

The "CATHODE" Super

(Part IV)

By "CATHODE"

So far we have completed the power pack and final amplifier, and progressed with the receiver proper to the extent of assembling the chassis and the intermediate band-pass filters; the coils should also be under way. The assembly and wiring of the rest of the receiver, while bound to take a fair time, will not be found at all difficult if tackled systematically in the manner to be outlined.

The screening boxes containing the intermediate filters should first be placed temporarily in position and the components adjacent to them—i.e. valveholders, resistances, condensers, choke, and audio transformer—positioned in the spaces between the filters and at the end of the chassis in the manner indicated in Fig. 1. The aluminium boxes may then be carefully removed and the components mentioned secured in place with the assurance that they will not foul the filter units when these come finally to be mounted.

The three remaining valveholders may next be mounted on the front part of the chassis in the positions indicated. At this stage the small terminal strip shown in the view of the bottom of the chassis should be prepared and mounted. At the other end of the chassis a 60 ohm centre-tapped resistance should be mounted either upon an insulated mounting or upon the wooden batten which strengthens the chassis at this point. Between

the 2½ volts terminals on the terminal strip and the ends of the 60 ohm resistance a heavy twisted twin lead should be run (wire of at least 16 s.w.g. must be used) and at suitable points along this lead short twin leads should branch off to the heater terminals on each valveholder. Some little care is needed in joining the short leads to the main one, the proximity of the joints being apt to cause shorts unless care is taken with the insulation. The centre of the 60 ohm resistance will be seen to be earthed direct to the chassis as are numerous other components. The B negative terminal on the terminal strip is also connected directly to the chassis.

Completing The Mounting.

At this stage all the remaining components which are to be mounted above the chassis should be secured in place and such holes as are necessary for leads to the underpart drilled. It is important that the top components should all be in place before those underneath the chassis are mounted as, whereas the placement of the first-mentioned parts is important, those below the chassis can, within limits, be shifted round so as not to foul

screws and leads penetrating the chassis.

As regards the aerial and earth terminals, the earth connection is, of course, merely a straightforward terminal mounted directly on the screening strip separating the front section of the receiver from the rear section. It is located at the extreme left hand end where, too, the aerial connections are located. As separate aerial connections are required for broadcast and short-wave reception (the high-frequency stage being cut out on short-wave) it is convenient to provide a pair of sockets at this point, into either of which a banana plug affixed to the aerial lead may be inserted. The leads from the plugs are clearly shown in the diagram.

The .0001 mfd. variable condenser used for controlling oscillator feedback should be of the solid dielectric type, partly because a condenser of small dimensions is called for, but principally to avoid any possibility of damage resulting from the two sets of plates shorting. This condenser must be insulated from the chassis, this being most conveniently accomplished by mounting a scrap of insulating material on a little aluminium bracket and mounting the condenser on the tiny panel so provided.

It is advisable to attach the leads to the plug-in coil holders before mounting them within the screens. Unless these wires are attached and led through the screen in advance, the utmost difficulty will be found in doing this part of the work. The attachment of the coil-mount and screen to

the chassis is a rather awkward little job, but can be fairly readily accomplished if the bolts are first secured to the screwdriver with a scrap of Chaterton's compound or some similar material.

The trimming condensers should, of course, already be mounted on the panel and wired in parallel with the first two sections of the gang condenser.

Under-Chassis Components.

THE components under the chassis can all be mounted now. As previously explained their exact location is unimportant, being dictated principally by the necessity of clearing the components on the upper surface. Naturally, however, some effort will be made to keep the lead as short as possible, while by-pass condensers will be mounted as near as possible to the point to which the high-potential end of the condenser is wired. The earth terminals of all the by-pass condensers are connected directly to the chassis.

A word in connection with the high-frequency chokes will not be out of place here. That in the plate circuit of the second detector clearly has to deal with intermediate frequencies, so that a high-inductance choke should be chosen for this position—e.g. a choke of English manufacture designed for use in a long-wave receiver. The choke in the plate circuit of the oscillator, however, deals with high-frequencies only, and a choke having not too high an inductance will be most suitable for this position.

The remainder of the wiring may now be proceeded with, and in order to avoid confusion the reader is strongly advised to follow a definite programme in making the connections. For example, the cathode terminals of all the valveholders—except the oscil-

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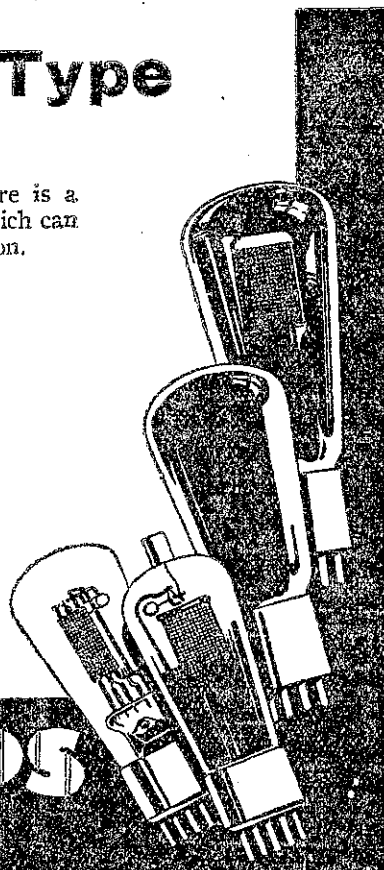
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