



# Questions and Answers



## A Silk Diaphragm Speaker.

I HAVE constructed a silk diaphragm speaker and until lately it has given excellent results. One night, however, when switching the set on, the music was very "tinny" and distorted. The silk diaphragms do not appear to have the same sound when tapped as they did at first. Would weather conditions be the cause of this? asks "Nikau" (Hawera). A.: Probably the silk wants re-stretching as it sounds as though it has become loose. Make quite certain there is no strain on the driving reed. If the preparation used for "doping" the silk is not quite as it should be, weather conditions will surely affect the speaker.

2. Would the Kylelectron speaker be suitable for home construction? If so, could you publish the details.

A.: The Kylelectron speaker is not suitable for home construction, so for the present at least, we cannot see any possibilities of publishing the details.

3. Could a bell transformer be used in the construction of an "A" battery charger?

A.: If the secondary winding will deliver sufficient amperage, it will.

## Set will not React.

I HAVE constructed a tetrode crystal set using regeneration but neither the tuning control nor the reaction condenser make any difference upon the volume. The regeneration is of the

Reinartz type and the tickler coil is wound in the opposite direction from the secondary.—"H.E.L." (Kilbirnie).

A.: Your circuit appears to be quite in order, except that the tickler and the secondary coil should be wound in the same direction. Try reversing the connections, too. You might try also altering the capacity of the fixed condenser between the crystal and the grid of the valve, making it slightly larger.

## A Vibrator Charger.

I AM using one of these chargers, but it has become noisy owing to the points wearing. Can I use any of it for a valve charger, or should I renew the points?—"Charger" (Heretaunga).

A.: The transformer can be used for a valve charger, but if the points are readily obtainable we think it would be cheaper for you to renew them. If it is noisy in its operation shunt a 1 mfd. condenser across the points.

## Resistance or Grid Leak.

I HAVE what I believe to be a Bretwood anode resistance or grid leak. The apparatus has a red control knob. Which is it?—"W.H.Y." (Herekino).

A.: The anode resistance.

2. What happens when the knob is screwed in?

A.: The fluid is compressed and the resistance is lowered.

3. On unscrewing the knob a sticky black substance is noticed on the thread. What is it?

A.: The fluid—an oil.

## Volume Diminished.

I HAVE a screen grid booster which worked satisfactorily until I made an alteration in the circuit. This was not an improvement, so I reverted to my old circuit, but I could not get anything like the volume that I had formerly, while the tuning was very much broader.

A.: We suspect the radio frequency choke. This is very critical in a booster of this description, and providing you have made no wrong or loose connections, we can suggest little else. We presume that you have tested the condensers for a possible break-down, ex-

ment characteristics, that is, they must be of the same voltage and the same amperage. If, on this arrangement, one of the filaments blows out, or one of the valves is removed from the circuit the whole collection will be "snuffed out." The reason for this is that there will be less current drain and the voltage will immediately rise. The best arrangement is to put the valves in series, but we cannot advise you what lamps to use to break down the current, because we do not have sufficient details. Supply us with the number of valves, their voltage, and the current drain from the largest, and we shall do the rest. The specifications for a choke depend very much upon the amount of ripple left in the current. A 10 henry choke should be sufficient, built up of 3000 turns of 22 gauge wire on a 2 x 2 core with a gap of .1 of an inch. Follow the general directions given in the Radio Listeners' Guide, but specific directions will be supplied in the 1930/31 Radio Listeners' Guide and Call Book.

## Short-Wave Problem.

I WISH to build a short-wave set, using three valves, with provisions for an extra valve. Can you give me a suitable circuit?—"A.F." (Ohuru).

A.: See the all-wave "Round the World" Two. We shall give an excellent short-wave receiver in the new edition of the Guide. Four-valve short-wave sets are not a good investment for constructors.

2. Should the core of a home-made audio transformer be left straight or bent round the coil?

A.: Unless you are referring to the hedgehog type of transformer, in which case the wire coil is bent round the coil, we cannot see the point of your enquiry. The stallo is usually cut so that there is no need to bend it round, in fact, it cannot be done.

3. Can an H.F. transformer be used in short-wave sets? If so, how many turns would be needed for, say, 17-100 metres?

A.: If you require a high-frequency transformer for use in connection with a high-frequency valve, we should not advise you to do this, as high frequency amplification with a triode is rarely successful. See the Radio Receivers' Guide.

## Types of Reaction.

WILL you answer the following points? asks "W.S." (Whangarei).

1. Which type of reaction makes for the most sensitive type of detector?

A.: The Schnell or Reinartz method, although differential condenser control, is now being introduced into England with considerable success. The differential condensers, however, are not readily obtainable in New Zealand. When they are, we will discuss them through our columns.

2. In fitting an anti-motor-boating device, is it necessary to apply higher

## Questions and Answers

READERS of the "Radio Record" who are in difficulties about reception or set construction are invited to write to our "Questions and Answers" department for help. We particularly wish to assist those who know little about radio, as very often there is some ver. slight trouble which spoils completely one's enjoyment of the programmes.

Correspondents are asked to observe the following courtesies:

1. Write legibly.
2. Make your questions brief and to the point; do not make apologies for writing, and, where possible, tabulate.
3. Do not ask for a reply by post unless a stamped and addressed envelope is enclosed. Even in these circumstances, we reserve the right to answer any question through our columns.
4. Do not ask us to design circuits or send detailed lay-out diagrams; but we can offer advice regarding circuits.
5. Address all technical correspondence: "The Technical Editor, P.O. Box 1032, Wellington."

amined the pins of the plug-in coils for dirty or loose contact. The circuit is really quite a good one.

## D.C. Eliminators.

I REGRET that you gave such an unsatisfactory reply to my question regarding D.C. eliminators, complains "W.J.D." (Reefton). The points were:—

1. What are the specifications for a choke for an "A" eliminator?

2. What lamps to use in series when lighting valves from a 230 D.C. mains?

A.: Our reply was merely to show the impracticability of lighting the filaments of valves from D.C. mains, but we regret having failed to give you the specifications for a choke. This was an oversight. Here is the problem regarding D.C. "A" eliminators. All the valves if not in series must be equal in fila-

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