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Noises and Their Elimination

A Useful Summary of Interference Problem from the point of view of City and Country Dwellers



STATIC is often blamed for many rasping roars of which it is not the cause; conversely it is not blamed when it should be—trouble-tracking vans can well testify to this. Diagnosing the why and wherefore of interference is not the easiest for the inexperienced listener, but for the old hand who cannot be misled by "Old man Static" this is not a difficult task. Noises may be roughly classified into two groups: noises having their origin within the set, and those occurring without it. When the listener is troubled with bad interference there is a definite procedure that he can follow in order to locate its source.

Disconnect both aerial and ground, and connect the binding posts with a piece of bare wire. If this eliminates the noise, it can be taken for granted that it is originating from power lines, motors, telephone circuits, or electrical apparatus of any description within or without the home.

If the noise still persists, look first to the batteries. The "B's" and "C's" develop a crackling noise when the cells are becoming exhausted, while a badly sulphated and old wet battery develops a crackling noise which can be detected by placing a pair of terminals of headphones across them. A normal battery should produce no sound in the phones. "B" batteries that have dropped 20 per cent. of their voltage should be discarded. If the "A" battery crackles, and continues to do so after having been charged, consult a battery expert. If all the voltages are correct, see that all terminals are clean and tight. Acid creepage from wet batteries does a great deal of damage. A coating of vaseline will keep corrosion down to a very bare minimum.

Corrosion is a noise producer in two ways: 1. It makes for a defective connection; 2. It is quite likely to eat through the insulation of battery cables and eventually produce a break in the wire.

Where "B" eliminators are used, the trouble is more difficult to track. If a set of good "B" batteries can be borrowed and substituted, the eliminator can be readily tested. Eliminator outputs cannot be measured by ordinary meters, as the output is so small that most of it is consumed by the meter. A high resistance meter is, however, quite suitable for the job. Wavering of the needle of the meter would tend to show repairs were needed.

If the batteries or eliminators are in good order, go through their connection with the set, looking for loose terminals, corrosion and broken wires.

If all is well so far, look for a defective valve. The easiest method is by substitution. For this test, it is best to reconnect the aerial and the ground, which will indicate the difference in volume level as well as in noise level. Sockets occasionally cause trouble through corroded, loose, or bent prongs. This may be remedied by sandpaper. UX sockets may be brought back to the normal by the aid of a pair of pliers from underneath but this necessitates its removal and should not be attempted unless definite evidence indicating a defect is present.

Examine jack springs, and solid connections, touching the parts by a glass rod or piece of ebonite. If this results in a grating noise, or a splutter, there is a loose joint. To test variable condensers, and transformers, apply the leads from a 22½ "B" battery, one to

one side, the other side to a pair of telephones, and the free terminal of these to the other side of the condenser or transformer. In the case of the condenser there will be one click, and no more, no matter how often the free terminal is replaced. Connect the two terminals of the condenser together and then repeat the test. Another click should result. With transformers, a click should be heard every time both ends of a continuous winding is touched.

Quite often the moving vanes and the fixed vanes of the variable condenser touch at certain portions of the dial reading. The writer had an example of this in that a set which had just been constructed (the A.C. Browning Drake) gave good results except for the lower frequencies which indicated a great deal of interference by way of spluttering noises. An examination showed that when the upper part of the dial was reached, the moving and fixed vanes of one of the condensers touched and caused the set to break out in a succession of noises similar to static.

Another very common trouble is defective grid leak. This manifests itself by a noisy spluttering. Its cure is obvious. Test speaker cords by shaking or twisting. If a noise results from this treatment, replace the cords.

WE now have to take the second part of our supposition, that the set on being isolated from the antenna and the ground functions satisfactorily. The procedure from now is:—1. Note if any household appliances such as flat-irons, electric fans, violet ray machines, electric vacuum cleaners, or the lights are turned on. If so, then turn them off and note the result.

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