RADIO DIRECTORY

What to Buy and Where

CITIES

AERIAL MASTS	Domestic Radio Co., Ltd., 300 Queen Street, Auckland.
ALTONA & HAMMARLUND-ROBERTS SETS.	Johns, Ltd. Chancery Street, Auckland.
AMPLION LOUDSPEAKERS	All Radio Dealers.
BURGESS RADIO BATTERIES,	All Radio Dealers.
CROSLEY RADIO RECEIVERS	G. G. Macquarrie, Ltd., 120 Willis Street, Wellington.
CROSLEY RADIO	Abel, Smeeton, Ltd. Rep.: G. MOSES. James Street, Whangarei.
CROSLEY RADIO	Abel, Smeeton, Ltd., 27-29 Customs St. E., Auckland.
EMMCO RADIO PRODUCTS	Johns, Ltd., Chancery St., Auckland.
EMMCO RADIO PRODUCTS	Thos. Ballinger & Co., Ltd., Victoria St., Wellington.
EMMCO RADIO PRODUCTS	L. B. Scott. Ltd., Worcester St., Christchurch.
KING RADIO RECEIVERS	F. J. W. Fear & Co., 63 Willis Street, Wellington.
LISSEN RADIO PARTS AND KITS	All Radio Dealers.
LOUDSPEAKER AND TRANSFORMER REPAIRS	A. E. Strange, 404 Worcester Street, Christchurch.
MAJESTIC RADIO RECEIVERS	Kirkcaldie & Stains, Chief Wellington Agents, Lambton Quay.
MULLARD VALVES	All Radio Dealers.
PILOT 1930 PARTS AND KITS, ETC.	Abel, Smeeton, Ltd., 27-29 Customs Street East, Auckland.
PILOT 1930 PARTS—PILOT SUPER WASP KITS, GILFILLAN, KELLOGG and ATWATER 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.
RADIO REPAIRS AND SERVICE	E. G. Shipley, 185 Manchester Street, Christchurch.

COUNTRY TOWNS

CROSLEY RADIO	J. C. Davidson, Main Street, Pahiatua.
CROSLEY SETS	Abel, Smeeton, Ltd. Rep.: C. Buscoe. 403 Devon Street, New Plymouth.
CROSLEY RADIO	D. A. Morrison & Co., Victoria Avenue. Wanganui.
MAJESTIC ELECTRIC RADIO	Berryman's, The Home of Music, Palmerston North.
MAJESTIC, ATWATER-KENT AND RADIOLA ELECTRIC SETS	Radio House, Hamilton. G. S. Anchor. Manager.
PHILIPS VALVES AND APPARATUS	All Good Radio Dealers.

About the All Electric," page 65, for the valves in this class.) If you intend to buy a semi-power valve which will certainly give better results than the general purpose A.409 you might just as well purchase the resistances (grid leaks) and condenser for the extra stage. The resistances in the plate circuit should be 100,000 ohms, and in the grid circuit half to one megohm. The by-pass condenser should have a capacity of about .1mfd.

2. Do you agree with the statement that after about three months' use a power-valve is equal only to a general purpose valve?

A.: Certainly not. The life of a general purpose valve during which time it functions as a power-valve is equal to that of an ordinary valve, roughly 1000 hours.

3. Would an eliminator delivering 8 to 10 milliamps at 100 volts be sufficient? Would one delivering 15 milliamps at 135 volts be better?

A.: The latter would be the better; the first would be almost unsatisfactory. Very good quality cannot be obtained with much less than 150 volts.

Screen Grid Detector Two.

COULD you supply details regarding the screen grid detector two described in your paper of November 1?

A.: As was stated at the time, this was merely a reprint from another magazine for the sake of experimenters, and as we have not built the receiver ourselves, we cannot give any details. They will be found in "Popular Radio and Aviation" of May 1, 1929. Perhaps some reader can lend you a copy as it is now out of print. A short time back Mr. G. Patchett (264 Rintoul Street Wellington) offered a copy to any reader receiving same.

2: I have a .0005 condenser. Could this be used instead of one of the others specified?

A.: The capacity will have to be reduced by means of a series fixed condenser of .0005 mfds. to .00025.

ANOTHER correspondent, H.L.M. (Whangarei), has asked a similar question and he is referred to the above answer.

Pentode's Crystal and Valve.

WOULD you supply information on the following points, concerning this receiver, asks "Carborundum" (Wellington):—

1. Could 34 gauge D.C.C. be used for the tickler instead of 28 gauge?

A.: Yes, use approximately the same number of turns.

2. What voltage should be used for "A" and "B" batteries?

A.: The "A" battery depends on the valve used. A four volt valve is the best proposition. This will require three dry cells with a resistance to break the voltage down to four. The "B" battery should be as high as possible, preferably two or even three blocks of 45 volts each.

3. Could a number of 4½ volts flashlight batteries be coupled in series to make a "B" battery?

A.: They could, but this is not recommended owing to the large number of connections necessary. The battery would be very expensive.

4. What valve is recommended and what voltage?

A.: Use a 4-volt general purpose valve.

5. Would a switch to cut out the "A" and "B" batteries at the point of entry be an advantage?

A.: The rheostat is all that is necessary.

"A" Battery Short-circuited.

MY "A" battery is running down in about a week and I have traced out all the wiring and can't find a short circuit. All stations are very weak. "Puzzled" (Epsom).

A.: Despite the fact that the wiring has been checked we still suspect a short circuit. It may be in the valve socket and such that the two filament prongs are connecting. Look for such a fault as A— and A+ both connected to earth or B—, or it seems that the short circuit is taking place in an unusual manner. If it cannot be located, take the set to a radio specialist, who can easily check the circuit with a meter.

Amplifier Problems.

WHICH of Philips' 6-volt valves would you recommend me to use in the amplifier and detector stages or four-valve Browning-Drake? "V.L.C." (North Otago).

A.: It is not stated whether the combination is A.C. or D.C. For A.C., E415 detector and first audio; C603, power-valve. For D.C. detector A415, first audio A409, power-valve B405.

2. In the first stage of the amplifier describing "All About the All-Electric," would E424 be a suitable valve in place of 227?—Yes.

3. I have provided a variable resistance in conjunction with the 1 mfd. condenser. Instead of earthing the grid returns could I take them to suitable C- tappings with advantage?

A.: If the centre tap across the filaments is earthed the grid return can be taken to a suitable grid-bias tapping and the condenser and resistance omitted. If the condenser and resistance are to be used grid-bias is automatically provided. In the diagram submitted resistance 0-10,000 ohms are used as grid resisters, but these are too high, they will not pass the current taken by the plates of the valves; 0-3000 ohms will be ample. When two 171 are used in push-pull the correct resistance is 1250 ohms.

Linen Diaphragm Speaker.

I HAVE found, writes "Tank" (King Country), that speech on my linen diaphragm speaker is very unnatural; music seems all right.

A.: There is probably a tension on the unit. Have the reed extended by means of a thread and coupling. If you cannot get this done locally, Fear and Co., Wellington, can do it for you.

Generator Disturbs Reception.

I have tried to work a five-valve battery set where there is a 220 voltage generator used for lighting, etc., but am troubled with interference.

A.: The trouble can be lessened by the use of by-pass condensers. (See our article, "Noises and Their Elimination," Vol. 3, Nos. 9 and 10.)

A.C. Browning-Drake.

IS the A.C. Browning-Drake worth making up? asks "R.F." (Te Kuiti). You state it is unselected.

A.: The A.C. Browning-Drake is an excellent set, especially the four-valve model described in the "All About the All-Electric." Like all four-valve receivers it is unselective, but in the country this is not a disadvantage.

2. Could you refer me to the "Radio Record" containing information concerning this receiver?

A.: It has been very fully dealt with in "All About the All-Electric," which publication every constructor of A.C. Browning-Drakes should own.

3. What will be the capacities of two condensers, one 25 plates and the other 15?

A.: If the plates are small the capacities will probably be .00035 and .00015, (or .0002); if they are large, .0005 and .00025.

FOR short-wave reception the grid-leak value is quite critical, the best resistance generally being somewhere between four and eight megohms.

CHARGING and discharging of an accumulator should only be done within the limit or rates laid down by its maker.

NO accumulator should be allowed to stand discharged or partly discharged, for long periods, or sulphation is sure to set in.