

Fig. 4.—A simplified circuit diagram. The three keys are operated simultaneously.

10-ft. pole, whence a lead is taken into the operating building.

Fig. 3 gives a diagram of the earth system.

Transmitter.

The transmitter is a Marconi 6-kw. valve set employing six M.T.4 oscillating valves

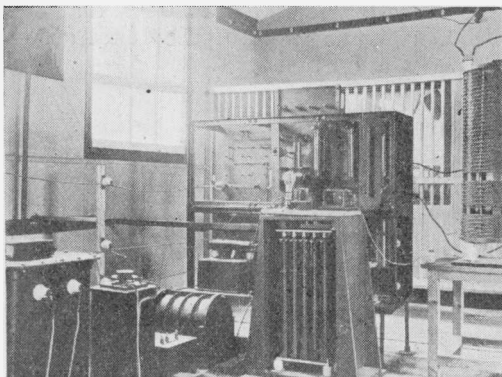


Fig. 5.—Back view of the panel.

and four M.R.4 rectifying valves. A simplified circuit diagram is given in Fig. 4. Power is supplied to the set at 500 volts 300 cycles, and is stepped up to 15,000 volts before being

applied to the rectifying valves, which thus supply H.T. to the oscillating valves at about 10,000 volts D.C. The ripple on the rectified H.T. supply is smoothed by two condensers of $.25 \mu F$ operating in conjunction with a choke coil, as indicated.

The valve filaments are supplied from a stepdown transformer having two secondaries one supplying the rectifiers and the other the oscillators. By this means independent control is obtained, variable choke coils being inserted in each circuit to control the voltage applied to the valves. It should be noted that the valves are run at constant voltage as this is found to give a considerably longer life than with constant current working.

The oscillating circuit is of the direct-coupled type, the aerial constituting the tuned circuit, and an untuned reaction coil being connected in the grid circuit. A_1 is the feed ammeter, and A_2 is the aerial ammeter operated through an air core transformer.

The parallel H.T. connection is employed as is usually the case for medium and high power sets, a high-frequency choke coil being inserted in the H.T. supply lead to keep the high-frequency currents from flow-