

AVON (Christchurch): R1A in the parts list of the "DX Four" is described as 80 ohms potentiometer, when in the theoretical circuit it is shown as a resistance, and I cannot find R2 described as 300 ohms resistor in the circuit.

A.: R1 is a 100,000 ohms potentiometer, R1A is a 300 ohms resistor, and there is no R2. Difficulty has been caused by resistor R2 being changed to R1A in the diagram and not on the parts list.

2. What space should there be between the coils—aerial and secondary, primary and secondary and tickler?

A.: About 1-Sin.

3. Have you tried out the "DX Four"?

A.: Yes, and we had splendid results on it. We have also heard of a number who have made it up, and all are very pleased with the results they are getting.

86HB (Napier): When the set is in use and the volume control is

moved or touched there is a heavy rasping noise.

A.: This is a defect in the volume control potentiometer. In your model it takes the form of a dual potentiometer, one portion being in series with the aerial and earth, and the moving slider connected with the top of the aerial coil, the other portion being across the cathode return to the oscillator, and the voltage divider. The moving arm is connected to earth, and moves in synchronisation with the moving arm of the antenna potentiometer.

2. My set has been in use twelve months and has had nothing wrong with it. Should it be tuned up?

Questions and Answers

A.: In all probability it doesn't need it. Maybe your valves are on the downward grade, but if the set is giving satisfactory service, there is nothing to worry about.

R. S. (Auckland): My seven-valve battery set will not pick up distant stations. Do you think the audio transformer has anything to do with it?

A.: We think the audio transformer would not have anything to do with it. If it were at fault there would be a crackling in your speaker. Your set may need rebalancing, or there may be a weakness which can be detected only by a diagnostic test. Having not given us the model of your set we cannot tell you the function of the resistances you speak of. If there is no reading on them there is a possibility they are not functioning properly. The resistance enclosed is a 1600 ohms, and could be replaced with a 1500-ohm carbon type resistor.

KAPAONGA (Taranaki): I cannot get the "Kestrel Three" to oscillate below 80 metres. What are the number of turns required for the 40-metre and 20-metre band, using 26 or 30 d.s.c. wire?

A.: The turns given for 24 d.s.c. wire should be approximately correct for 26. It will be advisable, however, to increase the number of turns on the regeneration coils to, say, 10 on the 40-metre band and 6 on the 20-metre band. Try reversing the connections to these coils, and if possible try a different detector valve. Another r.f. choke and increased voltage on B+ detector might also help regeneration. Similarly it might be as well to increase the grid-leak to 8-10 megohms.

2. There is a very disturbing ripple or harshness. What is the cause of this?

A.: It might be due to faulty biasing or a faulty speaker. Probably the latter.

INQUIRER (Methven): On the lower wavebands I cannot advance the reaction condenser on my "Outspan Five" unless the set oscillates. On the uppers I can only advance it a quarter. Would reception be better by altering the reaction control?

A.: Yes; there are too many turns on the reaction coil. Undo the top of this coil from its connection with the former and take off five or six turns. Break the connection again and then try it. The set should just oscillate when the reaction condenser is full in at the top of the dial.

2. How would I overcome the motor-boating when the rheostat is turned down?

A.: Motor-boating can generally be overcome by an adjustment of the voltage on the detector.

3. Are voltages incorrect when volume increased when power voltage drops?

A.: This again seems like incorrect voltage on your detector. It may pay to try adjusting this before touching the reaction control. It can be altered by the use of a 20,000 variable resistance in series, with the detector tapping. It may be necessary to connect between the set side of the resistance and "B—" a 1 or 2 mfd. condenser.

SHORTWAVE (Dunedin):—No, there is no adaptor in the 1933 "Radio Guide." The most serviceable adaptors these days are the superheterodyne converters, which are not easily made at home. It is far better to purchase one.

2. What would be the change in the tickler coil incorporating a .0005 volume control for regeneration to the "Ranger Two"?

A.: A.0005 is too big to control reaction. Connect in series with it a .0005 condenser, and this will reduce the effective capacity.

CONDENSER (Hamilton):—I have a six-valve screen-grid detector set with pentode and variable-mu valves. I can only get one American station.

A.: May be your condensers are out of alignment or your valves are faulty. From such a general statement we cannot advise you what is wrong.

2. My aerial is about 32 feet at each end, and about 90 feet in total length. Is this long enough?

A.: Yes, it is an average aerial.

3. Is Claudelands, Hamilton, a good district for dxying?

A.: Good results are obtained round about that district.

CHARLTON (Naseby):—A ringing sound still persists in my cone speaker, although I have padded the detector valve. Shall I treat the other two valves likewise?

A.: If any other valve is the same as the detector valve, try changing them round. If not, see if you can borrow a valve of the same type as the detector and try that. It seems that the valve is very badly microphonic.

A. C. (Dannevirke): Accompanied by cracking and flickering of the valves, my set keeps jumping from too full to faint volume. Sometimes it is cured by adjusting the volume control.

A.: There is a defect in the power-pack or in the filament connections to the valves. If you can get at it to examine them yourselves, see if you can find any loose connections. If not it will be a case of sending the set to a serviceman.

OMSK (Whakatane): I have connected a pair of phones into another room, taking two strands of 22 s.w.g. copper wire as connecting wires, but when plugging in in the next room the music is blurred and distorted.

A.: That is rather strange; the wire is all right and should work quite well from the lead. Does the speaker distort simultaneously with the extension lead? Is there any chance of the wires touching or being shorted by staples. Have you tried reversing the connections to your phones at the distant end?

2. A curious phenomenon sometimes occurs. I tune to a very weak station, when suddenly the volume increases enormously and equally as suddenly disappears.

A.: If this does not occur on stronger stations we are at a loss to understand the reason. We presume, too, that your aerial and earth are in good condition and the trouble is not being occasioned through a defect in these.

UNCERTAIN (Riccarton): Could I use a dynamic speaker with a 2500 ohms field in place of the 8000 ohms field as shown in the power-pack for the "Link Three," putting in series with it a resistance of 15,000 ohms?

A.: If you wish to use a 2500 ohms field, the best plan would be to use it in place of one of the chokes—say a choke number 2. It would then not need any extra resistances, but you would need to wind on approximately 2000 turns on either side of the centre tap of the secondary. The 2500 ohm field at 110 volts draws 40 millamps, at 190 volts 70.

3. If you want to use the hook-up shown, use one 750 ohm resistance rated at 5 watts. A carbon resistance would be satisfactory.

M. M.K. (Whangarei):—At night my set will give a click and music and speech fade away until I push the switch of the set down for a second, when it comes on again. This takes place every fifteen minutes or so. I have had a mechanic to see the set, and he made only a little improvement.

A.: We are afraid if the man looked at it and couldn't do anything, we cannot. It is some obscure trouble, and your best plan would be to keep the man on the job until he gets it right.

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