



Questions and Answers



A.C. (Milton): I have had trouble with the first tuned stage of my three-dial set, in that this particular stage will not tune below 300 metres. I tried removing turns from the secondary coil, but by doing this I could not get high enough. The other stages do not give the same trouble, although the secondaries are the same.

A.: The trouble is due probably to the first tuning condenser being smaller than the others. We would suggest your trying the effect of a .0001 fixed condenser in parallel; that is, connected between the moving and the fixed plate of the condenser.

SPIDER (Shannon): With reference to the Beverage aerial; should the receiver be at the end farthest from the desired station?—Yes.

2. How would it work at the opposite end?

A.: It would probably be quite satisfactory.

3. How does the correct Beverage compare with a good aerial fifty feet high?

A.: It is decidedly superior.

T.W. (Auckland): I have made up the "Outspan Five," but it is not as successful as I would like it to be. I must have the coils wrong, as 2YA is at the top of the dial and very weak.

What number of turns should be used on the secondary coil?

A.: On a 2in. former you need 80 turns on the three coils, although the second one might be better if 75 turns only were used. The primaries consist of 30 turns each wound upon 1½in. former and slipped inside the low potential end of the secondary coil. The tickler consist of 30 turns wound on the same former as is the secondary. The wire in the case of the secondaries is 26 and in the case of the primaries 34 d.s.c., and tickler 32 d.s.c.

2. As I am using a .0001 differential condenser, would 60 turns on the tickler coil be sufficient?

A.: .0001 is a fairly small condenser for this purpose, but with 60 turns it should be satisfactory.

3. What is the screen voltage of a 232 valve?

A.: On any screen-grid valve, the screen-grid voltage is approximately half of the plate voltage.

X.R.T. (Arrowtown): I recently increased my battery voltage from 90 volts to 180 and did not receive any greater volume. I use four PM6's and one PM6D and one PM256. What is the cause of my not getting greater volume?

A.: PM6 is a last-stage valve and should not be used elsewhere. Use

PM5X's in all stages except the detector, where you could use PM6D, and in the last stage, where you could use PM256.

A.B.C. (Timaru): Which short-wave adapter would you recommend for use with an ordinary five-valve neutrodyne set?

A.: One of the type of adapters that fits in to the detector valve. A typical one of these is the "Sparrow Hawk" adapter, which appeared in the 1931 "Radio Guide."

2. Who are the agents of the Rice-Kellogg dynamic speakers?

A.: The National Electric Engineering Company, Jervois Quay, Wellington.

LOOP (Paeroa): I have a set using a loop antenna. How can I convert it to an ordinary set?

A.: The easiest manner is to substitute the loop by an ordinary coil wound on 2in. former, or better still, compare the condenser that tunes the loop with the condenser tuning the first stage. If they are the same, then construct the coil

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identical with the first coil in your set and place where the loop is now. Tap in the aerial a third of the way from the low potential end, that is the bottom, and connect the bottom with earth. If your set uses regeneration, or is of a super-heterodyne type, your difficulties are greater. Your best plan in that case would be to get in touch with a radio engineer and have the job done properly. You appear, however, to have worked out quite a feasible scheme for connecting the set to an aerial. The fact that it brings in a great deal of static shows that it is quite efficient.

H.F.M. (Christchurch): The four-volt "A" battery, supplying my two-valve set has given out and I am considering using Daniels cells connected directly to the set. How many cells should I use to operate two 4-volt valves drawing about ½ amp?

A.: You would require five cells, and you would need to use a rheostat to regular filament voltage.

2. What would be the approximate life in hours with these valves?

A.: It is difficult to say. The Daniels cell does not peter out, if you keep renewing the sulphuric acid and the bluestone, as mentioned in the article.

J.C. (Dunedin): What acid must be used for a Balkite charger?

A.: Sulphuric acid as obtained from any service station, added to distilled water, until 1200 degrees specific gravity is reached, when tested with a hydrometer.

W.H. (Wanganui): Is there any way of testing a lightning arrester?

A.: Yes, by taking it out of your circuit and, if the set goes better without it, then there is something wrong with the arrester. The only thing likely to go wrong in a lightning arrester is short-circuiting, and this can be detected by the aforementioned test.

2. Is it detrimental to connect the earphone terminals to the terminals of an a.c. set to which the loudspeaker is connected?

A.: It may be, depending upon whether or not an output filter is employed between the valves and the speaker terminals. If you put the high voltage that goes to your valves through your phones you are liable to damage them. See the article recently published in the "Radio Record" on connecting phones to a loudspeaker.

3. I understand one does not get the full efficiency from valves after 1000 hours' use. Is it detrimental to the set if I use them after this time?

A.: No, providing your valves are still functioning satisfactorily it is not necessary to change them. Probably, however, you would notice an improvement if you did.

F.W.B. (Te Aroha): I have just put two new valves in my set, but both of them show a blue light when the current is turned on. The old ones are not like that.

A.: It appears that the valves are gaseous, and we would advise you to take up the matter with your dealer. Although not harming your set, the valves are not giving the satisfaction they should.

2. Could you tell me the best type of shortwave adapter to fit to my set? Also the price?

A.: The best type is a super-heterodyne, but we do not know the price of such. They have been advertised in the "Record."

SPARK-COIL (Pukemiro Junction): What does the exciting jelly in a dry battery consist of?

A.: Sal-ammoniac mixed with a depolariser in a suitable paste.

2. Is ammonia in the bottom, and why?

A.: It may be used in some batteries, but is not in a standard cell.

3. Is the carbon still good in a discharged dry battery?

A.: Yes, it is not affected by the running down of the battery.

A.M. (Waitomo Caves): If I connected nine Daniels cells in series would I get 9.9 volts? If so, would this be too high to connect to my accumulator?

A.: Yes, it would give you 9.9 volts, and it would not be too high to connect to an accumulator for charging purposes. If, however, you wanted to use the battery direct to your set, you would need to series-parallel the bank so as to break down the voltage and make provision for more current. You would thus get approximately 5 volts.

XYZ (New Plymouth): What height and length makes a good aerial?

A.: For a set such as yours, using a large number of valves, we suggest one as high as possible, say, 40 feet, with a 50 or 60 feet flat top.

2. What would be the ideal aerial for selectivity?

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