

Set Deneutralised.

I AM having some little difficulty with my set. I am using a four-valve set, which I built myself, and the general results are splendid. However, I recently purchased a different valve and used it as a detector. The set has developed a whine. Sometimes it will go well for days, then suddenly start off again. The whine starts low, swells until it almost drowns out the station, and then fades away.

I have completely overhauled the set. There are no bad joins, the pins of the valve fits firmly in the socket, A, B, and C batteries are in good order and up to strength. The aerial is 100 feet stranded copper wire, 35ft. above the ground, well insulated, and clear of stays, etc., and the earth is a copper bucket buried about 2ft. 6in., to which I recently added six feet of water pipe, driven straight down, the joins in all cases being soldered, and the whole plate kept moist. I might state that the valve used in the first L.F. stage is quite all right, and a different make in the detector is all right. I forgot to state that I have put a rubber cushion under the detector socket.

Question 2: My loudspeaker, a good cone, has developed a rattle on certain notes. I attached an output filter, but it made no difference. The other day I built the indoor aerial which you described in a recent issue, and found the reception not at all bad, considerably less, of course, than the outdoor aerial. I am waiting now for a "static" night to see if it cuts down interference.

Question 3: By the way, could you give me some information about a station, or rather two stations, on the same wavelength, about 3 degrees below KFON? I get them every night about 7.30-8 p.m., but cannot get the call sign.—C.C.T., North Auckland.

Answer 1: The correspondent here has voiced a common trouble—quite recently a number of correspondents have written making a similar complaint. In each case they complain of a whine and add, usually quite casually, that they have added a new valve of a different type from that they were previously using. This is probably the cause of the trouble. Sets are neutralised for a definite valve combination and to alter the detector or the radio frequency valve is usually sufficient to deneutralise. This would cause the whine which is so annoying to the unfortunate owner and his neighbours within a large radius. The set will have to be re-neutralized. Pentode describes a method of how this might be done in his article on the portable.

Answer 2: Without being unduly discouraging, the writer is of the opinion that the speaker magnet has been partly demagnetised through being connected the wrong way round or through being dropped. This would bring about unsatisfactory reception. However, something may have worked loose and be setting up vibrations when excited by a strong note. The speaker may be being worked with the diaphragm too tightly adjusted, try loosening the controlling screw. The trouble may be located in another part of the set so that it would be well to try another speaker or earphones to conclusively decide whether the trouble is in the speaker or not.

Answer 3: From the information given it is a little difficult to give a fair idea of the identity of the station. If the wavelength and some idea of what was coming from them were given the correspondent could be given

a more decided answer. The only station reported as being heard near KFON's new wavelength 239.9 is 3RL, Melbourne, on 230 metres. There are, however, several Americans, but it would be difficult to distinguish between them.

Dead Spots.

I HAVE an aerial about 150ft. high and 120ft. long, and use it with a two-valve regenerative set. I have noticed if I raise the aerial about 10ft. it forms a dead spot. What would be the cause of this? I have a good earth: it runs parallel with the aerial under the ground, and into a small spring coming out of a hill.

Answer: A very big aerial is being used and is made even bigger by increasing the height. Such an aerial requires a short aerial coil and unless this is provided reception below a certain wavelength cannot take place. To get over this difficulty take a few turns off the aerial coil.

Pentode's Crystal and Valve.

"COULD you oblige me with answers to the following questions re crystal and valve with three-valve performance?" writes C.O.D., Lower Hutt.

Q. 1: What does this really mean: Distance or volume and would the volume of the local station 2YA be more or less than an ordinary one-valve amplifier, and would local station reception be free from static as with a one-valve amplifier?

A.: The title of the article indicates that for both distance and volume the set is superior to the usual one-valve amplifier. It compares more favourably with a three-valve set than to a crystal and amplifier. If carefully constructed the set should give 2YA at far greater volume than the ordinary amplifier. The reason is the use of reaction. The crystal would render the static inaudible.

Q.2: Would a Mullard PM, HF 1.5-volt valve do, and would the set work successfully with a 45-volt B battery?

A.: The agents of these valves advise that PM, HF requiring 1.8 volts filament is suitable, but PM2LF is more suitable. This valve requires 2 volts and will be the better if there is a great volume to be handled as there would be if this amplifier were to be used on the local station. PM, LF should work from 50 volts fairly satisfactorily.

Q. 3: Could the coil aerial, secondary and tickler be shown more fully as I do not fully understand, and if possible more clearly?

A.: The secondary coil and tickler are somewhat similar in operation to those described for the Browning Drake. This will be found on p. 115 of the "Listeners' Guide," and in the issue of the "Radio Record" of September 9, 1927. The general constructional details were given there. If they were looked up, together with the details given last week, no trouble should be experienced.

Our correspondent asks what stations he might be able to receive. This cannot be said, so much depends on the construction and operation of the set.

Questions and Answers

Oscillation.

A CORRESPONDENT, F.M., asked last week, "Why should my set go on to oscillation after it has been going for ten minutes.

Oscillation is probably caused through too much reaction (volume) being used. In other words, the set is working at the point of oscillation. When a note (vibration) more powerful than the rest, is passed through the little extra is sufficient to set the set oscillating.

"I should like to increase the strength of the set for the summer months. What would be the most economical method."

Several methods suggest themselves.

1. Better aerial and earth systems (see article).

2. Use a power valve in the last stage, preferably a pentode. In this case, the B battery could well be brought up another 45 volts.

3. Add a stage of radio frequency.

An Unusual Aerial.

WHEN listening to 4YA, Dunedin, on my set, which is a three-valve regenerative, the reception keeps coming in loud and fading out at regular intervals, just as if I was touching the aerial terminal and taking my finger off again. The other New Zealand stations come in all right. Could you please explain what causes this.—"Puzzled" (Oamaru).

A somewhat similar case was recently related in this corner. Regular readers will remember the paragraph.

It appears as though the body is acting as an auxiliary aerial, and when the terminal is touched the signal is received. (Continued on page 23.)



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