

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.

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



C. G. McC. (Otago).—H.T.4 is designed for a special circuit utilising the centre tap of the rectifier. The maximum voltage it will rectify is 180 volts 30 mamps. One end of the secondary of the transformer is connected with the centre tap, and the other end is connected to the mid point of a two 4 mfd. condensers connected in series. The other end of these condensers are connected to the two remaining terminals on the rectifier, and then become "B+" and "B-," and go to the smoothing apparatus.

8 O'CLOCK (Petone).—When I disconnect the earth why is it the volume increases considerably?

A.: Because you are operating the set nearer the oscillation point, and consequently get greater strength. This happens in some cases, but not in all.

2. How can I neutralise my set?

A.: There are four neutralising condensers, and these must be adjusted, starting with the one nearest the detector until the set is perfectly stable. We do not

advise you, however, to carry out this job yourself. To do it thoroughly requires an oscillator and extensive technical knowledge. While neutralisation is an easy thing to do in a battery set, yet, with the modern a.c. set it is not so easy, and you might throw your set right out of balance. However, if you can find those neutralising condensers you can adjust them until you stabilise your set.

G. L. (Inglewood).—Would it be satisfactory to hook up my present audio amplifier, consisting of one stage of 201A followed by two 245's in pushpull to the detector of the Super Six?

A.: It would be quite satisfactory to do so. You should get good results. You should also be able to use a fair number of parts from the B.D. in the Super Six. It would not be possible to "convert" in the normal sense the B.D. to the Super Six, but you could pull it to pieces and use the parts.

RED BIRD (Wellington): You can use the valves mentioned quite well in your set. They are identical with the ones at present in use. We can see no reason why the 2S0 burned out your line voltage regulator. Are you quite certain you put it in the right way, and did not force it in with the filament where the plate and grid should be? It seems that some accident happened rather than that it was a characteristic of the valve which caused the trouble. As a matter of fact, we have interchanged the valves in our experiments many times without detrimental effect.

KNOCKER (Westport): What are the specifications for a short-wave frame antenna for the Super Six?

A.: We shall publish them next week if possible.

2. The valves you mention are quite suitable for the circuit. For the last stage you can use almost any power valve you wish to. It all depends on how much voltage and current you have available. The merit of the Super Six lies in the pre-audio stages, and you can please yourself about the power valve.

3. Would two balancing condensers in parallel with tuning condensers be a help in short-wave reception?

A.: Probably.

J. T. (Wellington): We cannot promise definitely when the a.c. version of the "Night Hawk Two" will appear.

2. What is the value of the resistance shown in the theoretical diagram of the a.c. version of the "Night Hawk" between the grid of the detector valve and the cathode of the same valve?

A.: It is a grid-leak of approximately 2 meg.

3. Would two power chokes of 20 and 40 henries approx. be suitable for smoothing the h.t. output from a 50 watts transformer?

A.: Yes, they should be perfectly satisfactory.

R. A.S. (New Brighton): What type and make of valve would I use for the

"Sparrow Hawk One," specially for short-wave work?

A.: A415 type of valve is easily the best for this particular socket.

2. I have a condenser with four fixed plates and three moving. What is its capacity?

A.: It all depends upon the size of the plates. If they are standard size, (approximately the size of the ordinary .0005 and .00035) the capacity will be approximately .0001.

3. Could I use a dry "A" battery instead of a wet one?

A.: For one valve a dry "A" battery would be perfectly satisfactory.

S. G. (Auckland): We have not the faintest idea what your valves are. Your best plan would be to take them into a dealer and ask him to determine the characteristics of them. He could probably then tell you their equivalents.

2. It appears that the plug in coils are used for long-wave stations which are not heard in this part of the world. We cannot tell you very much regarding your third question, as the information given is far too vague. We need to see the circuit to tell you anything about it.

DIAMOND (Lyttelton): I have built the "Outspan Five," and am pleased with its performance, but I get a rushing sound as I increase the volume on distant stations.

A.: This is probably valve hiss due to the peculiarity of one particular valve. It would be hard to say which valve it is—probably the screen grid or the detector, and can be got rid of only by changing the valve.

2. I am using 4DX as detector, 415 first audio, and 403 as a last valve. Is that combination correct?

A.: Perfectly.

3. What grid bias should I put on B403?

A.: That depends upon the total voltage available. If it is 100-135 volts, you will need from 12½ to 15 volts bias.

SUPER (Stratford): Will it be satisfactory if I add a stage of pushpull to my Super Six?—Yes.

2. Would two .00035 variable condensers do in place of .0005?

A.: No; you must use a .0005 to match the special coils recommended. If you use a .00035 you will not be able to cover the band. However, it will be worth while trying the .00035, and if they are not satisfactory, change over to .0005.

3. Using the "B" eliminator, would it be better to leave out the spaghetti resistances in the set, bringing the leads to difference voltage taps on the eliminator?

A.: It will be possible to do so, although the best plan would be to construct the set exactly as described. Particularly with super-hets, it is not safe to make alterations and additions.

DX90A (Remuera).—I have a 10-valve super het. Should not the multum

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"Scott's Radio Handbook, 1931," 1/8.

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