

last valve should be greater than that on the second last.

MOI WHARE (Feilding): What value condensers should be used for the knife-edge rejector shown in the "Guide"? I want it to work from 300 metres down.

A.: Use one .0005 fixed and one semi-variable.
2. How can I control volume?
A.: By using a 500,000 ohms variable resistance across the aerial and earth.

E.L. (Mount Eden): My factory-built set is not as sensitive as it should be. What is wrong with it?

A.: It appears to be either a defective s.g. valve, or that your condensers are out of alignment. This is quite a common trouble even with good sets. Have a dealer look at your set with a view to trimming up the condensers.

DUFFER (Auckland): Can I use the variable condensers from my Cossor Melody Maker for a "Night Hawk Two"?

A.: Yes, they would be quite satisfactory, but you must make the broadcast coils to suit. See the tables recently published in Q. and A.

2. Would the rheostat be suitable, and what is its value?

A.: It is quite suitable, being about 30 ohms, as far as we know. The choke, too, would be quite satisfactory. It would be better, however, to use a new panel. The transformer would be satisfactory, but you cannot use A425. However, try it.

3. Where can I obtain the coils?

A.: Several dealers make them up.

4. What is the best sized differential condenser?—A.: .0002.

5. Will the Night Hawk Two be better than the two-valve set I am using?

A.: As far as we know, yes.

B.G. (Blenheim): Would 400 yards be too long for the Beverage aerial?—No.

2. Is it necessary to insulate the aerial at each post?—Yes.

3. May it pass under trees, etc., without losing efficiency?

A.: Theoretically it will lose efficiency but when we tried out this aerial it was

a rather rough arrangement which passed through and under the trees. It, however, brought the Americans in much better than an ordinary aerial. It should, however, come directly to the set. Bend will spoil the directional effect. By this we do not mean that it must come in an absolutely straight line, but there should be no big deviations from the course.

4. Would it be a good idea to join copper wire to the steel wire over the last few yards of aerial, in order to make a better connection with the aerial terminal?—Yes.

5. A power valve in the last stage makes no apparent difference to reception. Can you account for this?

A.: It depends on the type of power valve you use and the amount of plate voltage and bias you have available. At the same time, no matter how good a power valve is, if you are using a cheap speaker, it is useless. This you have not told us, and so, of course, we cannot help you.

L.G. (Taupiri) asks a large number of questions for designing details of a set which appeared in an overseas magazine. We cannot undertake, without a specialist's fee, to supply information such as this. It is quite beyond the scope of Q. and A.

ACE (Kakahi): What is the best combination of Philips's valves for my set?

A.: Radio A209, detector A215, audio A209, power B205.

IGNORANT (Glenside): I have constructed the "A" battery charger described in the 1929 "Guide." Can I use a 280 rectifying valve?

A.: No, this type of rectifier is intended solely for low current high voltage rectification. It is not suitable for an "A" battery charger.

2. I would like to build a really powerful set. Which is the best you have already published and are you contemplating still better ones?

A.: The best set we have published is the "Outspan Five." We will probably

Next Week's Issue

will be a

SPECIAL SHORT-WAVE NUMBER

Interesting Articles, Call Signs, S.W. Set, S.W. Topics.

Watch for it.

not be publishing many more sensitive than this because expense and difficulty of constructing increases rapidly, and most people would rather buy a set when it comes to paying out big sums for parts.

KOHI (Auckland): What is a good shortwave set on the market?

A.: We are not in a position to state, having tested only Mack's "Addaphone" and the a.c. "Ultimate." The reports of these have already appeared.

2. Can you publish explanations to the Q signs used in Amateur Radio?

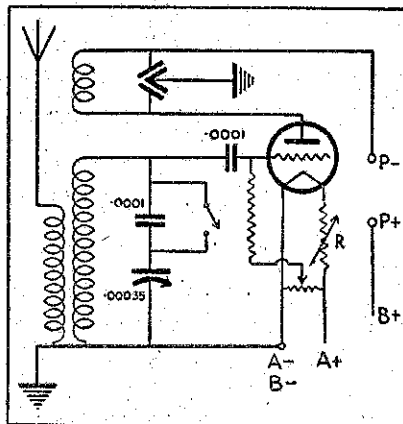
A.: The more common of these were published last week. We shall be repeating them from time to time.

POWERTONE (Dunedin): I intend making valve base coils for the broadcast bands. Would you advise the number of turns?

A.: The number of turns were recently published in a panel in the Q. and A. column.

2. Is a .00035 condenser satisfactory?

A.: Yes, there is no need to remove plates from a .0005 as this also could be used with a suitable number of turns.



When using these on shortwave you must switch a series condenser of small value in the circuit, as shown in the diagram.

ZACK (P.N.): How can I tell if the by-pass condensers in my set are burnt out?

A.: Your batteries will run down very quickly and the set will oscillate or howl.

2. Could you suggest a good four or five-valve all-wave set for use with batteries?

A.: There are several commercial makes available. A circuit of a good all-wave set appeared in last week's "R.R." when we described the Differential Four.

GRID (South Dunedin): We do not know your set, but it is unlikely than an s.g. valve can be added without considerable alteration.

2. Would the "Outspan" give better results, and what could one expect to get with it? What would be the approximate cost of building this set?

A.: The "Outspan" would give better results. You could get all the Australians at good speaker strength, the Japanese, and if you are in a good locality, the Americans. The approximate cost would be £10 without speakers or battery.

Useful Tips

A GOOD stain for darkening baseboards may be made from a solution of permanganate of potash.

IF a cabinet has been scratched badly so as to reveal white wood, careful treatment with a solution of permanganate of potash will often restore the colour, and enable the scratch to be hidden.

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- "Practical Testing Systems," by Rider, 6/3.
- "Worked Examples of Electrical Technology," by Peasgood and Bivland, 18/.
- "Radio Physics Course," by Ghirardi, 14/.
- "Radio News Handbook, 1930," 2/9.
- "How to Electrify Your Set," by Osgood (U.S.A.), 1/9.
- "Radio: A Study in First Principles," by Burns, 11/.
- "Radio Operating Questions and Answers," by Nilson and Hornung, 14/.
- "Radio Amateur Handbook" (Handy's) latest edition, 5/3.
- "Radio Amateur Call Book," latest quarterly, 5/3.
- "Theory of Radio Communication," by Filgate, 12/.
- "Principles of Radio Communication," by Morecroft, 41/6.
- "Elements of Radio Communication," by Morecroft, 10/.
- "Direction Finding," by Keen, 27/.
- "Technical Telegraphy: Answers and Solutions," by Roberts and Burrow, 3/8.
- "Collins's Wireless Diary, 1931," 4/.
- "Thermionic Vacuum Tubes," by Van der Bijl, 26/.
- "Radio Receiving Tubes," by Moyer and Wostrel, 14/.
- "How Radio Receivers Work," by Roberts, 8/.
- "Radio Design," 1/- per copy.
- "Radio Engineering" (a monthly issue), 21/- per annum.
- "Projection Engineering" (monthly) 2/- per annum.
- "Radio Citizen's Call Book," latest quarterly, January, 1931. 2/9.
- "N.Z. Radio Guide and Call Book, 1931," 2/10.
- "1931 N.Z. Radio Handbook," 2/10 posted.
- 6-Valve Neutrodyne Blue Prints and instructions with one transformer and 2 resistance coupled audio stages, 1/8.
- 5-Valve Neutrodyne Receiver Blue Prints and full instructions, 1/8.
- 7-Valve Super-heterodyne Receiver Blue Print and instructions, 1/8.
- 5-Valve Brownie-Drake Blue Print and instructions, 1/8.
- 3-Valve Brownie-Drake Blue Print and instructions, 1/8.
- "Seeing by Wireless" (Television), by Ralph Stranger, 1/8.
- "Selective Crystal Set with 2-stage Audio" Blue Print and instructions, 1/8.
- 10ft. Outboard Speedster Blue Print and instructions, 1/8.
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- LOFTIN-WHITE AMPLIFIERS** Stewart Hardware Ltd.,
Courtenay Place, Wellington.
- MAJESTIC RADIO RECEIVERS** Kirkcaldie & Stains,
Wellington Agents, Lambton Quay.
- MULLARD VALVES** All Radio Dealers.
- N.Z. DISTRIBUTORS PILOT PARTS AND RECEIVERS,** Harrington's, N.Z., Ltd.,
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