



Questions and Answers



D.S. (Market Cross).—Do you consider the enclosed specifications for an eliminator to work from 32 volts d.c. satisfactory?

A.: Yes. As far as we know these units are made up of Edison cells to any voltage, provision being made to parallel the blocks for charging when the voltage required is greater than the mains. They are really wet batteries, and are practically indestructible.

2. Would it supply sufficient for two minus 171 A's in the last stage?

A.: In all probability yes, but it is hard to determine from the amount of data given.

3. What valves with low filament consumption would replace two minus 112 A's, as detector and first audio in an American model receiver.—UXL

EMARF (Oamaru).—Could you give me the constructional details of frame aerial.

A.: They were published in the "R.R." on December 6, 1929.

2. Could I use a short-wave adaptor with a 7-valve a.c. set?—Yes.

Where could I find particulars of such an adaptor?

A.: In the 1930 "R.R. Listeners' Guide."

3. Would you advise building an adaptor or a short-wave set?

A.: A short-wave D.C. set would be the more certain for results.

J.B. (Nelson).—Can I add a stage of r.f. to my 4-valve parallel feed B.D. If so how?

A.: Yes; the 2 r.f. parallel feed B.D. was described fully in the 1929 "Listeners' Guide."

2. What voltage should I apply to the detector first and second audio and r.f.appings on my set?

A.: RF equals 90; Det equals 45; 1st audio equals 135; power equals 150.

3. What bias would I need to apply to these valves?

A.: We cannot state unless we know the valves you are using.

4. Would I need to shield any of the stages and would sheet brass do?

MANY correspondents still ask questions and do not append the coupon. They cannot expect to be given priority over those who do.

A.: The three stages, r.f. and det. should be shielded with sheet iron or aluminium, but brass would do.

5. Would I need to alter the coils?

A.: The specifications are given in the 1929 "Guide." To use two r.f. stages the aerial coil and regenerative remain as they are, and the first r.f. coil is similar to the regenerative without the tickler, providing the same condensers are used.

6. Are the number of turns on the r.f.c. critical?—No.

BUNG (Hamilton): Is a 10-valve s.g. super-het. as powerful as a 10-valve s.g. receiver using an aerial?

A.: No; the former is designed for use with a frame antenna for areas where it is inconvenient to use the outside aerial.

2. Could I add an extra stage of s.g. using one s.g. and three ordinary valve.

or could I put a pentode in the last stage?

A.: You could add a stage of screen grid if you followed out the circuit published in last week's "Radio Record." The pentode could quite easily be placed in the last socket with the auxiliary terminal connected to the highest B+.

3. What is a vario-coupler?

A.: A vario-coupler is defined in the "Listeners' Guide" as "a loose coupler of variometer design having a coil rotating inside another." It is a method of tuning a radio receiver by varying the inductance rather than the inductance and capacity as is the case with the ordinary receiver.

4. What is the cause of the set making a singer or speaker sound as though talking through his or her nose?

A.: If it is only occasional, and your batteries are up to standard, it is distortion due to your locality.

L.C.B. (Nelson): I have built the "R.W. Two," but it is not going very well. I have altered the value of almost everything, and the set will not oscillate.

A.: The failure to get results is caused by the alterations you have made. For instance, you have altered the value of the tuning condenser from .0002 to .0001, and this will quite alter the tuning range of your coils. They were designed to oscillate with the .00035, but you are using .0003, consequently you must add more turns. Your coils will have to be re-designed for a .0001 condenser. If you state the size of former you intend to use throughout, the gauge of wire available, we will design them for you. We strongly advise constructors to adhere to specifications. Failure to obtain results is more often caused by this than by anything else. Altering specifications to suit the correspondent's requirements is a long job, and we do not particularly welcome it.

M.K. (—): I have a Western Volt ammeter reading 0 to 1 volts, 0 to 3 volts, and 0 to 30 volts. I wish to increase its range to 300 volts. What resistance must I use in series?

A.: We need to know the number of ohms per volt. This is usually marked on the meter. However, if you use a universal resistance and calibrated the meter with a known source of supply, you could arrive at the setting by experiment.

SHORTWAVE (Auckland).—Could you supply me with valvebase coil data for the Cossor Melody maker?

A.: Your best plan is to use a .002 m.f.d. fixed condenser in series with the existing variable condenser to reduce their capacities to 00015, and then construct the coils described in the 1930 "Radio Listeners' Guide," page 95. We are returning your 6d., as the only coil data for the Cossor that we have published was the specifications on the standard coil former for one band.

A.G.B. (Wellington).—I enclose a diagram of a crystal and valve with three-valve performance designed to operate from the mains. Is this circuit satisfactory?

A.: Yes, but it will be advisable to use a variable resistance for grid bias. You can use either PMS or 201A. We do not know the other. D.B.I.

BAY (Christchurch).—I am using a new professionally-made three-valve kit set, and can pick up only two stations on phones. Why should I not received other stations?

A.: Your best plan would be to take the receiver back to the dealer who made it and state your case. You should get better results.

2. Which is the better valve combination—1410 detector and two P.410's, or two 415's and one 410?

A.: The second is by far the better; in fact, the first is quite wrong. P.410 is a last-stage valve.

ANGUS (Wanganui).—What are the specifications for coils using three-ganged .00025 tuning condensers?

A.: You have not stated the type of wire you wish to use, but we recommend 72 turns 24 d.s.c. wire on a 2 1/2 in. former.

2. If the screen voltage is higher than the detector voltage fringe howl is bad, otherwise the set is quite satisfactory.

A.: This is a characteristic of the circuit or the valves. So long as you get good results, everything is in order.

3. My aerial is only 20 feet high, and the lead-in runs for twenty feet over the roof. The Australian stations come in at their maximum strength at five o'clock.

A.: It would probably be better if you increased the height of the aerial, so that it cleared the roof, leaving more margin.

PIAKO (Hauraki Plains).—I am not clear about using a 200,000 ohms resistance in series with the plate leads to the eliminator, as I already have an r.f. choke in the same position. Must I have another condenser placed in parallel with the resistance?

A.: Providing the plate voltage can be controlled satisfactorily from the eliminator there is no need for the resistance and by-pass condenser. In any case, using parallel feed there will be little need for a condenser across the resistance.

LEARNER (Lower Hutt).—I have a three-valve all-wave set. Could I add another stage of audio?

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