

Controlling Filament Current.

NOTICE in the "Record" that one or two correspondents complain of the volume not increasing when the rheostats are turned further on. Perhaps my experience regarding the same complaint will be of interest to some of our fellow-readers. My three-valve set is controlled with three rheostats, with the result that the volume would not increase beyond a certain degree whether full on or just on. I simply extracted the third rheostat from the set, that is, the one governing the power-valve, and behold, the slightest touch now increases the volume splendidly.—T.D.H. (North Auckland).

Dry Cells for A Battery.

VERY many receivers which use not more than three valves, are provided with dry cells as A batteries, and the question often arises, "Are these profitable?"

There are certain conditions under which dry cells may be used with advantage as A batteries. If the valves require little filament current, they are quite suitable, but where the valves require a fair amount from the batteries, they are very expensive items. To ascertain whether dry cells should be used or not, examine the cartons which have accompanied the valves. The characteristics of the valves will be given, and these should be searched for filament current. This will be given as a decimal. Add the total for the valves used by the set and if this exceeds .2 dry cells should not be used unless in series parallel. Twice the number of cells will be necessary. Divide these into two groups and connect each group in series as usual. Now connect the two positives of each group and the two negatives of each group to A positive and A negative of the set.

It will be found that this will be the most satisfactory method to employ where the filament draw is between .1 and .2. Other than this, accumulators should be used, and frequently recharged.

A Burnt-out Transformer.

THE reason for a "burnt-out transformer" is sometimes very difficult to track, but the following interesting experience of a Wellington radio expert throws a great deal of light upon this very common cause of trouble.

be attached to "A—" of the second R.F. valve, not "A+" as shown. The lay-out diagram is correct.

Concerning a One-valve Set.

"J.P.B." (Petone) has constructed a one-valve all wave set, and although he can get several stations off the 'phones is unable to get Wellington off the loudspeaker, though, he states, the original specifications claimed Australian stations on the loudspeaker.

A: A one-valve set rarely brings a local station on to a loudspeaker unless it is a very sensitive one, and this is no doubt what was used when the original test was made. The additional audio stage should give good results. If the local station only is required at good speaker strength a crystal detector with two valves as amplifiers will give the best results.

A Corner for Beginners

CORRESPONDENTS are requested to observe carefully the following points. Failure to observe these may mean delay in answering and even the loss of the communication.

1. Addresses.—All technical correspondence, whether inviting reply or not, must be addressed: "The Technical Editor," "N.Z. Radio Record," Box 1032, Wellington.
2. Each letter to bear (inside) the department to which it refers:—Construction, Crystal Corner, Questions and Answers, or General.
3. Letters inviting individual reply must be accompanied by a stamped and addressed envelope, but the right to answer any letter through the columns is reserved. Correspondents should watch the columns carefully as one letter may be answered in more than one section.
4. Advice requiring discrimination between factory-made sets or between makes of components cannot be given.
5. All letters to be signed, but a nom-de-plume may be added.
6. Reports for the DX Club to be addressed: "DX," Box 1032, Wellington.

A portable set persisted in producing a crackling noise which nothing seemed to cure. The radio service man in his endeavour to locate the trouble removed the audio transformers and rebaked them to exclude moisture, yet this did not make much improvement. A damaged bypass condenser was replaced and a potentiometer repaired, yet the crackling continued every time the set was turned on.

A test with a milliammeter showed that there was no current on the first radio frequency valve, which pointed to a defect in the radio frequency transformer. This was taken out, examined, but at first nothing was disclosed. The wire was submitted to a magnifying-glass test, and a thin coating of white deposit could be discerned on the insulation of the wire. This was sufficient to hold the moisture, probably imparted by the steam of the sealing compound or from the hands of the manufacturers as they wound the coil (if at all wire were passed through any hands). The winding was stripped and rebuilt with fresh wire—the trouble ceased.

A Wavetrap Test.

L.P. (Wellington) writes: I have a very old model two-valve receiver and my son frequently insisted the set would without a wavetrap cut out 2YA and pick up other stations. Last night at about 10.15 p.m. I decided to finally settle the argument by testing the set, which uses only one valve of a type now off the market and probably as old as the set itself. The latter not only cut out 2YA completely, but with 'phones actually brought in the very humorous broadcast description from 2BL rebroadcasting from the Sydney Stadium of the boxing match between Gardiner (12st.) and Mason (11st. 6lb.), these two having been substituted in place of Smith (South Africa) and Roberts (Newcastle) owing to the indisposition of the latter. I

201A valves I found it impossible to neutralise.

On finding it would not neutralise I employed the split primary principle, with the result the set now works perfectly. If you were to publish in your valued paper the characteristics of the valves used in the set made and tested by "Megohm" it would help any other set builder who contemplates building the 2 R.F. and save a lot of annoyance to the neighbour listener.—[16,000 ohms.]

Neutralisation.

IN a neutrodyne employing two R.F. stages, there is no point in carrying neutralisation too far on both valves. If the valve just previous to the detector is very slightly deneutralised, not enough to make the receiver oscillate, the set becomes far more sensitive. If the set does burst into oscillation when searching on the lower wavelength band, the first valve, being neutralised, will prevent radiation.

Useful Tips.

WHEN charging accumulators from the mains or other source of electric supply the positive of the cell is always connected towards the positive of the supply.

GENERALLY speaking, it is most unwise for any unskilled person to tamper with the electric-light mains, as serious damage can be done by shock and by fire.

WHEN soldering at a gas stove, do not forget that the best way of holding the iron in the gas flame is to arrange a duster on the stove, upon which the handle of the iron can be rested in any position.

have always been able to pick up one or more Aussies, summer or winter, at night, but have never before tried to do so while 2YA was on the air. To me the above seemed a marvellous performance.

Neutralizing the 2 R.F.

G.C.C. (Nelson) writes: I have read with interest during the last few months your replies to correspondents re the neutralising of the 2 R.F. Browning Drake. The replies were all the more interesting to me as during that period I was building the 2RF in my spare time. The set is now finished, and is built exactly to Megohm's specifications in every detail, and using

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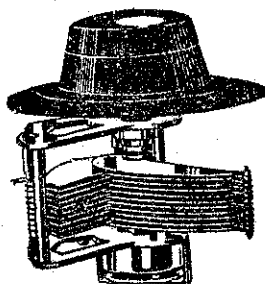
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