

2: I have only four turns on the tickler coil for the 80-metre band, and I still cannot control oscillation. The other coils behave remarkably well.

A.: If you are using tin for shielding this may be the cause. Try aluminium or copper shields, and shield the coils and the screen grid valve separately. Also, try reducing B voltage.

"HAMRAD" (Auckland): What is the size of the variable condenser used in the wave-trap described in a recent issue?—0.005 mfd.

372 (Wellington): My set is difficult to control, and goes into oscillation abruptly.

A.: You appear to have tried all the usual remedies. Try taking the grid leak to A+ instead of having it in parallel with the grid condenser.

"DYNAMO" (Awararino): Enclosed is a plan of my all-wave set. I am troubled with a whistle when using the audio stages.

A.: Your lay-out is a poor one and the whole set should be re-designed.

2: On short-wave I can only receive morse.

A.: An article on short-wave tuning was published recently. This is a much more delicate business than on the broadcast band. Also, it appears, as you are receiving only morse, that your set is oscillating.

3: What stations should I be capable of receiving at speaker strength? I can receive only 2YA.

A.: With an efficient aerial and earth system, the New Zealand "A" class stations, and some of the more powerful Australians.

4: How can I improve my set?

A.: Re-design and re-build it.

5: Would it be an improvement to have more than 90 volts on the plate?—Yes; try 135.

D. B. (Dunedin): Would the chemical rectifier described in the issue dated January 29 for a transmitter be suitable for a receiver?—Yes.

2: Is the solution made up of ordinary borax?—Yes.

3: Is it necessary to use distilled water in mixing it?

A.: Yes, or you could use rain water.

4: Are the condensers used on motor ignition systems suitable for use in radio sets?

A.: Yes. They have a capacity of about 2 mfd.

"INQUISITIVE" (Motueka): Should I receive 2YA on the phones using the "Differential One"?

A.: Yes, quite easily.

2: What would be the approximate cost of the "One" and the "Two"?

A.: The "One" about £3/10/- The "Two" about £5.

3: Where could I obtain some old five-pronged valves for the coils?

A.: Any city dealer would probably supply you.

J. H. G. (Hawke's Bay): I am not too clear on how to connect up the rheostat in the "Differential One."

A.: You mount a 30-ohm rheostat on the panel, as shown in the photo graph. Leave out the amperite and connect the wires that should have gone to the amperite one on either side of the rheostat, that is to say, one side of the rheostat connects with the switch and the other side with A+ or the valve holder.

2: In your diagram, A+ is connected with the switch and B+ and B- together. Is this right?

A.: Yes, it is quite usual for small sets to be designed like this.

3: What value should the rheostat be?—30 ohms.

4: Could I get Wellington on this set 12 miles north of Dannevirke?

A.: On the phones, yes.

"WIRE" (Wellington). I have two .0003 variable condensers with 17

A.: It is suitable, but rather too long.

4: How long should my "A" and "B" batteries last on a one-valve set, using it two hours a day?

A.: "A" batteries, four or five months; "B" batteries, ten to twelve months.

3: What Australian stations should I get at this time of the year?

A.: At least 2FC and 2BL, and probably 3LO and 4QG, as well as some of the smaller stations.

"TUNGA" (Wanganui): Could I use a tungar bulb to use a "B" charger?—Yes.

2: What filament voltage would it use?—2½ volts.

3: How many electric light bulbs would I need to connect to charge 120 volts of accumulator?

A.: You must use a transformer or you will be falling foul of the regulations.

4: Could I use a wet rectifier and light bulbs as resistances?

A.: Only if a transformer is used first.

"TEMP" (Chch.): I have completed a Loftin-White amplifier. With a coil and condenser across the input it gives excellent reproduction of the local stations. Before I used the amplifier continually I would like your opinion on the following points:—

1: The insulation between the rectifier filament winding and the secondary winding has broken down, so, having two spare 2½-volt windings on the transformer, I joined these to give me a five-volt centre tap winding to use for the rectifier filament. Will the winding, being on the outside, affect the efficiency and will the faulty winding be O.K. if left dead?

A.: The rectifier, being outside, will be quite O.K. The faulty winding, providing it is not short-circuiting, will not take harm.

2: Can I put two more filament windings on top of the present rectifier filament without introducing complications?—Yes.

3: The main chain of resistances, especially the 5,500 ohms wire wound one, warms up slightly.

A.: This is quite usual.

4: The 245 and 280 valves get hot. Is this due to heavy filament current or high plate voltage?

A.: To both. It is quite in order.

"TUFF" (Kuro): How can the capacity of a variable condenser be determined?

A.: From a table given in last year's "Radio Guide."

2: I have two condensers in a short-wave adapter and would like to know if they would be suitable for use in the "Differential One."

A.: Yes, if they are of the correct capacity.

3: When using my short-wave adapter it will oscillate only with defective valves.

A.: Try varying the plate voltage and the number of turns on the tickler.

4: What is the address of ZLABS?

A.: We do not know. Perhaps some reader will assist.

R. T. D. (Auckland): My nine-valve commercial set has been out of order for some months. The agent has fixed it several times, but a few days later it goes wrong again. The

RADIO DIRECTORY

What to Buy and Where

CITIES

ACE and HAMMARLUND SETS,	Johns, Ltd.
WESTINGHOUSE Rectifiers	Chancery Street, Auckland.
BROWNING DRAKE SPECIALISTS	F. J. W. Fear & Co. 63 Willis Street, Wellington.
BURGESS RADIO BATTERIES,	All Radio Dealers.
KING RADIO RECEIVERS	F. J. W. Fear & Co., 63 Willis Street, Wellington.
LOFTIN-WHITE AMPLIFIERS	Stewart Hardware Ltd., Courtenay Place, Wellington.
MAJESTIC RADIO RECEIVERS	Kirkcaldie & Stains, Wellington Agents, Lambton Quay.
MULLARD VALVES	All Radio Dealers.
PILOT 1930 PARTS—PILOT SUPER WASP KITS, GILFILLAN, KELLOGG and AT-WATER KENT SETS	Harrington's, N.Z., Ltd., 138-140 Queen St., Auckland. 40-42 Willis St., Wellington.
RADIOLA RECEIVERS and Expert Radiola Service.	Farmers' Trading Co., Ltd., Hobson Street Auckland.
STEINITE RADIO	G. G. Macquarrie, Ltd., 120 Willis St., Wellington.

COUNTRY TOWNS

MAJESTIC	Radio House, Hamilton. G. S. Anchor, Manager.
PHILIPS VALVES AND APPARATUS	All Good Radio Dealers.



MARION IRVING,
a well-known 1YA elocutionist.
—S. P. Andrew, photo.

plates in each. How many plates will I have to take out of each to make a .00025 and a .00014?

A.: Reduce the first to thirteen plates and the second to eight. In the latter take out each alternate plate.

2: Could you give me the size of coils to match these condensers?

A.: A table will be published next week.

3: What is the valve combination used in the 5-valve B.D.?

A.: Two 112A type valves, r.f., 615 type special detector, a 112A type first audio, and a 171 or 605 type, second audio.

"WIRELESS" (Invercargill): There are 25 turns upon my primary and I have taken tappings out of every five. The set will not work from the taps, so I use only ten turns. Why?

A.: It appears that there is a broken connection somewhere.

2: Is a choke necessary in the single valve set described in the 1930 "Guide"?

A.: It is preferable to use one.

3: For my earth, which is about 80ft. away, I use an ordinary cold water tap. Is this suitable?