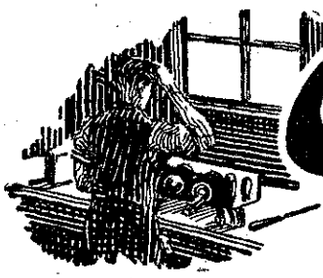

Questions and Answers

"J. B." (Kilbirnie) criticises us for not recommending the one-valve set, to a correspondent who asked for a circuit a couple of weeks ago. He states he has had wonderful results on both New Zealand and Australan stations. Our reply is brief: "But have your neighbours had equal enjoyment from their sets?"

"M. C.B." (Christchurch) asks for a transformer to step down 230 A.C. to 110.

A.: The specifications are being prepared for the 1930 Radio Listeners' Guide, which will be on sale shortly.

"L. W.C." (Blenheim) asks the following:—

1. Will a Philips B and C eliminator deliver sufficient current to operate two 171A's in push-pull?

A.: We understand not. It supplies about 30 milliamps, at 150 volts. By taking more from it the voltage drops considerably.

2. Tone is at present edgy and reedy, on the high notes, yet good in the bass.

A.: It is difficult to explain why this should be, particularly as you assure us everything is O.K. Have you tried another speaker? Are you using push-pull? If so, are your valves balanced? Have you tried another valve in the last stage? We suggest you use a valve with a smaller amplification factor in the first audio.

3. Can I supply bias to the last valve by centre-tapping the filament winding and taking the centre tap to C+ of the eliminator and the negative tap to GB of the transformer.—Yes.

4. Can I use a 200 ohm. potentiometer across the filament?

A.: Yes, if it will pass the amount of current required by the valve. The usual value is 20 ohms.

"VALVE" (Papakura) wishes to know something of valve combinations. He submits three possible combinations and asks us for the best.

A.: No. 2 is the nearest, but not correct. The following will be ideal: Detector 4D, first audio PM3, second audio PM4. We regret we cannot discriminate between two makes of valves.

2. I have been using PM3 and PM4 since 1928. Is this a good performance?—Yes, quite.

"A. J.J." (Wanganui) asks:—

1. Which is the most efficient aerial?

A.: Aerials were described very fully in an article a couple of weeks ago. We there pointed out that the best aerial was a single wire from 60 to 80ft. long, and as high as possible.

2. The number of turns required to tune over the broadcast band with a .0005 tuning condenser.

A.: There are a large number of different coils that may be used, the number of turns depending upon the diameter of the former and the gauge of the wire. A convenient one may be built up on a 2½-in. former, 20 gauge, D.C.C. wire unspaced—78 turns.

3. Which is the better combination for a 2-valve set—radio frequency and detector or detector and audio?

A.: Radio frequency and detector, e.g., the radio and detector stages of either the 4-valve Browning-Drake or Hammarlund-Roberts. You may obtain a diagram for either of these in the 1930 edition of the "Radio Listeners' Guide," now in preparation.

"BROWNING-DRAKE" (Havelock North) cannot get good tone from his set. He has renewed almost all his parts, and has good valves with their correct voltage and bias.

A.: You may suspect two thinks. The position of the 6/1 transformer, which is far too high, 3½/1 is now very much more common than 6/1, and it has been shown that the lower ratio transformer should go first. Try changing them round, and if this does not improve tone try a 3½/1 in place of the 6/1. The next point is the number of turns on the primary of the R.F. coil. Frequently, commercially made coils have far too many turns on this coil. This factor, however, would not interfere with tone so much as the former.

"MEGOHM" (Auckland) cannot tune in the local private stations in his crystal set, although he has tried different tappings on the soil and shorted out some of the turns.

A.: Shorting out turns is really unsatisfactory. The best plan is to construct another coil of about three-quarters of the number of turns. This will probably tune in the local station at one end and the private stations at the other.

"F. W.W." (Ellerslie) asks where he may procure a Philips valve for the R.F. stage for a four-valve set.

A.: From any good dealer. Probably A415 will be as good as any, but it will not be any improvement on the valve you are already using in that stage unless the latter is old.

"G. P.H." (Christchurch) asks the following in connection with the all-electric Browning-Drake:—

1. Can I use a .0005 and a .0003 condenser with separate dials?—Yes.

2. If the balancing condenser is not required can the neutralising condenser be placed on the panel?

A.: It is not wise, for the leads will have to be lengthened and this may cause trouble. Shift the regenaformer into a central position between the two dials, if you wish for balance on the panel.

3. Would parallel feed to the radio valve be an improvement. If so, what kind of radio choke would I use?

A.: Parallel-feed is an improvement. A suitable choke has been described by "Megohm" and will be redescribed in the 1930 "Listeners' Guide."

4. If grid bias is obtained from a resistance in the centre tap of the filament windings can the bias terminals be left out, and "F" of the transformers joined to the sub-panel?—Yes.

"ELIMINATOR" (South Invercargill) has had trouble with an electrolytic eliminator. He asks where he might obtain advice regarding same.

A.: Thomas Ballinger and Co., Victoria Street, Wellington, specialise in electrolytic eliminators, and will probably help you.

2. I have renewed my valves but do not get results as good as I did with my old set.

A.: Have you had the set neutralised for the new valves, and are you supplying adequate grid bias for the last valve? The pentode valve does not always give satisfaction if it is not supplied with a fairly high voltage.

3. What causes my speaker to howl when I stand it on top of the set. It did not do so before.

A.: It sounds like a microphonic detector. Try a lead cap on the top of the detector valve.

"NOVICE" (Epsom) states that he is using a dynamic cone speaker which obtains its current from the mains. After it has been running a while the transformer and the rectifying unit become quite warm.

A.: Unless they become hot, there is no cause for anxiety. If they do heat up communicate with the dealer who sold you the unit.

"TUNING DIAL" (Opunake) has changed a four-valve set over to A.C., but the first dial is hopelessly broad and he cannot find the centre of the whistle.

A.: The valve you are using has a very high amplification factor, and is likely to be unstable. Check over the grid connection to make certain the return is quite O.K., and, most important, put a negative grid bias of 1½ volts on the screen grid valve.

"A. J." (Pokeno) has a five-valve factory-made receiver, and he wishes to dismantle it and build a two or three-valve short-wave receiver. He asks for information on how to go about it, and where he might obtain a copy of the circuit of a short-wave set.

A.: You are ambitious and you may not be altogether successful as quite frequently components that are used in a broadcast receiver are not suitable for a short-wave. However, if you wish to make the change, you will find the description of "Round-the-World" Two published in a recent issue of the "Radio Record" all you require for building a short-wave set.

Odd Points.

"KAUSPANKA" (Hawke's Bay) asks the following questions:—