



Questions and Answers



R.H.R. (Southbridge): Is resistance-coupled amplification suitable when following a regenerative grid-leak detector?

A.: Yes.

2. Would PM1A or PM1HF be the more suitable as detector?—The latter.

3. Would cocoa tins make suitable shields for the "Outspan Five"?

A.: Yes, but they will not be as efficient as aluminium or copper ones.

"TAINUI" (Dunedin): I have a commercial a.c. super. het. on which it seems difficult to receive Japanese and American stations. Aerial is 60ft. long, 40ft. high at one end, and 30 at the other. Can you offer any suggestion for improvement?

A.: Have you a good earth? for your aerial is quite O.K. Your situation may be against your reception of distant stations.

2. Does locality affect distant reception?—Yes.

"HOPELESS" (Wellington): Is insulation tape satisfactory for insulating my lead-in, which comes down between some electric light wires and the guttering of the roof?

A.: Your lead-in should be at least three or four feet away from the power lines, with no possibility of swinging across them in the wind. Otherwise, you may possibly seriously damage both the mains and your set. Insulation tape in such an event would be of little use. In any case, if your lead-in is close to power lines you will probably be troubled by interference. Use heavily insulated wire.

2. How many insulators should I use on my aerial?

A.: Three at each end.

Note.—Your log is quite a good one.

G.S.N. (Eketahuna): Can the "Sellen short-wave set" be used for reception on the broadcast band? If not, could it be adapted for both?

A.: Yes. Particulars of suitable coils will appear shortly.

C.H.W. (Invercargill): I have two power valves, a Mullard PM4 and a B.T.H. B4 (6 volts). Could I use these valves in push-pull in the manner shown in the diagram?

A.: No. The characteristics of valves used in push-pull should be fairly closely matched, and hence should, in general, be of similar make.

2. Which additional valve would you advise me to buy?

A.: Possibly the PM4, though both are quite suitable.

W.L.L. (Devonport): I have built the "Outspan Five," using a stage of push-pull and A and B eliminators. I have logged 22 stations, without much exploring, at full loudspeaker strength, but am troubled with what I think is a modulation hum on local stations. This comes in only with the carrier wave of the locals such as 1YA and 1ZR and 1ZB, etc. It is not in evidence on distant stations.

A.: You might try one of the following three remedies:—(1) Place a good quality mica fixed condenser of .0001 mfd. in series with the set and earth. (2) Break the connection between the primary and the secondary coil in the first r.f. transformer. (3) Reduce the number of turns on the aerial coil. Also see that the cores of the transformers are grounded.

O.B.S. (Auckland): I have a three-valve commercial battery set. Is it suitable for short-wave reception?

A.: It is satisfactory, but not as efficient on short-wave as it might be. Coils may be obtained from the agents.

"SHORTWAVE" (Marton): Are the windings for the short-wave coils in the "Diff. Two" close or space wound?

A.: Close, for space reasons.

"NEUCHUM" (Marlborough): I have a six-valve commercial a.c. "Midget" which vibrates when in operation. What is the cause of the trouble?

A.: This may be due to a number of faults such as loose speaker diaphragm, loose lamination in the power transformer, a defective valve, etc. See the article published in last issue (dated April 24) on "Locating Noise in Receivers." You must remember that midget sets will not handle a great amount of volume.

2. I am in a good locality and have a good aerial and earth. Should this set bring in all the Australians and Dunedin at good loudspeaker strength?

A.: Yes.

3. Are my valves of a good make? If not, would it be possible to improve on them?

A.: We have not tested this make of valve, and so cannot advise you. Better use one of the recognized makes of first-grade valves.

"COAL" (Greymouth): I am using two 45-volt "B" batteries with a 7-valve commercial set. Will it improve reception to add another block?

A.: Yes, you will secure much greater volume, and your set will be more sensitive on distant stations. Do not, however, add a new battery to two already partially run down, for it will ruin the former.

2. What type of loudspeaker would give the best reception on my set?

A.: A good moving-coil speaker would

probably be the best, though a cone capable of handling a large output, such as the Bluespot 66R, would be quite suitable.

C.J.S. (Auckland): I substituted a .0005 condenser for a .00035 in my set and altered the coils accordingly. The volume and tone are better, but distant stations which were previously quite good are barely audible. I appear to get the carrier waves but cannot bring them in. Signals seem louder when I use a wave-trap. I tried a few more turns on the primary coil, which is three-eighths of an inch from the secondary, without any apparent effect.

A.: This is just a little difficult to explain, particularly, when you say volume and tone are better but distance stations are weak. You see, we don't quite un-

DX COMPETITION.

Entries for second period close June 30. Certificates for winners in each district. Verifications are required for every station logged.

Understand what you mean. The distance between the primary coil and the secondary should be less than three-eighths—say one-eighth or one-quarter of an inch. Try increasing the number of turns on the reaction coil and just make quite sure that the connections on the new coil are quite right.

BAT. (Wellington): The three cells in my accumulator show a different reading when I test them. Does this make any difference?

A.: This should not be so to any marked degree, though sometimes small variations are apparent and permissible. The best way to overcome this is to give the battery a long, steady charge and leave it on until all cells are fully charged. Another plan would be to put the charger on to the cell that is lowest, of course adjusting the voltage to 2.

2. I have had my "A" battery three years and wish to change the electrolyte. How do I go about it?

A.: Drain off the old electrolyte after the battery has been fully charged. The cells should then be washed out with distilled or rain water that has been collected in an earthenware vessel. Now obtain from the chemist a small quantity of pure sulphuric acid, or, better still, ask him to mix up for you a solution of sulphuric acid having a specific gravity of 1.240. You can find out the quantity you will require by measuring the amount you drain off.

3. I was told the gravity test should be 1.240, but my hydrometer reads 1.250.

A.: This is of little concern. It only indicates that your accumulator has slightly more sulphuric acid than normal, but it is so little that it does not matter.

QUALITY (Auckland): I am operating an a.c. set with a heavy cone speaker, but I wish to use a pick-up and find that the speaker jars on a heavy recording. Would there be any noticeable falling off of volume if I used a dynamic speaker? A friend of mine made the change and his results were very much inferior as regards sensitivity.

A.: A good dynamic speaker should be equally as sensitive as yours. The one you mention is an excellent one.

CHANGEABLE (Te Kauwhata): My commercial set was designed for 6 valve and I have always used Continental valves, but I have done everything I can to get beyond Australia. Would the use of American valves improve sensitivity?

A.: It is most unlikely. Probably your locality is to blame.

2. Is my set noted for distance work?

A.: It is a good one, though, of course, more recent ones using s.g. valves have a tremendous advantage over sets of your type.

BELMONT (Lower Hutt): Would it be possible to convert a trickle charger into an eliminator? If so, how?

A.: Yes, providing the current required by your set is not greater than the charger will deliver. You must use a smoothing choke and an electrolytic condenser.

JACK (Invercargill): I have a battery-operated all-wave set. Will you supply particulars to enable me to cover the band from 500 to 850 metres?

A.: To get a coil that will be anything like efficient you must use a three-inch former and it will require about 200 turns. The reaction requires about the same number. You should use fairly fine wire, say, 30 gauge d.s.c.

FACE (Dunedin): I wish to use a loading coil with my crystal set. Is my circuit correct and where must a loading coil be used?

A.: You must use it in series with the secondary coil. In other words, it

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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