

A.: Resistance capacity has not the amplification that transformer has, though the former may have a better frequency response.

W. S. (Dunedin): I have constructed a short-wave adapter, using enclosed circuit. I cannot receive any stations although I can tune in the carrier wave. As soon as I cut out the whistle, the station disappears.

A.: Use a vernier control and, if necessary redesign your coils so as to use a smaller capacity condenser for both tuning and regeneration. Try another valve, preferably one of the special detectors.

"SYD." (Mercer): Is not the "Differential Two" as described in the "Radio Record" the same set as the "Night Hawk"? If so, why is a 2mfd. condenser and a 50,000 ohms resistance specified for the "Two" and not for the "Night Hawk"?

A.: The resistance and condenser were used in the "Differential Two" to make unnecessary a further tap. The "Night Hawk" is not quite the same as the "Differential Two," but is intended to be a complete version of that set. The Differential series was described so that constructors may start with a small set and work through to a big one. The "Night Hawk" on the other hand, was designed for those who wanted no more and no less than a two-valve receiver.

2. Why is a 2mfd. gridleak specified in one and a five in the other?

A.: A gridleak is more a matter of constructor's opinion. A 5 meg. leak gives a greater sensitivity and the 2 meg. better quality.

3. Why is 30 d.s.c. wire specified for use with a .00035 condenser in the "Dif. Two" and No. 28 d.s.c. wire in the "Night Hawk"?

A.: Either gauge of wire can be used.

4. The lay-out of the sets vary.

A.: For the reason we have already made clear.

5. If the "Dif. Four" is being built for all-wave work, which r.f. choke is most suitable?

A.: It depends upon what band the constructor wants to compromise. If he wants short-wave work primarily, a short-wave choke should be used; and the same applies to broadcast.

"JAY" (Kaikoura): Is my valve combination satisfactory?

A.: Yes, it is quite in order.

2. Volume is lessened when I put the aerial on the stud marked "long aerial." Why?

A.: Usually a condenser is connected in series with this stud so as to reduce the effective capacity of an over-long aerial. You do not need a smaller aerial.

2. When the sulphuric solution in a Daniell charger weakens, should water only be used to replenish it, or another solution made?

A.: It is far better to tip it out and make a fresh solution.

3. The blue stone lasts generally about a week without any addition. Is this in order?—Yes.

4. Could a short-wave adapter be added to my set, and how much would it cost?

A.: You could build one for about £3. 5. Would a water-pipe earth be less efficient as a ground than a sunken Ford radiator?

A.: This depends very much upon the way each installation is fixed up, but other things being equal, the Ford radiator should be the best.

H. E. (Greymouth): I cannot carry the full current of my B.D. without howling.

A.: It sounds as though a by-pass condenser has broken down. If these don't happen to be in your set they should be. One between B+ r.f. and A—, and a 2 mfd. condenser between B+ detector and A—.

2. The tone is muffled. The "B" batteries are about five months old and the tone is not affected by the "C" battery.

A.: It sounds as though your batteries are fairly well down. The "C" battery might be properly flat, but it should make some difference. At the same time a condenser between B+ and earth may help.

3. Sometimes I cannot tune down the volume control. At other times I can hardly get the stations.

A.: This again sounds like a defective by-pass condenser or a defective valve.

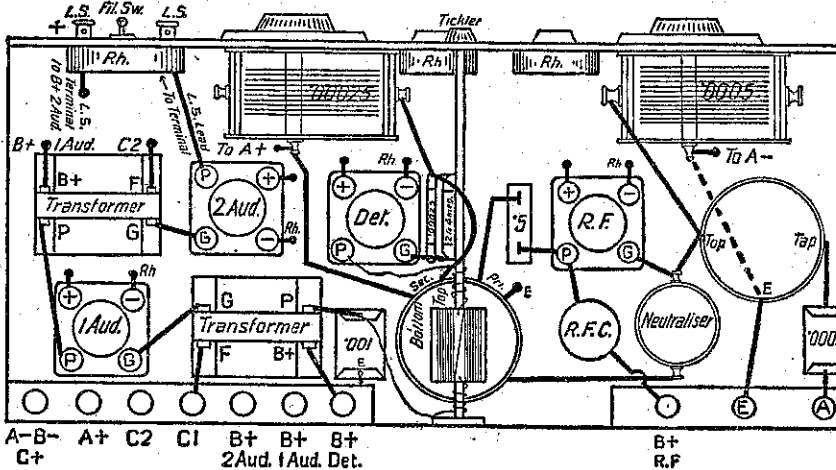
4. Would it be possible to redesign the set, using the one in the 1929 Guide?

A.: No four-valve set, unless specially designed, is selective. The "Dif. Four" will be more selective than the "B.D. Four."

3. Is it necessary to have the base-board for the "Dif. Four" 10in. wide?

A.: No. The width can be made to depend upon the size of components used. With the coils reduced to an 1½ in. diameter all sizes can be very much reduced. Possibly you could fit them well on a 8in. base.

4. Can you advise me the best book to increase my knowledge from the elementary stage?



A.: Yes; it would probably be better for you to do this. Check up your transformers and see if they are quite all right.

5. Would it be possible to use a short-wave adapter with the set?

A.: Yes, but get it going properly before you start doing anything like this. The same comment applies to your remarks about the screen-grid valve.

"SEARCHER" (Kaikahoe): I am enclosing a lay-out of the B.D. Four which I have built, but the audio valve will not light.

A.: The filament wiring is altogether wrong. To start with, you have the radio frequency valve in series before the others. Follow a layout such as that given in the 1929 "Guide."

2. I have two condensers, one with 27 plates and one with 25. How can I find the capacities?

A.: They are both about .0005. The capacity can be found by a formula.

2. The "Dif. Four," I have been told, will not be a selective set. Is this so?

A.: If you have acquired the knowledge presented in the "Listeners' Guide" you will find the next step up in Moorecroft "Elements of Radio Communication."

R. W. (Pakaraka): Am I doing my set any harm by switching from phones to loudspeaker without shutting off the current?—No, but you might get a shock.

"LEARNING" (Wellington): For distant stations what would be the best earth—a zinc water pipe about 9ft. in the earth with the earth wire fastened by an earth clamp or a piece of flat copper about 6 x 12 with the earth wire soldered to it and buried 6ft. in the ground?

A.: Possibly the latter.

2. What would be the best earth wire—a piece of 7-stranded insulated electric light wire or a single-stranded copper wire?—The former.

"PUZZLED" (Christchurch): What would make my "B" batteries run down in less than a week?

A.: It sounds very much like a broken-down condenser or some wires shorting within the set.

2. Would the valves be likely to cause the trouble?

A.: Not unless they were internally shorting, which is unlikely if they will operate.

3. Is the combination a good one? A.: Yes, it is a good combination, and the "A" consumption is very low.

Of Topical Interest

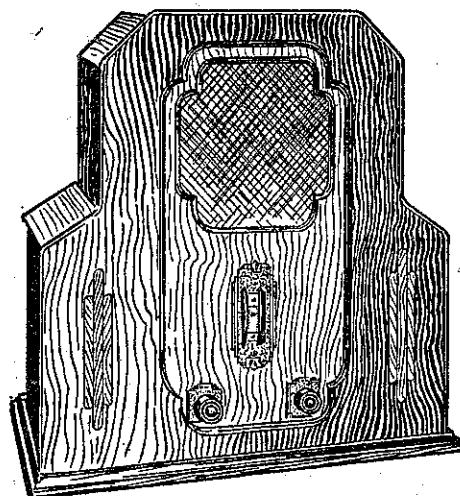
(By "Call-up.")

A NUMBER of new artists will make their initial appearance from 1YA within the next week or two. Miss Merle Miller, studio pianist at 3YA, and a former Sydney Conservatorium student, has a very fine soprano voice, and she will give a brief recital of classical songs on February 24. On February 25 Mr. D. R. Jackson, baritone, who comes from Australia, where he was with the Gonzalez Opera Company, will be heard in "Australian Bush Songs," by James. Miss Betty Zukerman, soprano, will make her microphone debut on February 28.

TWO outstanding programmes from 1YA during March will be one by the Tramway Choir, conducted by Mr. Duncan Black, popular 1YA soloist, and the historical play, "Joan of Arc," presented by Mr. J. F. Montague and his company.

THE last relay of the Municipal Band from Albert Park will be on Sunday, February 22. The relays of this band will be recommenced on Saturday, March 7, from the Town Hall. During this latter relay listeners will hear songs by Miss Cicely Audibert, who is an ex-professional artist and one very popular with listeners to 3YA. She will also sing from the 1YA studio on March 5 and 6.

KNOW the time all over the world with a DX Clock.



£27/10/- Complete
TERMS TO SUIT.

"Pilot" The Latest and Best

The "PILOT" Electric Midget

SHIPMENT JUST OPENED UP

FEATURES:—

Results same as "Full Console."

2-224 Screen-grid Stages—Powerful "Pick-up" and Keen Selectivity.

1-224 Screen-grid Power Detector—Freedom from Distortion.

1-227 First Audio Stage and 1-245 Power Audio Output Stage operating on Electrodynamic Speaker of Special Pilot design—Makes Tone Pure and Full.

1-280 Rectifier—Wonderful Power.

Full Shielding Throughout.

Two-toned "Class" Walnut Case.

Portable and yet will grace any home.

Harringtons

(N.Z.), LTD.

40-42 WILLIS STREET, WELLINGTON.
142 QUEEN STREET, AUCKLAND.
"The Home of Guaranteed Radio."