

Operating the Loudspeaker Away from the Set.

IT is very often found that people wish to operate their loudspeakers some distance from their receiving sets, and the difficulty is encountered, "How shall I run my leads?"

This is quite a simple operation, providing one or two necessary precautions are taken.

Almost any wire will do for the extension, providing it is insulated. If pieces of wire only are available, if possible, solder them together. If not, make a tight joint and thoroughly insulate with insulation tape.

A radio enthusiast known to the writer recently tried an extension of this description, but forgot the most important part, this is, of insulating his joins. He was running his leads to a tent some short distance from the receiving set, and had his wires lying on the damp ground. After a time he noticed that his battery was becoming very hot, and that small sparks were jumping between one of the leads and the ground.

At first, he was rather amused at this, but when his attention was drawn to the fact that he was short-circuiting his battery and running a big chance of burning out the winding of his speaker, his attitude on the affair changed, and the join was summarily insulated.

The Polarity Test.

ANOTHER important point to watch in running long speaker leads is that the positive wire be connected to the positive terminal of the speaker. This is easily overlooked, especially when long leads are brought into use, particularly so if the leads are of the same colour.

A test of some description must be made to distinguish one wire from the other. The simplest method of doing this is to earth one terminal of the A battery and connect one of the wires to the positive. Now take an ordinary flash lamp, connect the free end of each wire to the bulb, and the other terminal of the bulb to the earth. If the bulb lights, then the constructor will know that that wire is the one connecting with the battery at the other end. The A battery can be easily earthed by means of the earth connection and the A is usually so earthed.

Long Speaker Leads and Oscillation.

SOME enthusiasts who work their speaker at a great distance from their set, have wondered at the poor quality of tone obtained when their speaker leads are running underneath their aerial. This is due to capacity effects between the aerial and the speaker leads, and is liable to do damage as well as spoil the tone if precautions are not taken to prevent it.

The most simple method of overcoming this difficulty is to incorporate a radio frequency choke and by-pass condenser between the tickler and the primary coil of the first audio transformer. A diagram of how this may be done appears under the article on Regeneration.

Cleaning the A Battery.

IF there is anything other than defective components that tends to mar reception it is dirty A battery connections. Quite frequently the writer has been asked to look at a set that is not performing as it should, and almost invariably there is a dirty A battery to

blame. The acid soon corrodes and forms a deposit on the surface of the accumulator which, if not soon removed, forms heavy corrosion and interferes with reception. Dirty lugs, on to which are clipped the leads to the set, can cause reception to be very seriously weakened, and there is really nothing easier than to wash the battery and remove this very patent cause of annoyance.

A convenient method for cleaning the top of the storage battery is to place it under a hydrant and let the water run over it. This, of course, with the vent caps in place.

While the water is running over the battery vigorously scrub the surface with an old scrubbing brush, which will remove the acid and dirt. After the battery has been thoroughly cleaned with water, go over the battery again

the soda, about one-half inch thick, to remain at the bottom of the container.

More B Battery.

"COULD anyone get greater signal strength by increasing the numbers of B batteries in use on the number of dry cells if they were used for the A battery?"

PROVIDED the batteries in use were in good condition—no. Nothing but harm could be brought about. The valves are made to take a certain amount of current at a definite voltage, or, should it be said, a definite range of voltages, as is the case with the B or high tension battery. If this voltage or range of voltages is exceeded an undue strain is placed on the valve and it soon fails.

Wiring Hints.

A SAFETY tip to observe after constructing a new set or after making any alterations to wiring, is to turn the low-tension supply on so that the filaments are just glowing, and then with the negative side of the high-tension plug in its socket insert the positive high-tension plug in the first positive socket, which will be probably three or four and a-half volts, meanwhile carefully watching the filaments. If the brightness is not increased it is safe to assume that the high-tension is not connected across the filaments. When wiring is carried out with bare wire, care should be taken that all wires are well spaced and stiff, so that one will not droop against another. A point which is often overlooked is that of ascertaining that none of the wires touch the sides or bottom of the cabinet when the panel is placed in position. Should this happen, a wire may be pressed into contact with another, and it will prove a very difficult matter to trace the cause of the trouble, as the spring in the wires will cause them to separate when the panel is removed for examination. Always wire a set with the variable condensers in their zero positions, otherwise wires may be placed in the space which will be occupied by the moving vanes.

WHEN measuring the voltage of the B battery do not place the voltmeter across the battery, but measure the voltage whilst the set is in action so as to find the voltage "under load."

with a strong solution of ammonia or baking soda. This will neutralise any acid remaining.

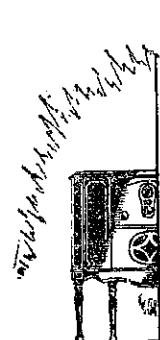
Flush it again with water and then set the wet battery in the sun or some place where a free circulation of air is available, where the excess water will quickly evaporate.

Charging the A Battery.

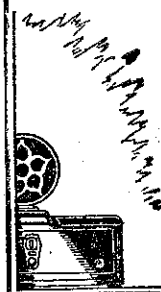
IT is advisable to open the doors of a console or cabinet while charging the A battery, so as to allow an ample circulation of air, by which the gas and heat from the battery and the charger may be carried away. If the gas is allowed to collect in a closed space, such as is found in a console, it becomes a source of potential danger, since it is highly inflammable. Heat generated by high capacity chargers will soon warp the cabinet to a very serious degree if ample ventilation is not provided.

Quite a good idea is to have a bottle of an alkaline solution, such as baking soda or ammonia, beside the storage battery. Frequent testing of the storage battery with a hydrometer will eventually get some acid on the carpet or other furnishings nearby. If nothing is done to neutralise the acid drippings a hole will be burnt in the carpet or the floor discoloured.

If the bottle of an alkaline solution is handy, a liberal quantity may be placed on the acid, which will immediately neutralise it and effectually prevent any damage. A solution of baking powder of the proper strength may be made by dissolving in a quantity of water. It is best to allow a layer of



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