

QUESTIONS AND ANSWERS

H. A.M. (Timaru): I have a two-gang condenser, .00088 mfd. per section. What value of fixed condenser would I need to connect in series with each section of the gang to reduce the value to .00015 mfd.?

A.: .0002 mfd.

2. My broadcast coils consist of 85 turns on 1½ in. formers, with 20 turns wound on smaller formers placed inside each secondary for primaries. The tuning is rather broad; how could I cure this?

A.: You are not using a very selective type of set, but at the same time, you could easily make it a little more selective than it is at present by reducing the aerial primary turns to 10 or 12. On the other hand, the detector primary is rather on the small side for greatest sensitivity, though if you increase the number of turns on this winding the selectivity will suffer. Hence it would be best to leave this coil as it is.

"NIGHT OWL" (Shannon): I wish to rewind a magnetic speaker unit which has the coil bobbin and pole pieces arranged as shown in the sketch. In which direction should the winding be put on?

A.: Neither—it is quite immaterial.

F. C. (Auckland): It is not likely that one of the neutralising condensers in your set is at fault; rather we would suspect one or both of the r.f. valves. Have these been tested with proper testing equipment? The fact that the filament lights up is no indication that the emission is not faulty. If the tuning condensers in your set are ganged, another likely cause of the trouble would be incorrect alignment of the gang. For these reasons, we advise you to have the valves tested by a dealer and the set realigned and reneutralised.

2. What are the values of resistors and condensers for a resistance-coupled stage, using a 201A?

A.: Plate resistor, 50,000 to 100,000 ohms (depending on the preceding valve), coupling condenser .01 to .1 mfd., grid leak .5 to 1 meg.

"CAMBRIDGE" (Pukeroro): Your best plan would be to fit headphones in the grid circuit of the power valve of your set, thus cutting out the last stage when the phones are being used. The simplest and safest way of doing this is to break the lead between the audio coupling condenser and the grid and grid leak of the power valve, and insert a closed circuit jack. The separate terminal should be earthed. This method of fitting phones was used in the "Air-Ace Short-waver" described in the August, 1934, "Radio Times." Unfortunately we have not a copy of the circuit your set uses on hand, so we cannot give you more specific details.

"PUZZLED" (Livingstone): I have built the "Tramper's One" and have added a two-stage amplifier, using two 201A's and a B605. The set refuses to oscillate, though the amplifier works very well in conjunction with a microphone.

A.: Have you tried reversing the con-

nections to the reaction winding? If the three windings of the detector coil are all put on in the same direction, then the bottom of the reaction winding should go to the plate of the detector valve, and the top to the reaction condenser. Also, try increasing the plate voltage of the 201A. As a last resource, you could try adding a few turns to the reaction winding, although this should not be necessary.

2. Is it necessary to complete the circuit of a charging dynamo when the battery is removed while the dynamo is running?

A.: No; under no circumstances should the terminals be shorted, as damage to the dynamo is likely to result.

3. Is there any method of automatically cutting out the dynamo when the battery is fully charged?

A.: Yes, by using a cut-out as described in the September "Radio Times."

E. G.D. (Dunedin): The most important factor in erecting a noise reducing antenna system is to erect it as high and as distant as possible from the source of the noise. As it is usually impossible to erect the lead-in outside the interference field, a special type of lead-in is generally used. This can either take the form of a shielded cable with the shielding earthed, or a transposed type of lead-in. In the former case, the

interference does not penetrate to the shielded wire, and in the latter the noise picked up is cancelled out.

In regard to interference entering through the mains, you could easily check up on whether this is appreciable or not by removing the aerial lead. Then, if your set is properly shielded, you can take it for granted that any noise remaining is entering via the mains. If it is appreciable, then a power-line filter would be beneficial. A suitable type, which you could make yourself, is described in the December, 1933, "Radio Times."

W. A.B. (Dunedin): Sorry, but we cannot undertake to design circuits for readers. However, you will find that the "Midget Three," described in the March "Radio Times," is just the set you want. Ganged tuning condensers could be used.

F. J.S. (Lower Hutt): .00035 mfd. tuning condensers are far too large for short-wave work, and you would find tuning extremely critical. To reduce the capacity to a suitable value, you could pull out five or six plates from each section of the gang. Also, as you are planning to use home-made coils, it would be advisable to incorporate a trimmer across the r.f. section of the gang to compensate for any slight discrepancies in the coils. A suitable capacity would be .00005 mfd. or thereabouts.

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RADIO ON SMALL SHIPS N.Z. LAW BEING REVISED MINISTER'S STATEMENT

Attention is being given to radio regulations governing vessels which, under 1600 tons, at present are not compelled to have radio installations, so that there is a probability of New Zealand ships being controlled in a manner similar to that shortly to be put into operation in Australia as announced by a cable from Canberra in yesterday's "Post."

"The New Zealand regulations governing radio installations on ships are at present under revision," stated the Minister of Marine (the Hon. J. G. Cobbe) to-day, when the new Australian regulation, which he applied particularly to Australian inter-State vessels. "Our Shipping and Seamen Act provides that vessels that carry more than twelve passengers or more than a complement of nineteen persons all told, must be wireless-equipped."

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