

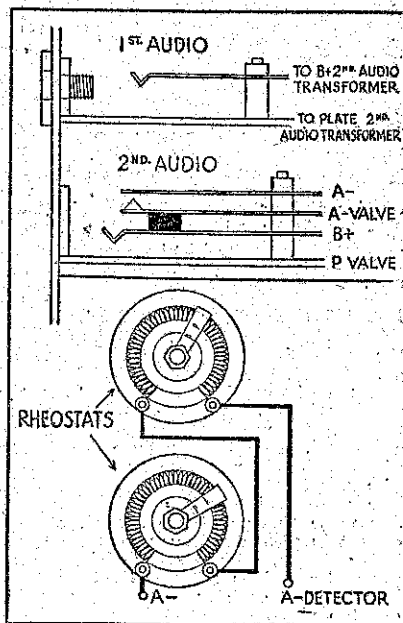


THE Technical Editor has asked me for a description of my set. Well, really, that is a difficult task, for an experimenter rarely has his set quite the same from one week-end to another. Things are always rough. One is continually changing components about, trying different things, and generally improving reception. After he has done this a few times the set begins to look far from the original neat job it was intended to be. And this is to some extent true about mine—but it enables me to get good results, and that is everything.

In the first place I do not believe in cramping a set, but at the same time I strongly decry the use of long leads. They must run direct, particularly those carrying high frequency current. Do not worry about the look of the set. It will certainly not look as good as nicely-bent stiff wires, but there is a big difference when it comes to results. Run your wires direct; take them by the shortest path. Until you know just what you are doing, do not be too keen to depart from the layout given. Every competent experimenter has his own ideas about this, but they nearly all come down to the same fundamental rules.

The whole cabinet is metal, and the screen grid valve is not only shielded from the rest of the set, but above the grid is another shield, reaching to the top of the cabinet.

You will notice that I am using big coils. Now some people are going to say they are old-fashioned, but, al-



though they take a little time to make and are perhaps more bulky than the neater valve base coil, there is no doubt they are more efficient. I use a large number of coils—six—but this is to provide ample overlap so that no station need be brought in with the condenser almost full in. To obtain the best results there should be as little capacity and as much inductance in the circuit as possible. This means that big coils and small condensers are to be preferred. Now you know why I have so many coils. If I want one station in particular, I make a special coil for it. I have done this for G5SW, so that I can bring him in at about 10 on my dial.

I suggest that double spaced condensers be used for the two tuners, and if you wish to tune very finely, use the ball-bearing type with special 200-1 vernier dials. You will find that the detector stage is far more critical than the radio, so if some of your parts are better than others, put the good ones into that stage.

ANOTHER wrinkle that I have discovered is that the detector filament voltage is very critical and, what is more, it works best a long way below its rated voltage. I find that 60 ohms should be used on the filament of the detector valve. Valves vary, and, what is more, they vary from

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The "Sellens" S

Four Valves with

By F. W. Sel

We publish here details of a set wave enthusiasts. It is the one used by the president of the Short-wave Club, Wellington. Many correspondents have requested details of the circuit. There could be few occasions when it might be described.

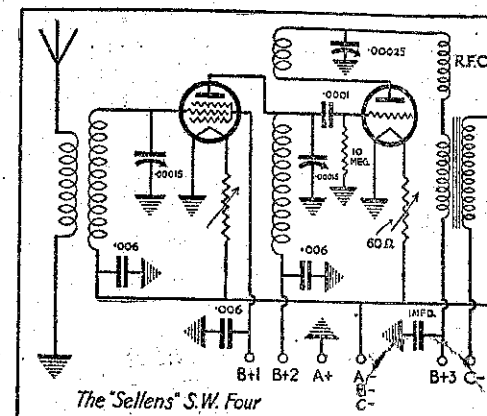
time to time, and you will find that for very best results these two rheostats will have to be altered fairly often. The rheostat controlling the radio valve need be adjusted only the once. It then "stays put."

I do not believe in the use of a filament switch. A far better plan is to use the rheostat outside the set. When a battery is charged it may be as high as 6.5 volts and it gradually falls until it might be as low as 5.75. I use a rheostat between this battery and the set and so maintain the current as near as possible to 6 volts. When the set is finished with I merely turn out the rheostat. By using a switch the current is cut off sharply and the process is analogous with stopping a car by jumping on the brakes when it is travelling at top speed. Far better to turn off the gas and apply the brakes gently.

If you look at the theoretical circuit you will see very many by-pass condensers. These have been put in because they have been really necessary, particularly because I use an eliminator—an ordinary commercial job—and this accounts for the apparent surfeit of condensers. In the detector lead from my eliminator I use an ordinary Ferranti B3 choke and a 4 mfd. by-pass condenser. I can listen-in on phones and get only the slightest hiss, which is no greater than R1.

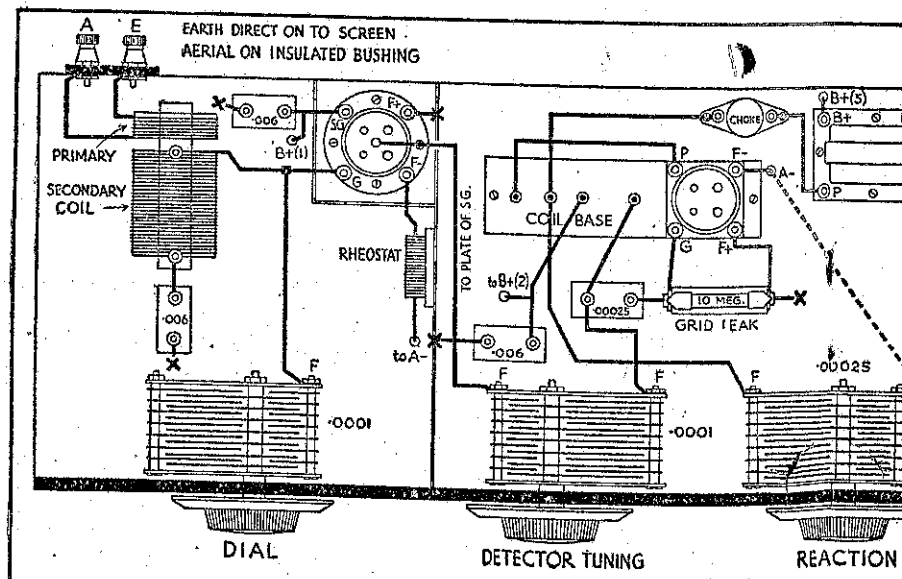
In tinkering around the set I found that a .006 condenser between the grid of the first audio and the plate of the second audio would sometimes be beneficial and at other times would reduce signal strength and make a quieter background, so I fixed it up with a switch. I have shown this on the diagrams.

OF the sub-panel wiring there is very little, and I have thought it unnecessary to prepare a separate diagram. The filament wiring and the leads to the batteries or eliminator are all that pass under the base. The filament wires have been indicated by dotted lines, while the other battery



connections are shown disappearing into holes. From there they go by the shortest route to the power supply. Attached to the "B" leads are the one microfarad condensers. These are joined at convenient places by connecting the battery wire on one side and the other side to the metal sub-panel. Condensers have been shown in all the leads, but if batteries are used most of these are unnecessary. The detector one is the most important, whether batteries or eliminator are used.

It was a... Only one... is shown... the m... detect... tions, c... plates. The present... merely from t...



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