



# Questions and Answers



**L. E.H. (Taradale):** What kind of valves should I use in the Sparrow Hawk One?

**A.:** One of the 221 or 415 type. The new 280 valve would also be suitable, but it is more expensive.

**DISTANCE (Wellington):** What type of short-wave adapter should I build for the set mentioned?

**A.:** We suggest the differential adapter from the "Radio Guide."

2. What results should I get?

**A.:** This is a good adapter, and with your set should give excellent results.

3. About what would the cost of such an adapter be?

**A.:** You would get it probably for about £3/10/-.

**H. B. (Woodville):** I am building the Diff. Four and a little at sea about winding the coils. Is this correct for a .00035 condenser: 65 turns of 22 d.s.c. wire on a 2in. former? If so, how many must I use for the aerial?

**A.:** 20 for aerial, 78 for the secondary.

2. Using a .00035 condenser for the detector stage, would 9 turns on the 2in. former be correct? If so how many should I use for the tickler with a .0002 differential condenser?

**A.:** You require 87 turns for a .00035 condenser, with 25 turns on the reaction winding. The tickler is usually the top winding on the detector coil.

3. In winding the five-prong coil socket for a detector coil should not the wire from the cap of the s.g. valve go to "G" instead of "F," as in the layout diagram in the "Radio Record" of April 2?

**A.:** No; the plate terminal is taken to the top of the primary, which is "F."

**CORRESPONDENTS** must attach this coupon to all queries sent to the Technical Editor (Box 1032, Wellington). Limit three questions, unless letter is accompanied by 1/- fee.

Name of set .....

Number of valves .....

Name .....

Address .....

.....

.....

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.

Solving trouble, as different from advice, is difficult by correspondence and while letters are given every consideration, answers are not necessarily correct—they are only our opinion based on the matter supplied, which may be quite inadequate. Intricate and involved specifications cannot be supplied without a specialist's fee.

The tickler is connected one side to each set of plates.

4. Have you any suggestions for improvement?

**A.:** For broadcast use a special coil wound on a 2in. former. You will find it better. Your valves are quite in order.

## Notice to Correspondents.

**SOME** correspondents are not clear about our fee. We make a charge of 1/- for any series of questions more than three in number, but do not thereby bind ourselves to reply by post as several correspondents are intending us to do. Postal inquiries must be limited to three questions. It must be noted that the service is, as before, intended to be a free one. We regret having to impose a fee, but this is only because a few people have been sending in a large number of queries which take much more time than we can afford on the service.

**REGULAR READER (Auckland):** My a.c. set splutters a great deal between 850 and 1500 k.c. It is minimised but not done away with by removing the aerial.

**A.:** What happens when you remove the aerial altogether? It seems to be outside interference and this you can do nothing to overcome other than communicating with the district radio inspector. Your aerial and earth appear to be quite good though it would be better if you could get the aerial a little higher.

**L. A.D. Colac Bay.**—Is there any difference in using an electric set off a range from using the set off a light socket?

**A.:** Not unless there are separate metres, as in all probability there are. You cannot do any damage no matter from what point you take the electricity for your wireless set, but if you have separate meters it will be cheapest to draw the current from the range. The next best will be ironing point, and lastly the lighting socket.

**G. C.C. (Nelson).**—I have constructed the double push-pull amplifier described in the "Guide," and it is working wonderfully. I now wish to use a.c. on the filament of the valves. What ones do you recommend in the first and second stages? They must be English.

**A.:** Either the American type Osram valves or Mullard's PM104V in the first push-pull stage, and PM104V in the preceding stage.

**W. E.A. (Dunedin).**—What are the best values of condensers to cut out 4YA?

**A.:** Use those specified for 2YA in the "Guide."

2. The condenser to cut out the local "B" station?

**A.:** If you wish to eliminate both stations, you had better use formodensers as described.

3. Would the wavetrap as described by "Megohm" in last week's "Record" be more suitable?—No.

**K. N. (Auckland):** I believe manufacturers are this year marketing superheterodyne receivers. Can they be used on an aerial?

**A.:** Yes, new models incorporate the improved circuit which is allowed on the aerial.

2. Will you publish a circuit of a super het. that can be used from an aerial?

**A.:** While not making any promises, we shall see what can be done in this regard.

**LAME DOG (Petone).**—I have constructed the knife-edge rejector from the 1931 "Guide," but not being able to obtain the specified condenser used the .0021 compensation type, and although I shielded the whole outfit I could not get the wavetrap to work.

**A.:** If the .002 condenser will adjust to a .001 capacity, as it probably will, we cannot help you. Hundreds of constructors have built the rejector, and been perfectly satisfied, but it is impossible to do anything other than tinker around with it until it works. Are you quite certain that because of the shielding you are not short-circuiting the wavetrap?

2. About what would a filament transformer cost?

**A.:** We should imagine about £3.

**C. H.W. (Invercargill):** I have added an r.f. amplifier to my set, but it will act only as a wavetrap.

**A.:** Your circuit is quite satisfactory, but it would be better if your transformer-

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- "Radio Operating Questions and Answers," by Nilson and Hornung, 14/-.
- "Radio Amateur Handbook" (Handy's) latest edition, 5/3.
- "Radio Amateur Call Book," latest quarterly, 5/3 (March, 1931).
- "Theory of Radio Communication," by Fligate, 12/-.
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