

be bringing out a very powerful a.c. super Det., and you should find this of interest.

2. I am building the power pack described in the "Guide." Will this run an a.c. set?

A.: It will run the average set with six or seven valves.

S.B. (Taramaki): Questions such as yours have been answered many times in the "Radio Record." A fairly complete table was published in our issue dated April 2.

DX14 (Pahiatua): Is it permissible for a licensed electrical wireman to service an all-electric set without first passing the radiotricians' examination which has been recently inaugurated?—Yes.

OWL (Greymouth): Could I utilise a .00025 variable condenser in a crystal set? If so, what will be the coil specifications?

A.: On a 3in. former you will require about 62 turns of 26 d.s.c. wire, and bring your aerial in at about the 20th turn.

ARRESTER (Newtown): Both of your sketches are correct, though theoretically "B" would be the better. There is really no difference, however, in the results obtained, and in the measure of safety involved.

W.J.W. (Auckland): Your set is very unselective, and we think there is probably something wrong with it. We do not know anything about the set itself, and we would advise you to get in touch with the agent who sold it to you and ask him if that is usual with that type of set. To improve the selectivity it would be necessary to use extra tuned circuit, comprising a coil and condenser, something like a wavetrap, and you would have to operate the dial of this in conjunction with the dial of your own set.

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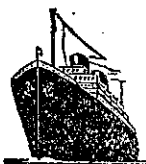
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FOXY (Hokitika): In replacing the valves in your a.c. set use the same type as you take out. Be sure, however, that you use a well-known make.

2. I have a small crystal set and cannot pick up the two Greymouth "B" stations, which are about 25 miles away.

A.: 25 miles is the limit of a crystal for a station such as 2YA. You are beyond the service area of two small stations such as those to which you refer.

3. Occasionally I see in the "R.R." where someone has logged a fairly large number of stations on a crystal set. Is this true? Do they have to use valves?

A.: We hope it is true. Reception of many stations on a crystal set is really dependent upon many things, not the least of which is the location of the set itself and the particular crystal used. It is impossible to forecast anything but the reception of the local station when connected between the plate and "B+."

Forecasts for Sheepfarmers

SPECIAL weather forecasts, prepared by the Meteorological Office for the benefit of sheep farmers who are busy with shearing, are broadcast daily from 2YA at 3.30 p.m.

structing crystal sets, as they are designed for that only. Sometimes a crystal and valve can be employed to receive distant stations.

PORTABLE (Gisborne): What resistance would I need to drop the voltage from 8 to 2 if .3 amps were passing?—3 ohms.

Thank you for telling us of your results from following our advice. We were very interested indeed to know that you got better results through shifting your aerial.

C.W.W. (Auckland): I have built the "Outspan Five" and am more than pleased with its performance. I wish to use a power detector, but as soon as I increase the plate voltage it starts to motor-boat.

A.: If you cannot overcome the motor-boating by any other means, use an anti-motor-boating device such as has been illustrated in our columns from time to time. This question of motor-boating has been dealt with very fully in "Questions and Answers in Radio," a booklet which will be available next week.

2. I wish to insert a jack to use a pick-up and a s.w. adapter, and would like to know where to put them for best results.

A.: Connect the pick-up between the grid and the grid-return of your detector valve. A shortwave adapter is better

connected between the plate and "B+."

WATTS (Nelson): In calculating the voltage of a transformer secondary, with 300 volts on either side of a centre tap, is the wattage 30 or 60 when 100 mls. are drawn?

A.: You always consider the voltage that is actually being delivered. After having passed the rectifier, plus any drop in the rectifier itself. Although actually there is a potential of 600 volts, yet you are supplying only 300, or if you like to consider that you are supplying the full 600, then only half the load is being supplied. In your case you are using 30 watts only.

2. Can you tell me the approximate drain of the average dynamic speaker with a resistance of 2500 ohms? Is it too large a drain for the average power-pack?

A.: It is usually in the vicinity of 50 m. amps, and is too large for the average power pack unless specially designed to accommodate it. It can, however, be used as a choke. There will be a fairly big drop to it.

3. Is 125 amps the highest value of the UX 280 rectifier, and would it stand a steady drain?

A.: It is surprising just what that valve will pass. We think it will be quite safe to use it as you suggest.

DX22NW (Tasman): Some time ago you told me it would be all right to use 18 gauge wire for the housewiring, but that it would be safer to use an output filter. I do not quite understand the meaning of "safer."

A.: If you do not use an output filter you are passing high voltage current through your house, and it is possible that either the wires may short-circuit due to corrosion and cause a spark, or someone may touch them and get a shock. Were they to short, of course, you would not damage anything, but you would have some difficulty, probably, in locating your circuit. Battery current should always be taken by the shortest route possible, and it is not wise to take it all round your house before it gets to the plate of the valve. We do not happen to know who is the agent for your battery. Apply to Johns, Ltd., Auckland; they may know something about it.

CAPACITY (Invercargill): Your question is beyond the scope of Q. and A., and there is not sufficient interest in the subject to warrant preparation of a special article.

DX180C (Invercargill): Can I earth the moving plates of the reaction condenser in the Differential Four circuit?

A.: Yes, you may use the hook-up shown for the Radiogram Five without any loss in efficiency.

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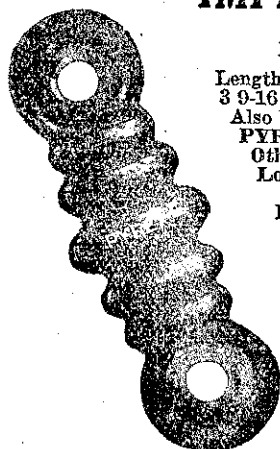
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2. In this week's issue you describe how to add a stage of s.g.r.f. to an H.R. receiver. Is this also applicable to a Browning Drake?—Yes.

3. I have an S625 valve which has three pins at one end and two at the other. At the two-pin end is the s.g. and plate. One of these pins is marked "A" while the other is not marked at all. I presume the pin marked "A" is the anode. Is this correct?—Yes.

UNO (Nelson): There is a crackling noise in the audio stages of my set. I think one of the transformers has gone, but which one?

A.: To test your transformers take a piece of wire and short-circuit first the primary, then the secondary of the first transformer. If the noise disappears when you bridge the primary you know the transformer is causing the trouble. If the trouble persists bridge the primary of the second transformer, and in this manner you will find out which transformer is at fault. You can replace by using a high quality 3-1 transformer. Do not worry about the third cord on your speaker. It is for use with push-pull valves.

COUNTRY (Frankton Junction): Can my five-valve receiver be modernised in any way?

A.: It could, but modernising an old commercially-made set is not a practicable proposition.

2. For shortwave work what would be the most efficient single valve set or adapter to be worked in conjunction with my present set?

A.: One of the type of adapters which plug into the detector socket. The Add-a-phone commercial receiver is the only one we have tested.

UX (Te Kuiti): What are the characteristics of a Mazda A.C.H.L. and A.C.P.I. valves?

A.: A.C.H.L., impedance 13,500 ohms, amplification factor 35, filament current 1 amp, mutual conductance 3, anode current at 120 volts 4.5, grid-bias at 100 (Concluded on page 29.)

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