

Locating Trouble.

THE first thing to be done when the set suddenly fails is to ascertain whether the trouble is within the receiver or quite beyond your control. Make certain by tuning to some other station that the broadcasting station has not gone off the air. If no station is heard, and the set is operated from the power point, ascertain, by turning on the nearest light, whether the electric supply has failed. If it is a breezy day, be sure your aerial is still O.K.

Test the Batteries.

HAVING eliminated outside causes, investigate the batteries to make sure they are not run down. A failing battery indicates itself by the slow fading out of the reception. Be certain that the loudspeaker or battery wires have not become broken or disconnected. Next turn your attention to the valves, and ascertain whether any filament is broken. In these days of low consumption valves this is not always easy merely by inspection; but by connecting a small battery and a pair of 'phones in series with the filament prongs of the valve it is possible to tell.

If no click is heard in the 'phones the filament is broken. By keeping a spare valve on hand, much lost reception will be prevented, and much worry avoided.

If an unwanted noise appears in the receiver, first tune to another station, and find whether the noise disappears. If it does, it is being caused by the broadcasting station or from some person listening to the station, and is beyond your control. The only remedy is to listen to some other station until the fault is rectified. If the noise still continues, irrespective of what station is tuned in, disconnect the aerial from the set and listen once more. If it is no longer heard, the trouble is due to a faulty aerial, or to atmospheric conditions, or to interference from electrical machines, violet ray plants, battery chargers, etc.

The fault can be sheeted home to the aerial by employing a temporary aerial. If the noise is arising from the usual aerial, the use of the temporary wire

in its place will remove the noise. Should the noise return when the temporary wire is connected, it is due to outside conditions, and cannot be removed.

Beware of an Exhausted B Battery.

IF the noise still continues with the aerial removed, examine the bat-

teries—particularly the B battery—which, if run down, is a potent source of crackles.

An alternating current hum, which continues when the aerial is disconnected, is probably due to the eliminator being placed too near the receiver.

When all these possibilities have been exhausted, then is the time to send for the expert, or to examine the wiring of the set, AND NOT BEFORE.

In conclusion, a word of warning to readers owning sets made by reputable firms. If anything goes wrong, and, after applying these harmless tests, you decide that the trouble is within the receiver, do not interfere with the wiring of the set, or allow the well-meaning friend to "adjust and assist," but notify the vendors. They constructed the receiver, and understand it, and it is their place to set it in working order once more, but don't call an expert to turn on your aerial switch.

Distortion from B Batteries.

MANY readers have doubtless wondered why, as their B batteries run down, some distortion in tone occurs. Speaking generally, this is due to the use of too much C battery negative voltage. Supposing, for example, that 15 volts of C battery are used at 135 volts on the plate (B battery)—it may be more or less, according to the circuit. As the B battery voltage drops it is obvious that there must come a time when 15 volts C battery will be too much. The remedy, therefore, is to reduce this bias-voltage until clear reception is obtained.

Alternative to Earth.

WITH summer dry weather ahead some set owners may find it well

worth their while to consider the counterpoise as an aid to better reception. In some localities a counterpoise is superior to the usual earth, while in other localities at times it is useful to have a good counterpoise as an alternative to the earth. Even where a good earth connection gives good results, a counterpoise forms the basis of a number of most interesting experiments in reception. When a counterpoise comes under consideration, however, there are many experimenters who hesitate to erect it because it does not provide a ready means of "earthing" the aerial when the receiving set is not in use. Undoubtedly this is the chief disadvantage of a counterpoise. It is an easy matter, though, with an ordinary double-pole, double-throw earthing switch, to provide alternative leads to the set from earth connection and from a counterpoise, and at the same time to provide a means for earthing both aerial and counterpoise when the set is not in use.

When the earth lead is connected to the set the counterpoise lead is rolled up and placed out of the way. When the counterpoise lead is connected to the set the earth lead is placed out of the way.

The only difficulty about erecting a counterpoise is that the wire must be run as nearly as possible directly under the aerial and at an awkward height—namely, two or three feet above the ground. On many building allotments there is no room for it, especially if the aerial is lead partly across the roof of the house. Perhaps the best course in most cases is to do everything possible to improve the earth before trying the other expedient.

Obtaining Pure Reproduction.

IN the attainment of pure reproduction as much care should be taken in arranging the position of the loudspeaker as in choosing that instrument. The speaker should not be backed against a wall, or any large surface. Frequently a certain note will come in disproportionately loud, which seems to indicate the speaker is resonant at this frequency. By moving the speaker a few inches at a time away from the nearest wall a spot may be found where this effect is minimised or even eliminated.

A Trap for the Unwary.

A correspondent to the Auckland "Sun" writes:—

"I have discovered to my cost that these battery eliminators may on occasion be traps for the thoughtless or the worried. I run my H.T. from the mains, but not my L.T. The other night, the speaker being in full blast, some small domestic crisis arose. Someone said, 'For goodness sake stop that din!' Snap went the switch and the desired silence ensued. But this morning I found that the valves had been on duty all night and that my accumulator had not the kick of a fly left in it!"

A FRAME aerial is generally unsatisfactory when used in conjunction with a crystal set. If a good outdoor aerial is not practicable, you should use an indoor aerial of the type which hangs under the ceiling. Failing that, a long wire wound round the picture rail will give better results than a frame aerial.

A Corner for Beginners

—By Observer—

Important Notice Regarding Enquiries

AS our service is now being fully availed of and as almost every mail brings in a large number of enquiries on various topics, it has become necessary to adopt some system of uniformity. Correspondents are therefore requested to observe carefully the following points. Failure to observe these may mean delay in answering and even the loss of the letter.

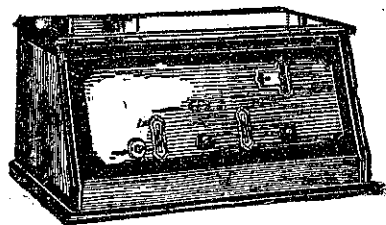
1. Addresses.—All technical correspondence, whether inviting reply or not, must, in future, be addressed: "The Technical Editor," "N.Z. Radio Record," Box 1032, Wellington. This includes letters to "Pentode," "Galena," and "Observer," as well as those that have in the past been erroneously addressed the Editor.

2. Each letter to bear (inside) the department to which it refers:—Construction, Crystal Corner, Questions and Answers, or General.

3. Letters inviting 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.



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