

QUESTIONS: ANSWERS

FRANK KEE



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.

STEP-UP (Greymouth): We regret that your query for coil specifications for all the amateur bands is quite out of the province of Questions and Answers. It would take us a considerable time to work out all the details you want. Full particulars were published and all bands were given when the article was published. Beyond this we cannot help you.

2. I have built the "Kestrel Three," but have omitted series condensers for altering the wave-band. Do I make any other alterations so as to use the set primarily for shortwave?

A.: Not if they are that type of alteration, for the series condenser in the aerial was put in because it was really necessary. If you use a separate primary you are losing strength. If you couple it directly in, not only would selectivity be poor, but you would be contravening the P. and T. Department's regulations. Did you really think we put that series condenser in for fun? If you want to make the set primarily shortwave use .0001 tuning condensers with a special shortwave choke.

3. I intend to erect a half-wave Zeppelin antenna. I have a 60-foot pole and about 110-foot space. Could you give me the particulars for erecting one, with regards to height, length, feeds, etc.?

A.: Height should be about 40 feet. Use eight wires, spaced evenly on insulating hoops. Height for 80-metre band about 30 feet.

FACE (Dunedin): I enclose specifications for a power transformer for transmitting purposes. Are they correct? The core is 1 3/8-in. square, winding length 3in.

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 distinct 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.

I am reckoning on approximately 3.9 turns per volt.

A.: No, your specifications are not correct. You must reckon, for your transformer, 4.2 turns per volt. This works out 1000 turns for the primary and 1080 turns for the secondary on either side of the centre tap. You could use 24 enamelled wire for the primary and 28 gauge for the secondary. Your transformer will deliver about 120 watts.

A.T.C. (Wellington): Would you give me valve base coil particulars for the "Round the World Shortwave Three"?
A.: Those given in table 4 in the list of specifications published on April 2 would just about suit your requirements.

I HAVE a pair of headphones in which the magnetism has apparently been destroyed by knocks. Is there any means of re-magnetising them?

A.: No; remagnetisation of phones is a difficult task and one which should be left to an expert. Even then it is not altogether satisfactory.

QUMX (Picton): Do you think I am using the most suitable valves for my American set?

A.: We think you would be better to change FM6 for RCA221. FM6 could be used in the last stage in the place of 112A, but there would be little or no improvement. It would, however, provide an extra power valve should it be needed. It is possible that 221 would be better than the valve you are now using in number one socket.

2. When I am listening to stations on the higher frequencies, a high-pitched, powerful rushing, whistling noise results, which ceases abruptly if I turn the tuning-dial round to beyond 32 on the scale.

A.: This is due to your set not being neutralised, and if you do not know how to go about re-neutralising it, it would not be a bad plan to get someone to neutralise it for you. Quite possibly the use of the valves we have suggested in the first stages would clear up the trouble, but we really think it will have to be re-neutralised. It is only a short and inexpensive job.

H.E. (Greymouth): How can I make my set more selective? It is a four-valve regenerative, separate primary for broadcast work.

A.: Without reducing your aerial or introducing other losses, it is almost impossible to make the set more selective. You could do so by adding another tuned stage, that is, using a coil of, say, 78 turns on a 2in. former, 26 d.s.c. wire, tuned by a .00035 condenser. Connect the aerial a third of the way down from one end, and take the lower end to earth. Connect the top end to the present aerial terminal of your set. Connect the earth also to the earth terminal of your set. This will make another tuning dial, but it will sharpen selectivity. There will be slight losses.

2. Would a midjet condenser in the aerial lead give improved selectivity?

A.: Yes, but there would be a loss in signal strength.

3. If an additional stage could be added would it need to be shielded?

A.: Not unless it were screen-grid. An extra stage would be quite possible, but there is no need to use a valve if you use the tuner we have described.

SUPER-HET (Christchurch): I wish to build a battery super-heterodyne adapter, using 615 and 609. Would these valves be suitable?

A.: Yes, they will be quite suitable. Use 615 in the oscillator and 609 as detector. A circuit for a battery adapter was published in the "Radio Record" a few weeks ago. It will be republished in the "Questions and Answers" booklet, which is now on the way.

2. I have a home-built two-valve short wave set, with valve base coils and two variable condensers, one with 7 plates and the other with 11. Is it possible to use these?

A.: Quite possible. The first condenser is a .0001, and the second a .00015. The latter can be used in the super-het. circuit.

EGMONT (Midhurst): Commencing at the top of the dial, volume control can be used full open, but as the dial is rotated the set breaks into oscillation, and

when volume is turned back, it plops badly.

A.: This points to a defect in the r.f. circuit, probably a broken-down by-pass condenser. Possibly a condenser across one of the r.f. biasing resistances.

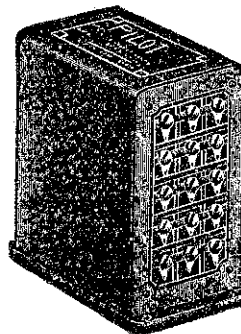
2. When the set is working on a station, reception is quite good, but it is accompanied by a slight hum, and when volume is turned back the hum disappears with a pop.

A.: This sometimes happens and is due not infrequently to a defective valve. However, it is undoubtedly coming from the same source from which the oscillation is arising.

3. The condition exists right down the dial, except that the lower the position on

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