

Questions and Answers

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pared to bank wind about 400 turns on to the former, you will not be far out with the condenser you specify.

2. What will be the point of attachment for coupling the oscillator to a receiver to be tested?

A.: Couple to the aerial terminal or any grid circuit on high frequency, and to grid circuits on intermediate frequencies.

J.G.S. (Christchurch).—I enclose a diagram of my "B" eliminator. What is the correct value for the voltage divider?

A.: The value of 20,000 ohms, which you are using at present is quite O.K.; but regulation will possibly be improved by reducing the value to, say, 15,000 ohms.

2. The eliminator delivers only 14 mls. Would my choke be the cause of this low output?

A.: No. You will, however, find that if you replace the 2 mfd. fixed condenser before the choke with a 4 mfd., a slight increase in output will result. The small output obtained may be due to a poor rectifying valve, which should be of the 280 type. Have the rectifier tested.

3. It makes no difference whether the earth is connected or not to the set, even on weak signals. Why is this?

A.: Electric receivers generally work just about as well with no earth connection, as the set is actually earthed through the capacity between the secondary and primary of the power transformer. Incidentally, in connection with your eliminator, we would suggest the addition of 2 mfd. condensers between the 50 and 100 voltsappings on the voltage divider and "B".

A.T.H. (Khandallah).—Could you tell me where I could obtain a good circuit for an all-electric one-valve crystal amplifier?

A.: A one-valve would not be powerful enough, while a two would not cost much more. A suitable circuit was published in the "All About the All-Electric." As 22W has commenced transmissions since this booklet was published, however, you will need to modify the crystal circuit, making it more selective. This could be easily accomplished by adopting the circuit of the "Rejecta Two" crystal set described several months ago in the "R.R." However, we think your best proposition would be the "Direct-Coupled Two," a simple and cheap local station receiver

which will give high quality results. This will be described shortly.

W.R.K. (Pahiatua).—My commercial five-valve neutrodyne works quite well on medium volume, but immediately it is switched to loud the programme is drowned out by a loud, roaring sound.

A.: More than probably a faulty audio transformer. We would suggest that you have the one in the second stage tested, as it sounds as though the primary is faulty.

DX4500 (Dunedin).—What value fixed condenser do I need to reduce (a) .0005 to .000125; (b) .00035 to .00015?

A.: About .00015 and .00025 mfd. 2. I enclose a circuit of my home-built "B" eliminator. Where is the best place to put a 12 mfd. electrolytic condenser? Will it reduce the hum I now get?

A.: Substituting this condenser for either "C2" or "C3" in your sketch will probably reduce the hum. Also, if "B1" 45 volts operates the detector valve, put a 2 or 4 mfd. in place of the 1 mfd. If the hum still persists, connect .1 mfd. condensers of at least 1000 volts test between the ends of the secondary and centre tap of same.

"SPARKS" (Carterton).—Could you give me the number of turns for primary, secondary and reaction, on Colvern formers to tune between 20-85 metres? Tuning condenser is .0001 mfd. double-spaced, and the reaction .0002 differential.

A.: 80-metre band; pri. 6, sec. 25, react. 12.

40-metre band; pri. 6, sec. 15, react. 12.

20-metre band; pri. 2, sec. 5, react 4. 20 or 22-gauge wire will be suitable for primary and secondary, and 28 or 30 for reaction, either silk or cotton covered. When winding the coils, space the aerial and secondary windings in every other groove on the Colvern formers.

"SUNLIGHT" (Stratford).—Which is the more powerful—the "Super Six" or the "Cathode" super-het?

A.: The latter easily, as it has one more valve, is a.c., and is intended for operation on an outdoor aerial.

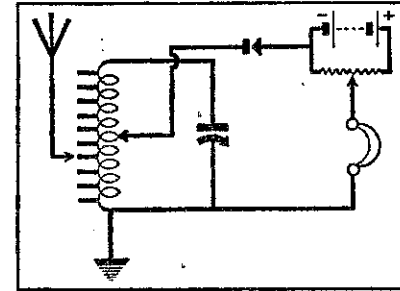
2. Which is the easier to build?

A.: The "Super Six"; the construction of the "Cathode" super should not be attempted except by the more advanced amateurs.

[N.B.—We cannot make the comparison you ask for.]

W.J.W. (Birkenhead): "To get the maximum amount of power from a crystal set, both the aerial and the crystal should be tapped into the tuned circuit." ("Radio Record," January 8, page 27, "Tips and Jottings.") What is meant by this?

A.: If, instead of taking the aerial and crystal to the top of the coil they are tapped part of the way down the latter, as shown in the accompanying circuit diagram, volume and selectivity will be



noticeably improved. For example, if an 80-turn coil is tapped every ten turns, it will be found that reception is best when the crystal is tapped down approximately half-way, and the aerial a little below that.

2. How is a battery and potentiometer used with a carborundum type semi-permanent detector?

A.: See the accompanying circuit.

M.U.I. (Mamakau).—My five-valve commercial set is very hard on "A" current. Should I replace my valves with 221's and a B605?

A.: These would be quite suitable, and also much more economical on "A" current.

2. Would the B605 work satisfactorily with 90 volts "B" or would it require 185?

A.: Reproduction will be fairly satisfactory using 90 volts "B" and 9 volts bias, but you would notice a distinct improvement when using 185.

3. How many Daniells Cells would be required to keep the "A" battery fully charged?

A.: Not less than six.

CONSTANT READER (Seatoun):

The 23 plate midget condenser will have a capacity of .0001 mfd. and the 13 plate .00005. We would suggest 20-24 turns on reaction. Reception will be slightly weaker with the smaller condenser.

R.E.C. (Raetihi): Which shortwave set would you advise a beginner to build?

A.: The "Night Owl Three," which was described in the "R.R." issue dated Nov. 13, 1931. The "Kestrel Three" was described in the issues dated July 24 and 31, 1931.

2. Would the trees in the accompanying diagram interfere with reception?

A.: Not to any appreciable extent.

E.M.T. (Murchison): I wish to replace the valves in my five-valve commercial set. What would be the best types?

A.: In r.f., detector, and 1st audio stages use type 221. Power valve may be of type B605.

Our Mailbag

(Continued from page 6.)

trouble if they are going to be ruled by a few "narrow brows" (sometimes mis-called "high brows"), who want rudeness in announcing and dry programmes.

(4) The lack of more humorous combinations like minstrels, pierrots, savage clubs, optimists is going to create

dissatisfaction. We want vaudeville groups.

(5) Too many violins make an orchestra sound asthmatic. More drums, etc., needed.

(6) The B.B.C. can be turned off and the Continental stations used. We cannot do that. B.B.C. ideas too stiff and costly and dry. They should be ignored.

(7) The idea of a combined march of radio owners to the Minister with banners demanding more humorous items and less classical, and songs about the moon and stars and birds and trees, etc., may be considered later.

(8) 2YA Orchestra's too wheezy owing to too much violin and too little drum, cornet, etc.

(9) Plays short and humorous wanted. Long plays no good unless can attend whole time. Oftentimes badly acted.

(10) New Zealand talent splendid. Far better than much that is heard in records.

(11) This does not refer to those singers of dismal stuff and "Hark, Hark, the Lark."

(12) What has happened to that prince of comedians—Bill Bishop?

(13) Candid criticism by "Radio Record" much appreciated. Pity paper so poor. Matter splendid.

(14) What says the board about starting so late as 10 o'clock? A start at 7 a.m. is demanded.

(15) The Radio Board should not pay big sums to any artist. General payment to pierrot, troupes, etc., desired. Classical artists should not get good money for boring us stiff.—J. Thompson (Pahiatua).

Early Session Desired.

I WOULD like to express my views concerning the hours of the Radio Board's stations. I think it high time we followed the policy of other countries and commenced a broadcast at 7 a.m. I would not ask for more than recorded music—something bright to start the day with for preference. In winter time I am lucky enough to receive Sydney, but nowadays when I twirl the dial (always hoping) I switch off and meditate over the listeners' £85,000 supplied yearly. To-day (Sunday) the YA stations open at 3 p.m., when the day is almost done, and if it were not for 2ZW and 2ZO (who are splendid), the man on his only day at home would be forced to look at his beautiful piece of furniture (the radio cabinet) and imagine the rest. No, sir, the service is not good enough, and I sincerely hope that per medium of

Information Coupon

(To be used with all requests for information.)

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.

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