

# QUESTIONS AND ANSWERS

**G. B.W. (Auckland):** Under no circumstances should there be so many repeat points in a set of the type you are operating. Your best plan would be to return it to the agents for complete overhaul. Do not attempt to adjust the set yourself or you will render void the guarantee accompanying it.

**A. L. (Greytown):** I am building a Daniell Cell charger to charge a two-volt jelly acid type accumulator, which I intend to use for lighting purposes. What type of bulb should I use?

**A.:** We would not advise you to take more than .6 or .7 amps. from a battery of this type. The best bulb to use would be 2 volt torch globes or 60 m.a. fuse bulbs, though the light given by the latter is not very powerful.

**"EXCELSIOR" (Christchurch):** It is very doubtful whether it would be worth while expending £10 or £12 on a high fidelity speaker to use with your set. Though a set is no better than its speaker, the reverse is just as true. If you wish to extend the high frequency response to your present speaker, then try connecting a 6in. diameter cone permanent magnet type in parallel with it, using condensers of from 1 to 2 mfd. for coupling purposes.

**E. P. (Masterton):** The speaker in my set develops a rattle soon after it is turned on, though this disappears entirely later on.

**A.:** Evidently the voice coil requires re-centring. Full information on how to do this was published in the January, 1935, "Radio Times."

**2. Where could I obtain a circuit diagram of the set?**

**A.:** From the Lekmek Radio Laboratories, G.P.O. Box 2971 NN, Sydney, N.S.W.

**"PILATE" (Papakura):** We think you should get several years' good entertainment from your set yet, without much fear of expensive breakdowns. On the other hand, one of the new all-wave models you are proposing to buy would give you much better results. From the point of view of upkeep, a three-year-old radio can be regarded as on a par with a five or six year old motor car. If you had one of the latter you would no doubt find plenty of arguments for and against replacing it on the grounds of economy.

**A. E.C. (Terahia):** I have built up the "Quality Five," described in the 1934 "Radio Guide," and was more than pleased with the results. I have 150 volts "B" supply available, but I am only using 130 volts at present. Would it harm the set in any way if I increase the "B" max. voltage to 150?

**A.:** No, not at all. You could increase the bias on the 30 to -12 volts.

**2. When ordering the coils, by mistake I did not specify a reaction winding on one of them, so I put on 27 turns of 28 d.s.c. wound over the bottom end of the secondary winding. Reaction**

is a little severe, as the condenser is never more than half turned on. Is the number of turns correct?

**A.:** Yes, quite correct, though if you wish to reduce feed-back you could take four or five turns off. Alternatively, you could use a smaller capacity reaction condenser, if you have one on hand.

**"233" (RAETHI):** Could a PM-22A be substituted for a type 33 output pentode in my set?

**A.:** Yes, though you would have to reduce the bias on the output valve from -13.5 volts to -4.5 volts.

**2. What would be the resultant saving in "B" current?**

**A.:** The filament of the '33 is rated at .26 amps., combined plate and screen current is 17.5 mls., and the maximum undistorted output is 700 milli-watts. The filament of the PM22A takes .2 amps., combined plate and screen current equals 11.7 mls., and the undistorted output is 425 milli-watts; hence the saving in current would be .06 "A" and 5.8 mls "B," although the output would be reduced a little.

**A. T. (Petone):** The dealer from whom you have purchased your speaker would no doubt be willing to change the output transformer for you, for a small charge.

**G. A.K. (Westland):** Full details of a auto "B" eliminator will appear in the "1935 Radio Constructor's Guide," to be published in March.

**"CURIOUS" (Timaru):** How could I fit 'phones to my set, and also how

could the speaker be silenced when I want to listen on headphones?

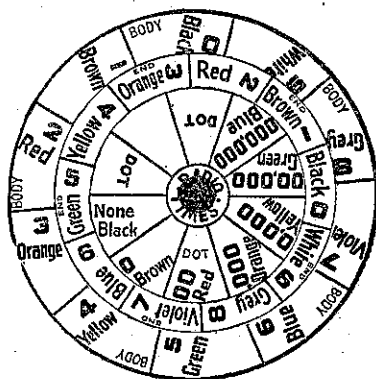
**A.:** Connect one side of a fixed condenser of approximately .1 mfd. capacity to each 45 plate. Connect the headphones to the remaining free leads from the condensers. To silence the speaker, fit a switch in one of the voice coil leads running from the secondary of the input transformer to the voice coil.

**"DX32T" (New Plymouth):** You have not enclosed sketches of the various circuit modifications you have described; hence it is difficult to help you. However, if you find reaction is "ploppy" you would have a better chance of effecting an improvement by experimenting with grid leak and condenser values, returning grid leak to "A+" or "A—" or to the moving arm of a 400 ohm potentiometer between the two, etc., than you would by experimenting with different methods of controlling reaction.

**G. T. (Burnbrae):** There is only one bias voltage supplied to your set, and that is to the L2 driver for the two B2's in pushpull. This bias is applied to the grid of the L2 through the secondary of an audio transformer. It is certainly not connected in any way to the volume control, which, incidentally, should be insulated from the chassis. Do you find there is a current flowing through the volume control resistor when the "B+" tappings are disconnected? If so, then this would appear to indicate that the first audio transformer is defective, and you could check up on this by testing for shorts between primary and secondary, or from either winding to chassis.

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