

ing back through the transformer. A condenser is also placed in the anode tap lead, as otherwise the H.T. would have a direct short circuit path through the A.T.I. to earth.

Keying is effected by several electromagnetic keys, marked K_1 , K_2 and K_3 in Fig. 4. These keys are normally open and are closed simultaneously by the depression of the operating key.

K_1 makes or breaks the primary circuit of the main transformer. K_2 controls the grid circuit, simply serving to disconnect the grid reaction coil when the key is up. As the

The aerial current is 20 amperes, the aerial resistance being of the order of 4 ohms, so that the actual high-frequency energy is about $1\frac{1}{2}$ kw.

Power Plant.

All the necessary power is generated on the station itself. There are two 16-kw. direct-coupled generating sets supplying D.C. at 110 volts. The engines are Robey semi-diesel type, running off crude oil. The sets are run on alternate days and normally charge a 450-amp.-hour battery, which supplies the station for the remainder of

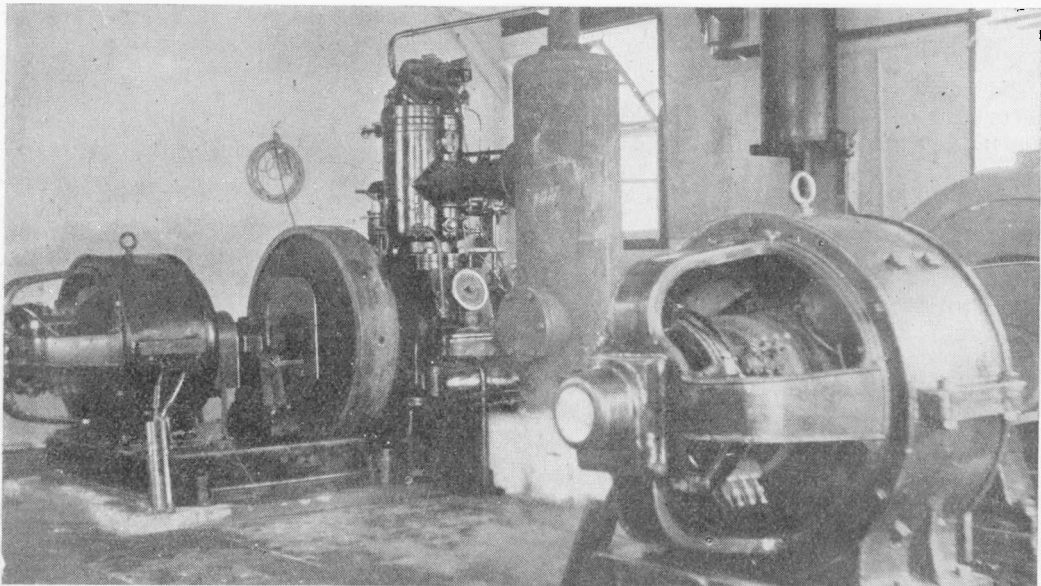


Fig. 6.—A general view of the generator plant.

H.T. supply is disconnected simultaneously there is no possibility of "grid tick." K_3 controls the compensating choke. When the load comes on the set the voltage drops slightly. To compensate for this a choke is inserted in the primary of the filament transformer which is short-circuited by the depression of the key, so increasing the voltage on the filaments sufficiently to make up for the drop in alternator voltage.

Fig. 5 gives a view of the back of the panel. The main and filament transformers can be seen on the left, while the A.T.I. is on the extreme right.

the day, although arrangements can be made in case of emergency to eliminate the battery. Figs. 6 and 7 give views of the generating plant and switchboard.

Lighting for the station is run direct off the battery. The power for the set, however, is supplied through a motor alternator converting to A.C. at 500 volts 300 cycles. There are two such machines (one standby) housed in the apparatus room with the valve panel; this room also contains a motor generator set and distribution board for charging the filament batteries for the receiver.