



Questions and Answers



H.M.B. (Taikorea): The wire is 25 d.c.c.

ENQUIRER (Westport): What number of turns will be necessary on primary, secondary and tickler with a 3in. former to tune the broadcast band with a .0001 condenser. Reaction is from .00025. I shall be using 24 d.c.c. wire.

A.: From 300 to 500 metres you will need 150 turns on the secondary and approximately 50 on each reaction and primary. For the lower coil you will need 60 on the secondary, 25 on the tickler and 20 on the primary.

UX (Whangarei): Could I use a UX240 in place of the UX200A valve in the detector stage of the B.D. r.c.c. coupled amplifier?

A.: No, the valve is of the high resistance type and unsuitable for circuits such as the B.D. It could be used in one of the r.c.c. stages though a modern general purpose would be the safer.

2. After replacing the rectifying valve in my eliminator I find that the voltage has increased. What valve should I replace the one already in use with to decrease the voltage?

A.: It is not a case of using another valve but inserting a resistance in the leads the voltages of which are too high.

V.R.H. (Auckland): I have noticed the appearance of new Radiotron valves 221 and 230. Can you supply the characteristics of these?

A.: The 221 is a general purpose valve drawing .06 amps at 6 volts on the filament. The detector voltage is between 20 and 50, but the maximum is 180 volts applicable in the case of a valve used as an amplifier. The bias voltages range between 4.5 and 10.5. It has an amplification factor of 9 and impedance of 9000 ohms and costs 13/6. This valve has recently been reduced from 20/-. The 230 valve is a general purpose one which works from a dry battery or an air coil. Three volts filament are needed at which tension .06 of an amp. is drawn. The detector voltage is 45 and the maximum 90. The "C" battery is 4.5, amplification factor 8.8, impedance 12,500 and the price 18/-.

2. Could you name for me a cheap book that deals with the relation that the outside circuit has to the valve?

A.: The 1931 "Radio Guide" has quite a great deal to say on this subject, particularly in Chapter 2. You would find further information in "The Magic Carpet," by Ralph Stranger, or No. 10 of Ralph Stranger's Wireless Library.

SCREEN-GRID (Dunedin): I have a four-valve B.D. which I want to alter into s.g. How would I go about it?

A.: The modern B.D. is the "Outspan Five" published about a couple of months ago in the "R.R." You will find there full particulars.

A.H. (Tokomaru Bay): How do the following valves compare with regard to "A" and "B" battery current: The 201A and the 221?

A.: So far as filament current is concerned the 221 is much more economical. It requires only .06 amps. against the .25 required by the 201A. As far as plate current is concerned the 221 is still slightly more economical.

2. I find that by putting two of these new valves in first and second audio stages reception and volume are improved a great deal. I was told, however, that they are much heavier on batteries.

A.: Your information is erroneous, as the statement given in answer to your question shows.

KIT SEIT (Waipukurau):—My valves have completed approximately 1500 hours. Would you advise a removal.

A.: Not unless reception has noticeably fallen off. Do not renew valves until results tell you they should be removed.

2. In view of recent valve improvements would you give me the numbers and makes most suitable for my three-valve battery set?

Blue Prints

In response to many inquiries we have obtained a supply of blue prints for certain "Radio Record" sets, and will continue this feature with future models. At the present these can be supplied for the "Night Hawk" two, the "Sparrow Hawk" one, and the "Ranger" two. For these three receivers the "blue print" is actually a photostat print of approximately the same size as the actual set. The wires print out white on a black background. For these three the price is 1/6 posted in a special protective tube. It is hoped for future sets to be able to offer ordinary blue prints at a slightly reduced sum.

A.: Those supplied cannot be bettered, although they may be some twelve months old there are not any new ones to take their place. The general practice for manufacturers is to improve each valve without altering its name, so that you will probably find that your next set, providing that the valves are new and have not been in stock for a long time, will be better than the original. The valves are improved generally by reducing their "B" battery by consumption, increasing the slope, and diminishing the impedance. If you want 2-volt valves, you could, of course, use the new 230 and 231 type valves.

3. I have a 4-volt accumulator on hand. Would you advise the use of 4-volt valves instead of 2?—Yes, they will probably give you improved results, and seeing they will not cost you any more it will be as well to make the change.

4. I use a horn speaker. Speech is good, but music lacks tone. Could you give me the name and number of a unit and chassis that I could mount on a 5-ply board?

A.: The fact that speech is good and that music lacks tone is not uncommon with horn speakers. A suitable speaker for your set would be the 66R chassis and unit.

5. If I place my finger on the fixed vanes of the volume control condenser the volume increases. Is that in order?

A.: That is due to your bringing the set nearer oscillation, and is quite in

order, providing, of course, there is no other complicating factor.

6. Is the life of "B" battery shortened when two speakers are used?

A.: There is no extra drain on the battery.

R.S.N. (Hastings):—Are any of the longwave stations audible in this country?

A.: While we cannot say for certain, it is most improbable that any of them could be picked up. If any reader receives any of them, we should be glad to hear from him.

2. In which issue of the "R.R." is the article by "Hard Up," describing the Daniell cell?

A.: The first article by "Hard-Up" appeared June 6, and this was followed by a more detailed description in our issue of November 7.

3. I find my set develops a squeal when the plug is inserted in the second audio jack. I put a .002 condenser from the grid terminal of the second transformer to the "C" battery. Is this all right, and will it hurt anything?

A.: Actually you are by-passing the squeal. It certainly will not harm anything, but surely it will weaken your reception slightly and take away much of the high frequency reproduction. Probably the better plan would be to reverse the connections to the primary of the second audio transformer.

Mr. Radio Fan
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LOOK AT THIS LIST—

- The following by Ralph Stranger, 1/8 "Theory of Radio Communication," by Filgate, 12/-.
- each:—
- "Selection of Wireless Signals,"
 - "How to Understand Wireless Diagrams,"
 - "Wireless Waves,"
 - "Wireless Communication Broadcasting,"
 - "Seeing by Wireless" (Television).
 - "Practical Radio Telegraphy," by Nilson and Hornung, 18/-.
 - "Radio Music Merchant" (formerly "Talking Machine World"), monthly, 2/- per copy.
 - "Practical Radio Repairing Hints," by Rider, 12/- (Don't miss it.)
 - "Principles of Radio," by Henney, 21/9.
 - "Modern Sets, 1931," consisting of 2, 3, 4-Valve Battery and A.C. Sets, L-W Ampfr. and Special S-W Set, designed N.Z. conditions, by A. K. Box, 1/8.
 - "Radio Sir," 72 pages—Don't miss this. 8d. posted. Great value.
 - "Practical Radio Construction and Repairing," by Moyer and Westrel, 16/6.
 - "Radio Times" (English weekly), 4d. per copy.
 - "Radio Retailing" (U.S.A.), monthly, 1/6 per copy.
 - "Radio Manual," by Sterling and Kruse, 26/-.
 - "All About the All-Electric," 1/9.
 - "Radio Operating Questions and Answers," by Nilson and Hornung, 14/-.
 - "Radio Amateur Handbook" (Handy's) latest edition, 5/8.
 - "Radio Amateur Call Book," latest quarterly, 5/8 (March, 1931).
 - "Principles of Radio Communication," by Morecroft, 41/6.
 - "Elements of Radio Communication," by Morecroft, 19/-.
 - "Direction Finding," by Keen, 21/-.
 - "Technical Telegraphy: Answers and Solutions," by Roberts and Burrow, 2/8.
 - "Thermionic Vacuum Tubes," by Van der Bijl, 28/-.
 - "Radio Receiving Tubes," by Moyer and Westrel, 14/-.
 - "How Radio Receivers Work," by Roberts, 8/-.
 - "Radio Design," 1/- per copy.
 - "Radio Engineering" (a monthly issue), 21/- per annum.
 - "Projection Engineering" (monthly) 21/- per annum.
 - "N.Z. Radio Guide and Call Book, 1931," 2/10.
 - "1931 N.Z. Radio Handbook," 2/10 posted.
 - 5 and 6-Valve Neutrodyne Blue Prints and instructions with one transformer and 2 resistance coupled audio stages, 1/8.
 - "Batteryless Neutrodyne" Blue Print, etc., 2/9.
 - 2 and 3-Valve Browning-Drake Blue Print and instructions, 1/8.
 - "Selective Crystal Set with 2-stage Audio" Blue Print and instructions, 1/8.
 - "Radio Record" D.X. Forms, 1/8 two des., posted.
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