



# Questions and Answers



## A Continuous Howl.

WHEN working Auckland I get a continuous howl up to about 8.15 p.m. states "Ma Whare" (Feilding). Would this be HKJ heterodying?—Probably.

2. I am re-erecting my aerial and can get one pole 2ft. higher than the other. Which end should be the highest or should they both be level?

A.: Having one pole only 2ft. higher than the other would make very little difference, if any, to reception. It is the average height that counts. It is immaterial which end is higher.

## Inadequate Grid Bias.

"DISTORTION" (Frankton Junction) has connected a Pentode in the last stage of his Cossor Melody Maker and wonders why he is getting distortion. He has 125 volts on the plate.

A.: The pentode is inadequately biased. Connect another 9-volt C battery in series with the one in the set, and you will find that reception is greatly improved. Try varying the tappings to obtain the best results.

## Valve Combination.

WHAT is the best valve combination for "Round-the-World" Two. I am using dry cells for the A battery, and have to keep filament consumption as low as possible, states "Dynamic" (Lower Hutt).

A.: There are several on a par. The Mullard PM4DX and PM4, and the Osram 410HF and 410LE are as good as any.

## Amplifier Hum.

"ESSREB" (Hawke's Bay) is using a power amplifier from which he is obtaining excessive hum, although he has employed a D.C. valve in first stage.

A.: Apparently the hum is originating in the B supply, and consequently efforts

directed towards removing it from the filament are of no avail. The power pack may not be able to supply the power. It is possible that a condenser has broken down in the B supply. Use a bigger power valve in the last stage, as 609 is incapable of giving efficient service as a power valve. It is a general purpose valve.

## Reception Erratic.

UNTIL recently reception has been good, but now it will stop, and the local station can be heard faintly in the distance.

A.: It sounds very much like an open circuit, and this can be tracked down only by very careful examination and testing by phones and cell method. This has received a considerable amount of attention in previous issues, and in the "Radio Listeners' Guide." Have your power packs examined, because a condenser may have broken down therein.

2. I find that better results are obtained by interchanging the detector A415 and the H.F. valve A409, though the former is recommended for the detector socket.

A.: That quite often happens. It depends entirely upon your circuit characteristics. General purpose R.F. or audio valves can usually be interchanged, but the power valve should never be tried in any other socket.

## The Browning-Drake.

A CORRESPONDENT from Christchurch asks the following points concerning this receiver:—

1. Have any improvements been made since the circuit was originally published in 1927?

A.: Yes, see the 1929 Radio Listeners' Guide.

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2. What types of Mullard 4-volt valves are recommended for this receiver, and what "B" battery voltage is required by each?

A.: PM3 Radio requiring from 45 to 90 volts; 4DX Detector taking about 22 volts; first audio either 4DX or PM3 can take 100 volts; the power valve, 254 can take anything up to 150 volts. Each valve, however, with the exception of the detector, will work on less voltage.

3. What value resistance do these valves require to break 4½ volts down to 4 volts?—1 ohm.

4. Would screen-grid valves be any advantage?

A.: They improve the distance getting ability of the receiver a little. See Radio Listeners' Guide.

5. What value would you advise for the screen-grid?—PM24 in Mullard. It would not make any difference to the 1 ohm resistance.

6. Where can I purchase the H.F. transformers?

A.: Fear and Company, Wellington. Price about 25/- a pair.

7. Where can I obtain a suitable audio choke 20 henries inductance?

A.: You can quite easily make one yourself, from details that have already been published in the "Radio Record," but Fear and Company will easily make up one for you. A good commercial choke can be obtained for 9/- or 10/-. Do not use the secondary of a burnt-out transformer, as is advocated by some. It has not the inductance and cannot pass the required current.

8. Could I reasonably expect the set to bring in some of the lower-powered stations, when conditions are favourable?

A.: Yes, the set performs very well on stations such as these.

9. Any suggestions will be appreciated.

A.: Very full details have been given in the "Radio Listeners' Guide," but if you have any further difficulties, we shall be only too pleased to assist you.

10. Does the wiring of the primary of the H.F. transformer run in the same direction as that of the secondary and tickler coils.—Yes.

11. What wavelength can be tuned in on the average aerial?

A.: 200 to 250 metres.

## "A" Eliminator Chokes.

WHERE can I find the details for an "A" choke to make up the eliminator described in the "All About the All-Electric"? asks "R.W.R." (Auckland).

A.: This question will be very fully dealt with in the "Radio Listeners' Guide and Call Book," which will be published early in May.

## Binocular Coils.

I AM building a receiver using binocular coils and would like to know the following particulars, asks "D.McK." (Wellington).

1. Which is the better type of coil for the aerial, a binocular inductively coupled or a single type coil tapped for selectivity? I am using a screen-grid.

A.: The binocular coil is not particularly suitable for the screen-grid valve. Use the tapped solenoid.

2. For reaction should I wind on 40 turns in two layers in the reverse direction?

A.: Yes, 40 turns will be just about sufficient for the condenser you are using,

but you may have to take off or add a few turns.

## Amateur Transmitting.

WHERE can I obtain a book with the addresses of the Australian amateur transmitters?—"Grid Leak" (Blenheim).

A.: Te Aro Book Depot, Wellington. The book is "Amateur Radio."

2. When will you publish a complete list of New Zealand experimental and amateur transmitters?

A.: In the "Radio Listeners' Guide and Call Book" due out next month.

## "Round-the-World" Two.

COULD I use a 3½/1 transformer for this circuit? asks "A.B." (Feilding).

A.: Yes, but it would diminish the signal strength slightly.

2. I have a variable condenser with four fixed and four moving vanes. Will this be all right for tuning?

## Questions and Answers

READERS of the "Radio Record" who are in difficulties about reception or set construction are invited to write to our "Questions and Answers" department for help. We particularly wish to assist those who know little about radio, as very often there is some very slight trouble which spoils completely one's enjoyment of the programmes.

Correspondents are asked to observe the following courtesies:

1. Write legibly.

2. Make your questions brief and to the point; do not make apologies for writing, and, where possible, tabulate.

3. Do not ask for a reply by post unless a stamped and addressed envelope is enclosed. Even in these circumstances, we reserve the right to answer any question through our columns.

4. Do not ask us to design circuits or send detailed lay-out diagrams; but we can offer advice regarding circuits.

5. Address all technical correspondence: "The Technical Editor, P.O. Box 1032, Wellington."

A.: Your details are not full enough to give a decided answer, but it should be all right. Try it.

3. Can I use B105?

A.: Yes, in the last stage.

4. Can I expect 5SW?—Yes.

## Constructional Problem.

CAN I obtain a copy of the "Radio Record" containing the first instalment of the two stage R.F. Browning-Drake? asks "R.L." (Greymouth).

A.: We have a few of these on hand, and you could obtain a copy from the office. However, it is fully described with the latest improvements in the 1929 Radio Listeners' Guide.

2. Would 20 gauge tinned copper wire do instead of 18 for "Megohm's" three-