

QUESTIONS AND ANSWERS

E.H.G. (Blenheim): Where could I obtain details of a modern battery set, taking not more than .5 amp. filament current?

A.: The "Simplex Superhet Four," described in the September, 1934, "Radio Times," is an excellent little set which would suit your requirements admirably. The set uses four valves, 1A6 pentagrid converter, 34 I.F. amplifier, a 32 leaky grid detector and a PM22A output pentode. The total filament drain is .38 amp., "B" battery drain approximately 14 mls. Full instructions for building this receiver are contained in the descriptive article. If you would prefer a t.r.f. type of set, you would find the "1935 Birthday Five," to be described in the April issue of the "Radio Times," gives excellent results.

F.D.H. (Hamilton): A single-valve short-wave converter using the AK1 octode will be described in the May issue of the "Radio Times."

F.A.B. (Ellerslie): Where could I obtain a good circuit diagram of a one or two-valve portable set?

A.: "The Trampers One," described in the January, 1934, "Radio Times," would suit your needs.

B.W. (Lower Hutt): The "Short-wave Club Two," described in the 1934 "Radio Guide," is one of the most efficient two-valve short-wavers that has yet been described. It uses a screen-grid detector and pentode audio valve.

A.M.K. (Wellington): I built up the a.c. screen-grid superhet converter described in the 1931 "Radio Guide," and it functions perfectly, GSD and European stations coming in very

clearly and loudly. I find, however, that as there is no "lift" in the converter I have to turn up the volume control of the broadcast set, with the result that reception is a little on the noisy side. Could I add an r.f. stage and use a 2A7 in place of the 224 and 227?

A.: Your simplest plan, which would avoid introducing another tuned circuit, would be to add a 58 i.f. amplifier. It will be a matter of experiment to determine whether your present coils would be suitable when using a 2A7 pentagrid converter. A simple but highly efficient converter using the AK1 octode will be described in next month's "Radio Times," and you might be able to use this circuit.

2.: I am planning to build a receiver using an r.f. and detector stage, with reaction, using a two-ganged tuning condenser. However, will not the addition of reaction upset the tuning? I intend to wind my own coils.

A.: The effect of the reaction winding on the inductance of the detector secondary can be largely nullified by putting several turns less on the latter than on the r.f. secondary. In this way quite good tracking can be obtained. Of course, if you wish to obtain the utmost in efficiency, it would be a simple matter to connect a five-plate midget trimmer across the detector section of the gang.

3.: In several of the sets described in the 1934 "Radio Guide," instructions are given for using one or two turns at the lower end of the secondary for reaction. Would this suit my purpose, and would I still be able to gang the two tuning condensers?

A.: Yes, this is known as electron-coupled regeneration, and by using it you will obtain very good tracking. The cathode tap should be taken off the grid winding at a point approximately one-third to one-quarter of the winding length away from the ground end.

L.W. (Wanganui): Judging from your letter, the new 226 to which you refer is defective, and should be subject to replacement.

"GRANDMA" (Kaiwaka): Your set is evidently an old model, and is not very selective. Re-alignment may effect an improvement, but this is doubtful. About the only ways in which selectivity could be improved are by using an aerial tuner or wave-trap, or by taking some turns off all the primaries on the r.f. coils.

L.T. (Invercargill): Is there any way of determining the capacity of a two and a three-gang condenser?

A.: The capacity varies appreciably with the size, number and spacing of the plates. Any radio dealer would no doubt be able to give you the capacity just by examining the condenser.

2.: I am enclosing a circuit diagram of a crystal set; is there any way of improving it?

A.: Yes, by tuning the coil with a variable condenser of from .00085 to .0005mfd. capacity, depending on the number of turns, gauge of wire, and diameter of former used.

"COMET" (Kaipara Flats): Would it be possible to build the "Comet Superhet Five" described in the November "Radio Times" to operate from an auto "B" eliminator?

A.: This could be done quite easily by using 6.3 volts equivalents of the valves specified. The "Motex Five," described in the August, 1934, "Radio Times," was a set of this kind, and you could obtain some useful hints by studying the diagrams and descriptions of this set.

"NIGHT AND DAY" (Temuka):

Your receiver is fundamentally an unselective type. To improve the selectivity, you could either use a single or double wave-trap to cut out any unwanted stations, or you could use an aerial tuner.

"O.G." (Timaru): My set fades out intermittently, but by placing my finger very lightly on one of the valves it commences operating again. I have had the valves tested, and have examined the socket for the possibil-

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