

QUESTIONS AND ANSWERS

C. K.M. (Brighton): I built up the "Empire Shortwave Four," described in last month's "Radio Times," and found it very satisfactory on the short waves. However, I cannot pick up any stations on the broadcast band. There is ample reaction.

A.: The chances are that there is a break or a faulty connection in one of the windings on the coils. You could try a continuity test of the windings by connecting a pair of headphones in series with a $4\frac{1}{2}$ volt bias battery, and touching the two pairs of pins in turn on each coil base with the two free leads from the improvised tester. A loud click in the phones indicates that there is continuity.

"FED-UP" (Palmerston North): My set has developed a squeal when tuned in to any station between 250 and 300 metres. Reception from stations over any other part of the dial is all that can be desired.

A.: You have not mentioned whether the squeal changes in pitch as you pass over each station. If it does not, then the trouble lies not with your set, but with the stations on that part of the band causing heterodyne interference.

There is nothing you can do to cure this interference, which, anyway, should be considerably lessened after the frequency reallocation of the Australian stations takes place in about six months' time.

"CURIOUS" (Timaru): On all the YA stations my set develops a loud buzzing when the volume is turned full on. This noise is not present when I tune in weak stations.

A.: Evidently you are overloading your speaker, thus causing the buzzing of which you complain. If the volume is not more than the speaker should be capable of handling, however, it probably needs recentring.

"EMMA" (Christchurch): Evidently the main reason why your special interference-reducing aerial is not working correctly is that you have not got the flat top high enough above the interference field. In this respect there is some useful information contained in the article entitled "Curing Man-made Static," appearing in the November "Radio Times" of last year. Also, there is a comprehensive article on aerials of this type in this year's "Radio Guide" which is now on sale.

"BEGINNER" (Waimate South):

Here are the coil details you require: 20 metre band, secondary 4 turns, reaction 3 turns; 40 metre band, secondary 10 turns, reaction 5 turns; 80 metre band, secondary 18 turns, reaction 7 turns. However, you will find that using such a large value of tuning condenser for shortwave reception that tuning will be very sharp. You will need to use a high quality slow-motion vernier dial.

C. H.W. (Invercargill): As your set takes approximately 14 mills. "B" current, the value of the bias resistor for the output stage should be approximately 850 or 900 ohms. To obtain this, join another 400 or 450 ohm carbon resistor in series with the 450 ohm bias resistor at present in your set.

H. W. (Papanui): The following are the coil details you require.

Band.	Primary.	Secondary.	Tap.
Metres.			
13 to 19 ...	2	$3\frac{1}{2}$	$\frac{1}{2}$
21 to 39 ...	3	$6\frac{1}{2}$	$\frac{1}{2}$
41 to 79 ...	4	$13\frac{1}{2}$	$\frac{1}{2}$
81 to 100 ...	5	$26\frac{1}{2}$	$1\frac{1}{2}$

G. T. (Murchison): Sorry, but through a misunderstanding we thought you were operating the seven-valve model of the same make. The circuit diagram of your set does not show the value of the potentiometer across the bias battery. If the potentiometer itself is taking 6 mills. it has a value of approximately 2500 ohms, which is far too low. In this case it should be replaced with another of from 50,000 to 100,000 ohms, bringing the "C" battery drain down to from .6 to .3 mills. However, before making this replacement, first make sure that there is no short-circuit or partial short-circuit to earth in the circuit between the moving arm of the potentiometer and the grid of the controlled

valve. An easy way to check up on this would be to connect a milliammeter in the circuit to measure the drain flowing from the "C" battery when the set is on, and then to disconnect the lead from the moving arm of the potentiometer. If the drain falls away, it is a sure sign that the fault lies not with the potentiometer, but in the circuit between the moving arm of the latter and the grid of the r.f. valve.

DX308W (Wellington): I have recently completed the 1933 "Eight Star Five," and find that though it brings in the stations well, the volume control is very ineffective. Even with a short indoor aerial it is impossible to reduce the volume on the locals sufficiently for comfortable listening.

A.: The two most likely reasons why the volume control is not operating satisfactorily are, firstly, that the side of the volume control potentiometer which should be earthed is really "up in the air," and, secondly, that the first tap on the voltage divider, i.e., that to which the other side of the potentiometer is connected, is set too far down towards

(Continued on page 48.)

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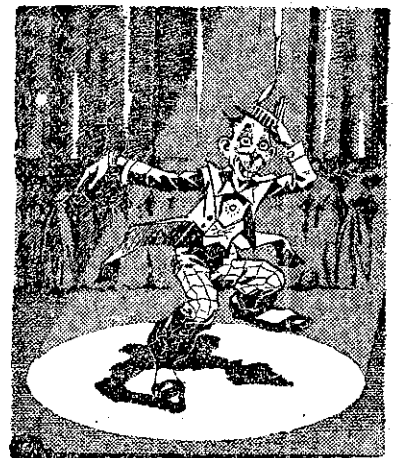
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