

QUESTIONS AND ANSWERS

"PICK-UP" (Taumarunui): Could I connect a pickup to my commercial set, and, if so, where?

A.: Yes, in the grid return of the second detector.

2. The set employs two 227 type valves. Are there any more modern valves which could be inserted in these sockets without alteration to the set, and, if so, would there be any improvement?

A.: Yes, you could substitute with 56's, but the improvement would scarcely be noticed.

3. The aerial is 160ft. long, including lead-in, 35ft. high, and there are numerous trees about 28ft. high underneath it. Would a shorter and higher aerial improve long-distance reception?

A.: The trees underneath your aerial reduce its effective height considerably, and it would be an advantage if you could change the direction to avoid this. A flat top of 60ft. would be ample.

"NORA" (Rotorua): I have a 4-valve a.c. set of German make employing the following Telefunken valves: RE134, REN1004, RGN1500. These valves are now off the market. Could I replace them with another make?

A.: The corresponding equivalents in the Philip series are B405, B438, and 506 rectifier.

F.W.R. (Waihou): The Australian School of Radio Engineering, Wambley House, Railway Square, Sydney.

P.E.L. (Ngauwawahia): I can get no stations at all when the dial of my set is turned past 60—only a noise like static.

A.: Evidently the moving vanes of one or more sections of your condenser gang are touching the fixed vanes, or are partially shorted in some way.

"STUDENT" (Auckland): How does a bar magnet amplifier work?

A.: The reed of a highly developed ear-piece is connected directly to a small microphone in series with a battery and loudspeaker. A 6-volt accumulator is needed. The device is delicate to adjust and is rarely satisfactory for any length of time. Why not build a one-valve battery amplifier?

2. Is much amplification obtained by this method?

A.: Quiet speaker volume from the more powerful of your locals is all you could expect.

3. How can I improve the selectivity of my crystal set?

A.: Rebuild it, using the circuit of the "Selectra" crystal set, which is to be described in the August "Radio Times." It employs two tuned circuits and is capable of a very high degree of selectivity.

"WHISTLE" (Central Otago): Our electric power is obtained from a small water-driven Pelton wheel generating 230 volts, a.c. Though it is situated a quarter of a mile away, interference from the plant is experienced over the lower wavelengths. Could I cure this by installing choke coils and condensers at the set, as mentioned in your issue of July 21?

A.: Yes, but install the filter at the motor end. You can quite easily make the chokes yourself by winding on 250 turns of 20 gauge d.c.c. in a single layer on a 2in. diameter former. If necessary, install the whole device in a copper or aluminium box, which should be earthed.

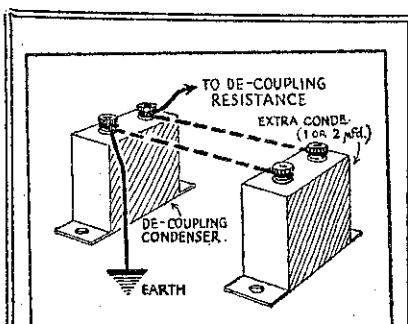
2. With an indoor aerial the volume

control has to be turned on fully to give good reception. Does this shorten the life of the valves?

A.: No—or, at least, the effect is negligible.

"NOVICE" (Auckland): When I switch on a blue glow appears in the 280, which soon after commences to spark. After a few minutes this ceases.

A.: Evidently a defective 280, which should be replaced. Note: A first-class wave-trap was described in the July "Radio Times."



Audio Instability

When a set howls or "motor-boats" in spite of the fact that the audio frequency side is de-coupled from the "B" supply, it is often possible to remedy the trouble by increasing the capacity of the de-coupling condenser. A second condenser of 1 or 2 mfd. should be joined in parallel with the existing one, thus adding to the bypassing capacity already in circuit. This scheme is to be preferred to the alternative of increasing the value of the de-coupling resistance, a procedure which may reduce the effective anode voltage too much.

J.D. (Hamilton): I have an 8-valve superhet. which recently has lost its selectivity and has become noisy. When the clip on top of the 224 is removed the set operates just as well. Is this in order, or does it denote a fault?

A.: It is certainly not in order, and it appears that your set is due for an overhaul. There are three 224's in your set, and we do not know the one to which you refer. The fact that the set operates just as well with the grid cap removed indicates either that the valve is defective or that there is some break in the circuit.

2. Where can I obtain a circuit of my set?

A.: In the 1931 edition of Rider's "Official Radio Service Manual."

"CURIOUS" (Carterton): When aerial and earth are disconnected the only station I can hear is 2YA. Should it not be possible to get at least the YA stations at good loudspeaker strength without the aerial?

A.: No—in fact, with a set as well shielded as yours is, it is surprising that you can pick up even 2YA.

2. When the aerial and earth is connected up the only American I can pick up is KFI. Should I be able to get more?

A.: Not necessarily. Your locality might be unfavourable. We recently came across an interesting case of two keen dexters, both of whom operate powerful

sets within a quarter of a mile of each other. Their logs are equally good, and yet though one can hear KFI at full speaker strength, the other can scarcely pick this station up at all.

"READER" (Hokitika): Short-wave superheterodyne converters need very careful designing and building if they are to operate successfully, especially if used in conjunction with a broadcast superheterodyne receiver. We strongly advise you against attempting to build one, and suggest you get in touch with the agents for your set, who can supply you with a converter specially built for it.

L.H.W. (Auckland): Lately my set has been fading even on local stations.

A.: Have you had your valves tested lately? Evidently one or more of them is worn out and needs replacing.

2. Would seven valves of mixed makes spoil the performance of the set?

A.: Possibly not, but it is always advisable to replace with the one make.

M.N.S. (Te Aroha): Recently my set developed a hum at frequent intervals, and the volume fades or reproduction becomes distorted. This happens on all stations. I have had my set over 12 months, and with the exception of one, which I had to replace about two months ago, I am still using the original valves.

A.: Have your valves tested, and if they are all in good condition, there is nothing for it but to call in a serviceman.

2. I am using a 2-point plug. Would it make any difference if I used a 3-point plug instead, as there are three wires from the set?

A.: No—no difference whatever.

A.A. (Auckland): I can only pick up one or two Australian stations on my 5-valve A.C. set. When volume is turned full the set becomes unstable. Should I not get better results?

A.: We notice your set is a 1931 model. Have your results ever been better? If not, then it is probably due to poor locality, poor aerial, incorrect ganging of condensers, or to some little fault initially present in the receiver. If results have been better, then evidently your set is due for an overhaul.

J.C.B. (Dunedin): Is full-wave detection an advantage over half-wave, and could it be incorporated in superhet by using a 55?

A.: A special intermediate frequency

Information Coupon

(To be used with all requests for information.)

Name of set

Model

Name

Address

.....

.....

Nom de plume

To be kept in subsequent inquiries

Please Note:—

- (1) Be specific and brief, tabulating, if possible.
- (2) Write legibly and on one side of the paper.
- (3) We do not design circuits.
- (4) Limit three questions unless 1/- is enclosed.
- (5) Postal queries limit 3 questions. Enclose stamped and addressed envelope and 1/- fee.