to earth: capacity 1 mfd. .001 mfd. across the primary of the first transformer and if necessary 1 mfd. from B plus r.f. to earth.

8. What value should the grid condenser and leak be?

A.: .00025 mfd. and 5 megohms.

9. Is the enclosed circuit O.K. or should the primary of the r.f. transformer be omitted?

A.: The circuit seems quite a good one, but more will be said about screen grid circuits in forthcoming "R.R.'s" and in the "Guide."

WIREMU (Wellington): Wait for our articles in the circuits for the Crystaphile by "Cathode."

2. Apart from expense do you think the Differential Two would give better results?—Yes.

SNEDDO (Whangarei): I made up the B.D. two r.f., but when I put it on a good amplifier results are disappointing as regards distance. Everything is quite in order and assembled as in the "Listeners' Guide."

A.: Without a definite clue we cannot help you. Have you tried substituting the valves and checking through for weak or defective condensers? Bring the aerial into the first stage, that is, to the top of the grid coil of the second

coil. If results are just the same then there is something wrong with the first stage. Will your set oscillate, and have you tried varying the voltages, and what voltage are you using?

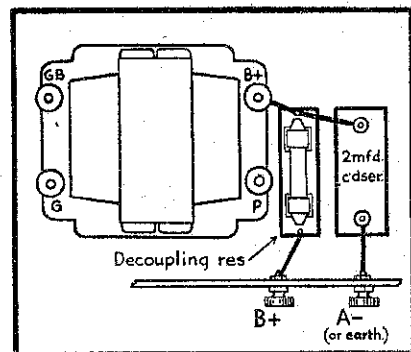
A.B. (Wellington): I have built a screen-grid set, and it has just recently developed crackling. I tried another set with the batteries and found that everything was in order.

A.: We presume you tried the same speaker on the other set. If not, that is a very likely cause of your trouble. Look for a broken-down condenser or a loose connection, as this appears to be the trouble.

2. How many turns are needed on a 3 in. former to suit a .00035 condenser with 24 gauge d.c.c. wire?—65.

OSCAR (Hikurangi): How can I obtain volume without distortion. When I advance the rheostat I get an audio howl. I am using two similar high-grade transformers.

A.: Try reversing the primary connections to one of the transformers. If this does no good put the connections back



as they were and incorporate an anti-motor-boating device such as is shown in the accompanying sketch.

STEIN (P.N.): What would be the best combination of valves for my set?

A.: Five R.C.A. 227's, two R.C.A. (Ceco, Cunningham, Majestic or other high-class output valves, and one 280 of these makes.

MESPOD (Paeroa): What is the space between the coils in the Differential One?—1-8 in.

2. What is meant by a differential condenser?

A.: One with three distinct sets of plates, two fixed and one moving.

3. Would a .00013 condenser do for reaction?

A.: If it is differential, yes.

4. Would a pentode valve work in the audio stage of a differential set?

A.: A high gain power valve such as a new B409 would be better.

PEANUT (Christchurch): Does the average home-built Differential One bring in many short-wave stations on the phones?

A.: Yes, you can get stations on a world-wide range on phones.

2. If I built this set using a two-volt valve and about 35 volts plate supply

and its output plug directly into an a.c. or is an output transformer necessary?

A.: Unless you know if there is an input transformer already in the set, your best plan would be to incorporate a 3 1/2 to 1 output transformer in the adapter. You need 45 volts plate supply.

3. I get a good deal of static and interference on my a.c. set. Would the Differential One using an adapter be likely to give much quieter reception?—No.

BEN ADHEM (Oamaru): Would a Ferrand inductor speaker be suitable for the Loftin Four?—Yes.

2. What ratio transformer would be required for it?—1-1.

3. Would a 500 volt working condenser be satisfactory with 650 volts?

A.: It is a bit risky. Be on the safe side and use two 245's.

4. How many secondary turns on a transformer if I use the 245's?

A.: That depends on the core. Transformers were fully described in the 1929 "Guide." 425 volts secondary are needed.

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Name of set

Number of Valves

Name

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To be kept in subsequent inquiries.

Date

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