



Questions and Answers



W.J.C. (Wellington): Hand capacity is very bad on my set and specially on waves below 50 metres, in spite of the fact the plates on the tuning and reaction condensers are earthed.

A.: Hand capacity is sometimes very difficult to eliminate. The usual procedure is to do what you have done, and if this fails fit a metal panel and earth. If this fails you will have to shield the set entirely and earth the shielding. However, we think the metal panel will overcome your difficulty. The use of a different valve and a different grid-leak sometimes effects an improvement.

2. The set fails to oscillate on the broadcast band, although it is excellent on the short-wave.

A.: You require more turns upon the tickler coil of your broadcast coils.

3. Would an accumulator be more economical than three dry cells?

A.: It depends upon the valve you are using. If you are using one with a consumption of about .06 of an amp then it is just as economical to use the three dry cells, otherwise a small accumulator would be the better. You must not, however, overlook the fact that the cost of an accumulator would pay for many cells.

HILL TOP (Auckland): I want to construct the Differential One for short-wave work and do not want to go to the expense of buying a differential condenser, for I have .0001 and .0005 condensers on hand.

A.: You can use the .0001 as a reaction condenser, but you cannot use the "differential" circuit—try the "Ranger."

2. On my one-valve set I have logged 14 Americans and five Japanese stations. If I add a further stage of audio will I get still more stations?

A.: Most decidedly, yes. You have done excellent work with the one-valve set.

3. My valve is 2½ years old. Will I get better results if I install a new 201A?

A.: Yes, but we would advise you to use a new 221 which is the modern equivalent of the 201A.

B.D. (Hawke's Bay): What is the correct type of 4-volt Mullard valves to be used in a four-valve B.D.—(a) with 2 dry B batteries of 90 volts; (b) with 135 volts?

A.: PM3, r.f., PM4DX detector, PM3 first audio, PM4 second audio. These will be quite satisfactory for either 90 volts or 135 volts B.

2. Are Mullard valves still imported into New Zealand?

A.: Yes, in very large numbers. Your information is incorrect as far as we know.

BONNITUNE (Patetonga): What can I do to reduce static and loud crashes that occur intermittently? I believe these crashes are from a nearby power plant.

A.: Find out where the loud crashes are coming from. If you know of anyone in your neighbourhood who is using a power plant, your best plan would be to approach them and ask if they would incorporate filters, as these would undoubtedly overcome the noise. Filters were very fully discussed in the "Radio Record" about two years ago, and what was said then still holds good. It will be a case of using a choke condenser near the commutator of the power plant, which will certainly smooth out a great deal of the noise and improve your reception. Failing this, shorten your aerial, but get it very high, pointing at right angles to the direction from which the noise is coming. A tone control will cut out a fair amount of the noise, or, rather, we should say, it will dim it. If your set is not fitted with a control, you could buy one for a reasonably small sum. This would cut out the higher notes and at the same time eliminate a great deal of the noise and give you much quieter reception.

2. Is it possible to have phones incorporated in this set?

A.: Yes, as soon as we can get the space we shall publish an article, on connecting phones to an a.c. set. Watch out for it, it will be along soon.

3. What is push-pull amplification?

A.: Push-pull amplification implies the use of two power valves instead of one. The work that one valve would normally do has been divided between two valves, but the circuit is such that not only is the work split, but a greater amount of power can be fed to the speaker through the valves being connected in push-pull. The subject was very fully treated in the 1931 "Radio Guide."

W.J.M. (Auckland): I have a three-valve N.Z.R. receiver, and am troubled by a continuous low-pitched whistle. If I place my fingers across the secondary of the first transformer the whistle stops, and the tone and volume are improved.

A.: Try reversing the primary connections to this transformer. If this fails, connect across the secondary a one megohm grid-leak resistance, and we think you will then find your trouble will disappear.

2. What size coils, etc., are to be used for the accompanying crystal circuit described in the "R.R."?

A.: That circuit is the "Rejecta Two," which was very fully described in the "R.R." of June 19, 1931.

A.M.T. (N. Otago): Concerning the matching of push-pull output valves to an output transformer are 2400 turns

Answers to Correspondents

THE attention of correspondents to the Questions and Answers columns is drawn to a note appearing in the coupon which points out that there is a maximum of three questions unless a shilling fee is enclosed. Furthermore, reply by post cannot be given with the shilling fee, but this does not entitle the correspondent to ask a large number of questions. The limit that we will answer by post is three. We cannot, without a special fee, undertake to supply wiring and theoretical diagrams. We will give help and criticize existing diagrams, where possible, but the supply of new ones or substantial alterations cannot be done in the ordinary course of events.

Owing to pressure on space, we had to withhold Questions and Answers last week, with the result that there is now a very large waiting list and there are still over seventy letters to be dealt with. We ask anyone who has not received a reply not to be impatient, as all queries will be dealt with as soon as possible. Further questions coming in within the next week or so will be delayed for some time, for we must get clear of those questions we have on hand.

As we wish our service to be in the main a free one, we ask correspondents, where possible, to limit the number of questions they ask to three, and not ask for replies by post. Generally, however, a reply by post can be obtained earlier than through the paper, but we cannot make this a promise.

Would correspondents please note also that letters to the DX Club and to the Editorial staff which do not ask technical questions should not be accompanied by a coupon. The use of a coupon under these circumstances is liable to delay reply, for such letters waiting to be attended to will most probably find their way into the Questions and Answers waiting list.

WOULD "Bacto" (Wellington) get in touch with Arthur E. Allen, 146 Great North Road, Avondale, Auckland, as soon as possible?

correct for the primary of an output transformer if wound on a 1½ in. core?

A.: We are inclined to think 2400 turns rather too few. A better idea would have been to have wound on say twice the number and taken out several tapings so that you could more accurately match the impedance of the valves to the primary; 1½ in. core is also a little large, probably beyond the optimum; 1 x 1 is usually considered satisfactory, and on this you will need at least 7000 turns.

NOVICE (Christchurch): My set surges badly. Would run-down "B" batteries be the cause?

A.: In all probability yes, run-down "A's" or a defective accumulator could also be responsible. A swinging aerial would also cause surging, but not to a very marked extent. You do not say how old your batteries are, but it would not be a bad plan to test them.

A.H. (North Canterbury): Is there a commercial shortwave adapter for an 8-valve a.c. receiver?

A.: There are quite a number of them to be had nowadays, known as super heterodyne converters. We think if you wrote to the Wellington agents for your set they would be able to fix you up with the converter. We believe the price is somewhere about £12 or £15, but we are not quite certain.

PURUKI (Picton): Does my set go up to 500 metres only? If so, is there any way, without tampering with a factory-made set, that I can extend the tuning range?

A.: The only satisfactory way of extending the tuning range is to add more turns to the coil and this is not easy in a set such as yours. Evidently you have just too few turns upon the coils as most sets range from 250 metres to 550, thus cutting out the empty space between about 30 on your dial and 6.

RAD (Te Awamutu): The shortwave adapter in the 1930 "Radio Guide" goes into oscillation satisfactorily on the 45 to 90 m. coil. With either of the two smaller coils I cannot obtain oscillation on any part of the dial. I have increased detector voltage, but without result.

CORRESPONDENTS must attach this coupon to all queries sent to the Technical Editor (Box 1082, Wellington). Limit three questions, unless letter is accompanied by 1/- fee.

Name of set

Number of valves

Name

Address

.....

.....

Nom de plume

To be kept in subsequent inquiries.

Date

Please Note:—

(1) Be specific and brief, tabulating, if possible.

(2) Write legibly, and on one side of the paper.

(3) We do not design circuits, but accept suggestions for feature articles.

Solving trouble, as different from advice, is difficult by correspondence and while letters are given every consideration, answers are not necessarily correct—they are only our opinion based on the matter supplied which may be quite inadequate. Intricate and involved specifications cannot be supplied without a specialist's fee.

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