to that of a corresponding A.C. mains receiver; the only differences between the two lie in the arrangements for high tension supply and in the heater circuit. These differences can be seen from the accompanying diagram which shows in skeleton form the heater and anode feed arrangements for a conventional 3-valve receiver employing a Mullard D.C. screened pentode, Type S.P. 20; Mullard D.C. detector, Type H.L. 20 and Mullard D.C. output pentode, Type PEN. 20. It will be observed that the heaters for the three valves are connected in series in such a way that the detector heater is connected to the earthed side of the mains. A smoothing circuit consisting of a choke (Z1) and reservoir condensers (C1 and C2), is provided for smoothing the heater current. The use of this smoothing circuit is advisable but not essential and the decision on this point depends largely upon the amount of ripple present in the direct current supply. The "barretter" or regulating lamp is indicated at B.

ANODE FEED CIRCUIT.

The high tension supply is taken directly from the D.C. mains through a suitable smoothing circuit. In the diagram separate smoothing circuits are indicated for the high frequency and detector stages and for the output stage, and are indicated as Z2, C3 and Z3, C4. In order to obtain the different voltages required for detector and high frequency stages, screen voltages and so forth, the usual voltage-dropping resistances must be included and complete decoupling of all anode circuits is essential.

GRID BIAS.

The automatic biassing arrangements follow standard practice for indirectly-heated mains valves, an article upon which will be found on pages 54 to 56. Complete decoupling of all biassing circuits is very essential for D.C. mains operation.