A.: As you are already using two transformers, no.

ANGEL (Palmerston North).—About what would be the cost of the material used in the short-wave adaptor described in the "R.R. Guide."

A.: Approximately £3/10/-.

LONG-WAVE (Auckland).—On a two-valve set how far should I be able to receive? I am using 45 volts.

A.: Little more than the local station satisfactorily. You will need higher voltage before you can reach other stations.

2. Could my set be converted into a short-wave, and about what would be the cost?

A.: You could use the parts in assembling "Round the World Two." You would need to reduce the capacity of the condensers with a series condenser. The cost would probably be less than £1.

3. Is the Octron a good valve?

A.: We do not know it, but presume it is one of the 201A type manufactured under license from the R.C.A. You should know if it is as good as the standard by the price. It should not be under 9/-.

4. Is the —— a good transformer?

A.: No, it is a cheap one.

G. M. (Dunedin).—Where could I obtain a diagram of a two-valve short-wave receiver using 199 valves?

A.: Construct "Round the World Two" described in the "R.R." February 28, 1930.

2. How far should I be able to reach out on earphones?

A.: This set will bring in London, and Russia.

CONTROL (Invercargill).—When I touch our dynamic speaker with any metal object, it can be heard in the speaker. Is this right?—Yes.

2. What is the consumption of our set in watts?

A.: 60 to 80.

3. Is our aerial of excessive length, 45 feet high, 115 feet long?

A.: Yes; unless you are troubled with excessive noise, or lack of selectivity, do not alter it, otherwise try .00025 condenser in series.

4. The dial light flickers. Is this a fault in the set?

A.: It may be loose in its socket, otherwise you should consult the agents who sold you the set.

E. T.A. (Ngunguru).—Can the first charge for the B accumulator described in the 1930 "Guide" be given with a car generator?

A.: If the directions in the "Guide" concerning the rate of charging are followed, the operation could be carried out successfully with the generator. Of course the B battery would have to be divided up in series parallel so that the section receiving the charge would be slightly less in voltage than that delivered by the generator.

2. Would a Daniells cell charger be sufficient to keep it charged?

A.: Yes, if the B battery is broken up in sections slightly less in voltage than that supplied by the chargers.

N. D.B. (Tolaga Bay).—If I cannot obtain 1.5/8-inch tubes, how many turns would I require on 1½in. tubes for Akarana band pass four?

A.: The number of turns can quite conveniently be the same as the small difference in diameter will make only a negligible difference in tuning.

2. Could short-wave be received on this set if fixed condensers were arranged so that they could be switched in series with the tuning condensers?

A.: Yes; to find out the number of turns for the coils, you would have to do an amount of experimenting. You could use as a basis the specifications given for valve base coils in the 1930 "Guide."

3. Would the set be more sensitive than the B.D. with an s.g. valve?

A.: No; but it would be more selective.

4. Could the Akarana B.P. 4 be built with two stages of s.g., and regenerative detector?—Yes.

AS our waiting list is now, with a few of last week's queries, brought up to date, would any correspondent who has written in and not received an answer, communicate again, restating his problem.

CURIOUS (Auckland).—Is the cabinet model of ——— receiver superior to the table model, and why?

A.: The cabinet provides a bigger baffle, and this improves the tone.

2. Which is the difference between two models (cited)?

A.: 66 is an a.c. model, with three stages of screen grid, one of 227 and two of 250. The other is a battery model with three stages of 222, one of 112A, and two 171A's.

Note.—Sorry, "Curious," be we cannot compare commercially-made receivers.

INTERESTED (Auckland).—Why do we get much better reception from the B class Dunedin station than from the A station?

A.: This appears to be locality trouble. Our own experience has been that 4YA is the most reliable.

RADIO FIEND (Halcombe).—When the aerial condenser is tuned below 30 degrees, everything is cut clean out, but bad motor-boating commences. Below the centre point of the dial the readings do not agree.

A.: It seems that the moving and the fixed vanes are making contact below 30 degrees, and in the other that the coils are not properly matched. There may be stray capacity due to proximity of metal parts or the condensers may not be of the same precise value.

2. I tried altering the aerial condenser by seriesing several fixed condensers. They altered the reading backward and forward. Why?

A.: You were altering the capacity of the tuning condenser, and this would naturally affect the reading.

A. W.W. (Otago).—How can I eliminate hum pick-up from electric light mains when I use long leads from a crystal set to headphones in another room.

A.: The leads may be too close to one another, or run too close to the electric light mains.

CONTROLS (Gisborne).—What are the number of turns and size of wire to tune between 15 and 110 metres, using 00015 tuning condensers, and a 2½in. former?

A.: 16-30 metres 3sec. 4 tick.
28-45 metres 6sec. 5 tick.
43-65 metres 11sec. 6 tick.
62-115 metres 20sec. 7 tick.

These may have to be varied slightly.

2. What resistance is used for 200A and 201A valves?

A.: 4 ohms for the detector, and two for the a.f.

3. I have the adaptor in the 1930 "Guide," but get motor-boating. What is the cause and the cure?

A.: It is due probably to the grid circuit of the adaptor coupling with either the plate leads or part of the set. The leads should be short and well away from one another, and if necessary should be shielded as described. Are you using the small battery?

PROTON (Gisborne).—Can I use a screen grid valve in the detector stage of my kit set?

A.: Yes, a circuit will be published in a month or so.

2. Could I add an extra stage to this set?

A.: Yes; the method was described in the "R.R." about a month back.

3. Which would be better, a further stage of detection or another audio stage.

A.: The ordinary receiver has only one stage of detection. Two are found in heterodyne receivers, so you had better add another audio stage.

4. Do you know of a two-valve amplifier that would go with this set?

A.: You can add only one valve owing to coupling taking place when there are more than two transformers.