

The "KESTREL THREE"

Continued from Last Week

By the Technical Editor

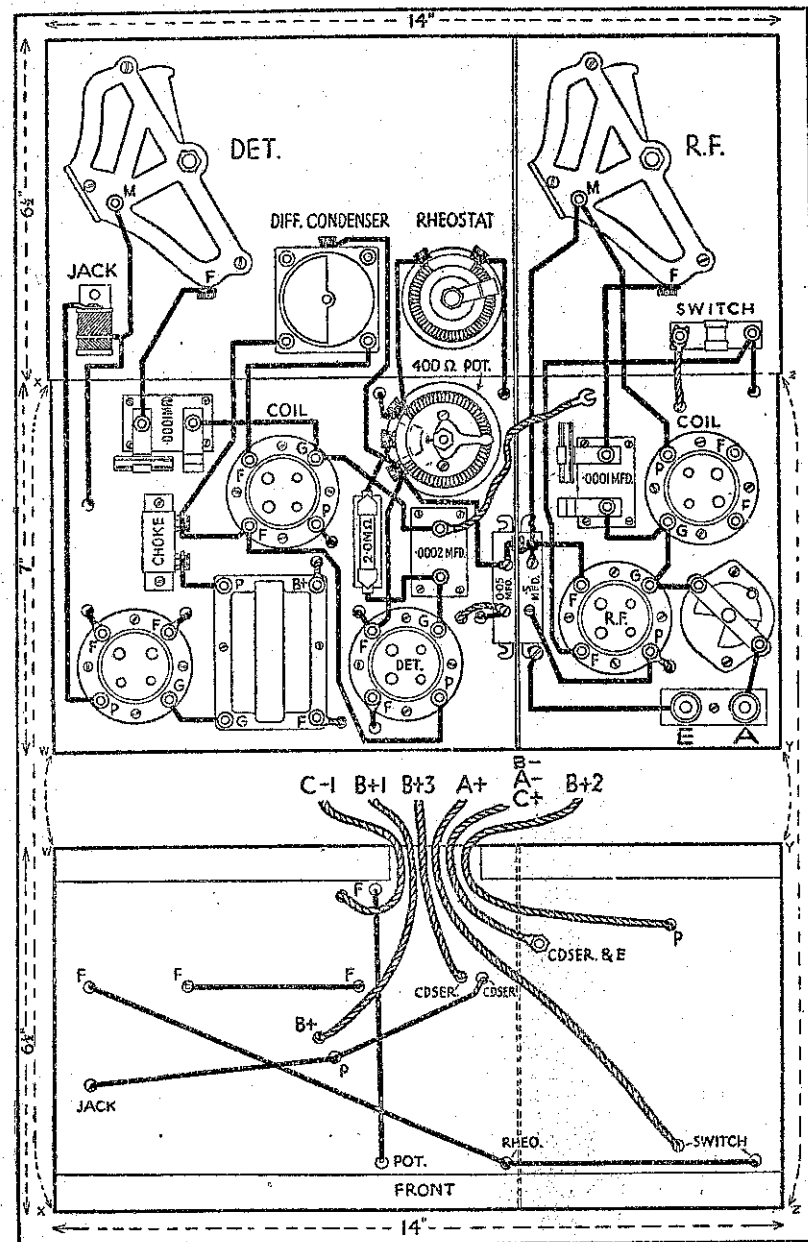


WHEN all the components are in position and firmly screwed down to the baseboard, and the panel mounted in position, we are ready for the wiring. Now, just before commencing the wiring, check over the position of all the components to see that they are right. Make quite certain that all the holes indicated on the layout have been drilled. Probably by now those who have had a little experience in construction will prefer to go on without further comment, but just in case someone who does not know too much about construction is building the set, we will detail the wiring from point to point.

From the aerial terminal take a short wire to the moving plate of the midjet condenser. The fixed plates are connected with "G" of the valve socket, with "G" of the coil socket, and with one end of the .0001 fixed condenser. The other end of this condenser is connected with the fixed plate of the r.f. tuning condenser nearby. Two wires go from the moving plates of this condenser, one to "P" of the coil socket and the other to the .5 mfd. fixed condenser. A hole must be drilled in the shield just above this connection and a bolt passed through it with a solder lug on either side. This terminal of the condenser must connect to earth. Now join the solder lugs to the condenser. From this same point a wire goes to "F" of the valve socket. The free side of the .5 mfd. condenser connects with "C" of the valve socket, but there is also another connection to go underneath the baseboard, which we shall make a little later. Connect "F" of the valve socket (that of course is a free guess) to the right-hand side (that is, when you are looking at it from the back) of the switch. The wire from here will also go under the baseboard, but we will talk of that later.

The left-hand side of the switch is left free for the time being. The earth terminal is connected to the screw that is holding the .5 mfd. condenser to the shield. We have now finished the wiring of the radio side. From "P" of the detector socket, a wire runs back to "F" of the coil socket. Another wire goes from this point to one terminal of the radio frequency choke and from this same terminal a wire goes to one of the set of fixed plates of the differential condenser. The grid terminal of the valve socket is connected with one end of the .0002 condenser nearby and with one end of the grid leak. The other end of the grid leak is connected with the centre point of the 400 ohms potentiometer. The free terminal of the .0002 fixed condenser is connected with "G" of the coil-holder and through the screen to the plate of the screen-grid valve. As this is not in position, leave a fairly long length of flex connected with this point on the .0002 condenser. We will have more to say about this connection later on.

Another wire is taken from "G" of the coil-holder, and this time it goes to the near end of a .0001 condenser, the other of which connects with the fixed plate of the detector tuning condenser. The moving plates of the detector con-



denser connect with the lower tag of the phone jack. There is also another connection from this point, but we will come back to this.

The side of the 400 ohms potentiometer nearest the panel is connected to one of the terminals of the rheostat and the remaining terminal of this potentiometer is connected to three places, first to the moving plates of the differential condenser, secondly to the nearer terminal of the .05 by-pass condenser and thirdly to "F" of the detector valve socket which has also a connection going underneath the baseboard. It will be noticed that near the connection we made to the .05 condenser there is another bolt with a solder lug, so we connect this terminal of the condenser to

this solder lug. If we now turn our attention to the radio frequency choke, we will see that there is one terminal not yet used, so we connect this with "P" of the transformer, although we connect "G" of the transformer to "G" of the audio valve socket. "P" of this valve is connected to the top terminal on the phone jack. We are now ready to complete the set with the under baseboard wiring.

We shall start at the switch. Pass a wire through the hole on the right hand side of the switch (looking from behind), and take this along to the hole underneath the free terminal of the rheostat, and connect it to this. Also

to this terminal join another wire, pass it through the same hole underneath and run it along to the "F" terminal of the audio valve. There are two "F" terminals, and if they are marked positive or negative, connect it to the positive terminal, that is, the one on the left-hand side at the back. The other "F" terminal of this valve socket is connected through a hole to "F" on the detector valve. One "F" is free and the other has a wire going to the potentiometer, so we join this wire to the one that has already a wire joined to it. This, by the way, is "F-." The only free terminal on the detector valve socket is "F+," and this goes through the hole to the terminal of the 400 ohms potentiometer nearest the panel.

This, you will notice, has already been joined with the rheostat. Another connection goes from the lower tag of the phone jack to the plate terminal of the detector coil holder, and another wire goes from this point underneath the baseboard to the free terminal of the .05 mfd. condenser. This completes the under-baseboard wiring, with the exception of the battery cable. To make a neat job of this, cut out a piece of the flap supporting the baseboard, just sufficient to allow the cable to fit in without lifting the set off its base. Then screw a piece of metal across to hold it in position. Slip eight or nine inches through, cut away the braid for about nine inches, and take one strand through the hole underneath the left hand terminal of the switch. This is "A+," and should be the red wire. The black wire is "A-" and must connect with one of the bolts that hold the screen to the baseboard. If you have followed the diagram there will be one just handy. The brown wire in the cable goes through the hole to the plate of the r.f. valve and connects with that terminal.

The blue or green wire goes through the baseboard and connects with "F" of the audio transformer. This will be the grid-bias connection. The brown wire is taken to the other hole near the audio transformer, and is connected with "B+." The remaining strand in the cable is taken through the hole near the .05 mfd. condenser and connected with the terminal on which there is already a wire going underneath the baseboard. This is the rear terminal, and connects with the lower tag on the phone jack and with the coil base. We have now almost finished, but shall make a few comments about the connection to the top of the screen grid valve. This must go through the screen. Although, if you drill an 1-Sin. hole and pass through a fairly heavily-covered flex you will get quite satisfactory results, yet we have found the best plan is to use specially armoured cable to make this connection. Short lengths of about four or five inches with a terminal at each end are available, and if a threaded bush is used a very neat job can be made of fitting this through to the hole in the screen. A connecting wire can then be fitted between the panel side terminal of the grid condenser and the terminal on the connector. The other side will have a spade terminal fixed to it, and will be used for connection with the plate of the screen-grid valve.