

Questions and Answers



High Resistance Connections.

THE volume rheostat of "License Number 27807" has to be turned full on to get passable reception, when suddenly the volume rushes up very strongly and the rheostat has to be turned down again.

A.: It appears as though either in the speaker cord or in the receiver itself there is a high resistance connection, which at all times allows a certain amount of current to pass. When the resistance breaks down or is broken down and everything comes up normal. We suggest that the correspondent takes his speaker cord, and while the set is in operation, pulls it about to see if anything happens. If it does replace the cord. Take a piece of stick and move different wires about, likewise looking for its effect. Examine the valve springs to see that tight connections are being made. If any resistances are in the circuit, examine them as carefully as possible, and test them by the 'phones and cell method. Likewise test transformers and condensers.

Crystal and Amplifier.

WOULD it be possible to add another amplifying valve to Pentode's crystal and amplifier to work from the A.C. mains? Asks "L.B." (Christchurch).

A.: Yes, but the circuit would need several fundamental alterations. It will require a separate article, and this will appear in a future issue.

2. Would it be possible to add a detector valve using an accumulator for the filament and getting a plate current from the A.C. set?

A.: Yes, but we will need to describe this apparatus more fully.

Aerial Trouble.

A. S. (Wellington) has a crystal set which works a loud speaker, and thinking to still further better his reception, erected a high aerial. Contrary to expectations, this aerial weakened reception.

A.: The correspondent has omitted the vital point from his question. He has not stated the direction of either his old or his new aerial. On the surface it would appear as though the old aerial were directional to the station, whereas the new one is not. This would weaken reception considerably.

Coil Specifications.

G. H. (Otahuhu) has made the 2RF Browning-Drake, but has not had success. He is intending to make a few alterations including throttle control. He asks also for more coil particulars.

A.: See the specification for the All-Electric Browning-Drake published in this issue for coil specifications.

2. Am I right in joining the tickler coil to the top of the tuning coil, so that the plate lead of the tickler coil is joined to the moving plates of the grid condenser?

A.: In condenser control reaction,

where both coils are continuous, the common lead goes to the filament negative or cathode and B negative. The end of the tickler coil goes to the moving plates of the reaction condenser, the fixed plates of which go to the plate lead, which goes to the transformer. B plus connects as usual.

R.F. Booster.

S. W. (Northcote) has constructed an R.F. screen grid booster, which he cannot get to function properly, as the circuit is a straightforward one, it would appear that it would be almost impossible to track the trouble without putting instruments on it. We can suspect only the R.F. choke, which, if defective, would by-pass all signals to earth. A broken-down condenser would likewise cause trouble. The coil which is small to limit the field and thus prevent interaction, appears rather unsatisfactory. A binocular or toroid would be more effective.

Various Points.

A. F. (Ohura) asks: 1. Should the Lead-in wire be insulated?

A.: If uninsulated there is a great possibility of short-circuiting with such earth objects as a wet wall, gutters, roof, etc. It is far preferable to keep these leads insulated.

2. Could you give me information about the Stewart Warner No. 815?

A.: Communicate with the Stewart Warner factory representatives, Hope Gibbons Building, Dixon Street, Wellington.

3. What is the charging rate of radio batteries?

A.: They vary according to the amp. hour capacity of the batteries. A small single cell may be charged at half an amp, whereas a 100-amp. hour battery could be charged up to 5 amps.

4. Is the "Northern Primary Battery" made by Seaman's suitable for charging accumulators?

A.: We doubt it, but for further information about this battery, communicate with Cory-Wright and Salmon, Box 1650, Auckland.

Transformer for Small Set.

I HAVE heard that a bell-ringing transformer can be used for a small A battery eliminator, writes "E.H." (Wellington). Is this so; if not, could you describe a suitable transformer for this purpose?

A.: It would be suitable if made to handle a great amount of current. The voltageappings would not correspond with any well-known make of valve. Small transformers can be purchased which should have a secondary that will deliver four amps. or more. It is doubtful that the bell-ringing transformer will suit the purpose.

2. Why are small capacity condensers used in short-wave sets?

A.: Small capacity condensers are used in order to separate the stations on high-frequency by a reasonable space. Where a degree of the dial means the movement of a very little capacity, stations can be put farther apart than when, as in the broadcast band, movement means a great deal of capacity. Furthermore, the efficiency of a circuit is governed by the relation L/CR , where L is induction, C is capacity, and R is resistance; so that it is advisable to keep capacity as low as possible, and inductance (coils) as high as possible. The larger the condenser, the smaller the coil.

A.C. Amplifier.

G. T. H. (Christchurch) asks if the transformer described by Pentode for his crystal and valve set to work from A.C. mains would supply enough current for a .06 valve in the first socket, and a .15 power valve in the last.

A.: A .06 D.C. valve in the first audio stage could not be fed with A.C. current. A separate amplifier would have to be constructed, and this will be described in a forthcoming issue. Your further queries will also be covered by this article.

Static on a Crystal.

ONCE or twice a week, writes G.E.E., Lower Hutt, I get a noise like static coming through my loudspeaker, which I am working directly from a crystal set. It is only momentary.

A.: It may be a power noise, and, although this is unlikely, it is not impossible. You may have a loose connection, or something may be loose within the speaker. The speaker cord may be defective, and again it may be interference through another set.

2. Can you suggest a better horn speaker than the one I am using? I can hear this one all over the room, and even through the house.

A.: You are evidently getting very good results. It would be difficult to suggest a better speaker, although a very sensitive cone may give louder signals.

3. With regard to your third query, the fees vary, the minimum being about half a guinea an item.

2RF B-D.

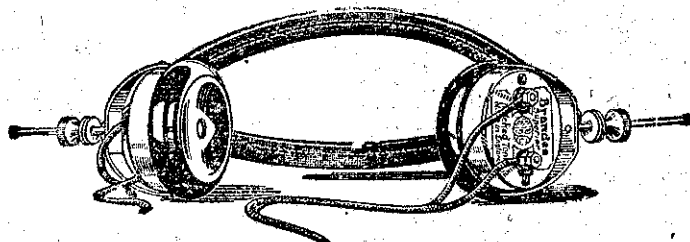
I AM intending to construct the 2RF B-D, writes "J.W." (Timaru), and I want one or two points cleared up.

1. The shields "Radio Record" standard size are to be placed on a copper sheet, and the wires soldered to it. Can I remove the aluminium bottoms and mount my shields on this copper? The wires can then be soldered through it.

A.: Yes, drill the copper base so as to take the screws in the uprights of the shield supports. They can then be mounted quite conveniently in the manner you suggest.

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