

A.: You should not use power valves in both audio stages. By not suitably biasing PM4 you are placing a heavy drain upon it, and this causes it to heat.

6. What ampere load will a Columbia 4486 battery stand?

A.: About 20 mas.

BONSPEO (C. Otago): I have adapted my receiver to use pushpull in the last stage, but it now goes into oscillation with a loud grunting noise when previously it slipped in and out quite easily.

A.: Try reversing the connections to the primary of the audio transformer, and experiment with voltages on the detector. You might try double biasing the power valves.

A. B.C. (Timaru): Will an earth wire connected to a water main cause the set to pick up interference from other sets which are also connected to the main?

A.: It is possible that such will happen.

2. As an earth I have an electric power cable connected to a buried motor-car radiator. The earth wire passes close to a water main and could easily be tapped to same. Would it be advantageous to do so?

A.: The experiment would be worth trying. Normally it would be better to do so, but if you are likely to be troubled with interference, no.

RATS (Hastings): Could you give me the number of turns and gauge of wire for the voice coil of the dynamic speaker?

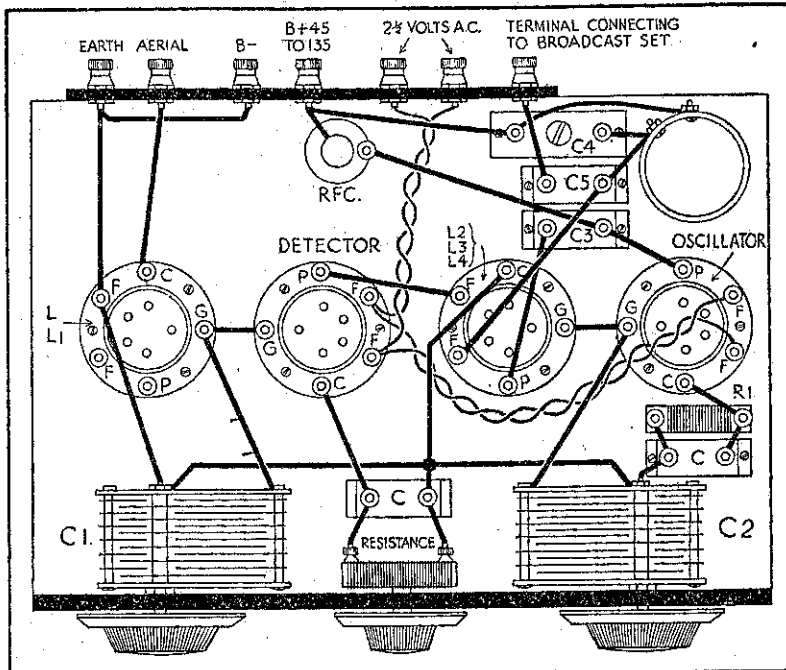
A.: Published this week is a complete table that should assist you.

H. F.E. (Wainoni): I am troubled with interference, apparently from leaky tramlines. What can I do?

A.: You must consult the District Radio Inspector. If more than you are troubled have them sign a petition. If any difficulty is encountered, communicate with us again.

CURIOUS (Te Aroha):—Would another make of valve give me better results than the ones in my set? They are the same as the make of the set.

A.: Probably not. It is always wise to use the valves specified by the manufacturers. The ones you are using are first grade.



Several correspondents have requested a layout diagram for the a.c. super-het. s.w. adapter. A suitable layout is shown above.

A.: It is not essential but preferable.
3. Can raw a.c. current be used upon the filaments of the pentode?—Yes.

HOPELESS (Wellington):—My horn speaker has developed a loud crackling noise when loaded with a strong signal.

A.: This is due probably to your speaker being about done.

2. Which is the better earth, a water-pipe 3/4 in. in diameter, 8 ft. long, or one 1 in. wide and 6 ft. long?

A.: There is very little difference, certainly none worth bothering about, although theoretically, the latter is the better.

3. How many distant stations have been received in Wellington city on a three-valve set?

A.: We don't know. Perhaps some ardent DXer seeing this will take the matter to heart and let you know.

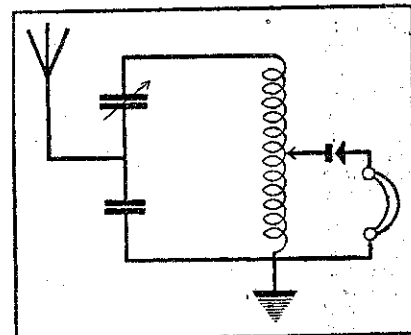
Advertising by Radio

AN American business man recently tested the results to be obtained from advertising over the air and through the medium of the Press. He invested 4000 dollars in each. For half-an-hour's advertising over the air on Saturday evening the results were sixteen replies and two telegraphic communications. The advertisements in the leading journals of New York, Chicago, Philadelphia, Boston, and Cleveland drew a quarter of a million inquiries.

The "Knife-Edge" Crystal Set

A CORRESPONDENT, signing himself "Light, Christchurch," sends in an adaptation of the "Knife Edge Receptor" which was described in the 1931 "Radio Guide." This very efficient and popular wavetrap has been converted into an equally efficient crystal set, the circuit of which is shown herewith.

He states that it is very sensitive and selective. He is living in Christchurch, and both 3Z0 and 3YA can be tuned out in favour of the other. It is being used transformer coupled to a Loftin-White r.f. choke between the transformer secondary and the grid of the screen-grid valve



and the set. With this and one or two other precautions it works splendidly, with plenty of volume, and is "clear as a bell."

Simplify DX-ing.

DX CLOCK 9d.
DX VERIFICATION FORMS—
1/6 for 2 doz.; 8d. doz. over 6 doz.
Booksellers, Dealers, or Box 1032,
Wellington.

RADIO DIRECTORY

What to Buy and Where

CITIES.

ACE & HAMMARLUND SETS, Johns, Ltd.
WESTINGHOUSE Rectifiers Chancery Street, Auckland.

BURGESS RADIO BATTERIES, All Radio Dealers.

LOFTIN-WHITE AMPLIFIERS **Stewart Hardware Ltd.,**
Courtenay Place, Wellington.

MULLARD VALVES **All Radio Dealers.**

N.Z. DISTRIBUTORS PILOT **Harrington's, N.Z., Ltd.**
PARTS AND RECEIVERS, 40-42 Willis St., Wellington.
INCLUDING PILOT SUPER-WASP AND 142 Queen St., Auckland.
GILFILLAN ELECTRIC RECEIVERS

RADIOLA RECEIVERS and **Farmers' Trading Co., Ltd.,**
Expert Radiola Service Hobson Street, Auckland.

STEINITE RADIO **G. G. Macquarrie, Ltd.,**
120 Willis St., Wellington.

COUNTRY TOWNS.

PHILIPS VALVES AND
APPARATUS **All Good Radio Dealers.**

Table of Wire for Field Coil of M.C. Speakers

Volts (d.c.)	S.w.g. Gauge.	Lbs.	Layers.	Turns.	Resistance Ohms.	Current.
6	18 d.c.c.	4 1/2	15	1,000	2.9	2.1 amps
12	20 d.c.c.	4 1/4	20	1,700	8.4	1.4 amps
120	34 enamelled	3 1/2	67	19,000	1500.	67. m.a.
230	38 enamelled	3	92	37,000	6500.	30. m.a.

NEW READER (Newtown):—Is the above circuit of a Trinadyne correct? It gives me rather too much volume on 66P speaker.

A.: Yes, it appears to be correct. If you are getting such good results, why wonder if there is anything wrong?

EMI-DLL (Dunedin):—I have constructed a crystal and two-valve amplifier in the 1931 "Guide," but cannot get satisfactory results. There is a very loud crackling in the phones.

A.: This no doubt is a defective component. Either a transformer or your phones. It may possibly be a resistance. Have these components tested.

T.F.B. (Roslyn):—I propose to install a pentode valve in the last socket of a two-valve all-wave combination. Will it be satisfactory?

A.: It should be, but read the comments made by Mr. Dawson in our paper a few weeks ago.

2. Is an output filter a necessity?

Canadian Broadcasting

In the Melting Pot

SEVERAL Canadian provinces have united with Quebec to contest the Dominion Government's jurisdiction in radio matters. They claim that broadcasting is an "instrument of education," and point to the British North America Act, which is said to constitute education the exclusive business of the provinces. In the meantime, there is a Radio Bill before the Canadian Parliament, which will add 25 cents to listeners' fees, and will make them take out two licenses each—one from the Federal, and one from the Provincial, Government.