

QUESTIONS: ANSWERS

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The Technical Editor will, through these columns, be pleased to help readers experiencing trouble with their sets. Queries are limited to three—for more than this a shilling fee is charged, and a similar fee is payable for queries answered by post. Supplying layouts, circuits and solutions of intricate theoretical problems is beyond the scope of this service.

A coupon must accompany all requests for information. Non-appearance of the coupon in any issue cannot be regarded as a reason for its not being used.

Address all queries, The Technical Editor, Box 1032, Wellington.

ION (Wanganui): Would the "Home and Country Portable" give good loudspeaker strength on 1YA if used within five or ten miles?—Yes.

2. Could I use a spare transformer as a choke? If so, what would be the inductance?

A.: You could, although it would not make an altogether satisfactory one. We cannot find out the inductance.

3. What combination of Philips four-volt valves should be used?

A.: A415 detector, A409 first and second audio.

TONE (Hawke's Bay): On the lid of my five-valve battery set is written "Use only 2-ampere valves." I am now using low filament consumption valves in all stages, but the volume control does not appear to work. Otherwise the set is better than what it was previously.

A.: You can safely use the valves now in the set, but the volume control, which is a resistance in the filament circuit, will not be of a sufficiently high value to control the voltage when the smaller current taken to the improved valves is to be passed. If you take out the resistance and replace it with a 30 ohms one you will find it will work again satisfactorily.

2. I am using 12 volts grid bias with 108 H.T. for a B605 valve. Is this too much?—No.

3. Must I put in a special g.b. tap when using the 221 in the r.f. or first audio stage?

A.: No. Sometimes a slight saving can be effected by biasing valves other than the last, there is rarely any improvement in either distance or tone. This does not apply to a.c. sets.

I.S.G. (Christchurch): We do not know anything about your particular receiver, but we presume it would be as sensitive as others in its class. As to whether it will receive European stations,

however, there is some doubt, as the reception of these stations is due mainly to the locality.

DX1030C (Hindon): What would be the range of an average short-wave two-valve set?

A.: You could get most of the stations that are worth while hearing on phones,

The Super Six

CONSTRUCTORS will be interested to know that the Super Six, which was billed for description in the "Radio Record" a short time back, but which did not conform with the Post and Telegraph Department's regulations, has now been passed.

This six valve super-heterodyne battery set, which is easily the most powerful we have yet described, will appear in the "Radio Record" on November 27. At the present time the set can be used only from a loop, but even with this, all that is to be desired can be brought in. We are still experimenting, and, in the near future, will be able to announce, we hope, that by the use of a certain attachment, the set can be used on an aerial. Upon trying it out last week, Christchurch was brought in (on the loop) in the early afternoon,

including G5SW, RV15, Rome, and the Americans.

2. Would a "Night Hawk Two" receiver be the best circuit for a two-valve set for short-wave?

A.: The "Night Hawk Two" is a splendid s.w. set. If you want it for these bands only, use .0001 tuning condenser instead of the .00035 specified and omit the .001 condenser in series.

3. What would be the best valves to use in such a circuit?

A.: The new 230 type would be excellent.

LECTRO (Masterton): Your adapter should work satisfactorily from your broadcast set.

2. In making the electric "Radiogram Five" the "Guide" does not specify what transformers are necessary; would a 3-1 more or less old-fashioned transformer do in the first stage with a 5C for the last?

A.: Yes, we think your transformer would be quite satisfactory. If the tone is poor substitute the old-type for a more modern transformer. For more information concerning the super-het. a.c. receiver, see section devoted to it in "Questions and Answers in Radio," a booklet first published by the "Radio Record."

H.C.O. (Cambridge) has made a Majister short-wave unit from the October, 1929, "Radio News," and he would like to get into communication with any other constructor who has built the same or a similar set.

L.M. (P.N.):—How many turns, and what size of wire are required to bring in 175 k.c. with a .00035 condenser?

A.: 220 Turns of 30 dsc. wire on a 3in. former would be quite satisfactory.

J.W. (Dunedin):—We are redesigning the oscillator stage of the super het. shortwave receiver, and it should be ready in a few weeks. However, the "Cathode super" will be ready, we think, before that.

E.A.B. (Hastings):—A d.c. lamp is one that uses direct current. These are the same as the ordinary lamps used in the a.c. socket. If you have fused your lights look over the connections very carefully, because if the lamp is in series you cannot do any harm. If, however, you have put the lamp in parallel, you will cause trouble. Are you quite certain you are clear on the meaning of "in series"? One side of the mains is connected to one side of the lamp and to nowhere else. The other side of the lamp goes to your helix and back to the main again. If you make this connection your light cannot blow out, but should you connect the side of the lamp which is connected directly with the mains with any part of the apparatus other than with the lamp socket itself, you will have trouble. By the way, do not forget that in experimenting directly with the mains you are contravening the regulations.

F.P. (Christchurch):—The Browning-Drake Five was fully described in the 1929 "Radio Guide."

SPARTON (Ohuka):—My set has stopped, although the batteries are in good order. All the valves light.

A.: There are many things that could be wrong with your set, and we advise you to consult a chart such as that published in "Questions and Answers in Radio," a booklet which is available this



week. Have you tried another speaker, for yours, being an old one, may possibly be the cause of the trouble? A broken-down condenser would also bring about the symptoms which you describe, also one defective valve, for, although a valve lights, it may still be at fault. It would not be a bad plan to have them tested. It may be that a filament resistance has burned out, or rather developed a high resistance connection, in which case the valves would light dimly, as you say. However, if you do not know anything about a radio set it would not be a wise plan to attempt to find the trouble. You may incur more serious trouble in the process.

JANC. (Musselburgh):—For each coil you will require from 2in. to 3in. of 2in. former and 1in. of 1in. former, but the regenerator will require 3in. The coils for the sets are exactly the same. Your valves are quite satisfactory, and the bias resistance can be found

A WORD IN TIME SAVES--

In this case it will save you from buying an out-of-date receiver. Don't buy a radio until you have seen and heard the "Ultimate"—a 1932 receiver available in 1931. Compare it with any other set on the market—THEN decide.

ULTIMATE SHORTWAVE and BROADCAST RECEIVER

British Construction

There is an "Ultimate" Distributor in every part of New Zealand. If any difficulty in securing information or demonstration, communicate with—

Factory Representatives:

C.P.O. Box 1778 - AUCKLAND.

Information Coupon

(To be used with all requests for information.)

Name of set

Number of valves

Name

Address

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.....

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Nom de plume

To be kept in subsequent inquiries

Date

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, but accept suggestions for feature articles.

"The Valve With the

Life-like Tone."

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