

U S E F U L D A T A

| <u>TRANSMITTER</u> | <u>T.1</u> | <u>T.2</u> | <u>T.3.</u> |
|--------------------------------|-----------------------------|---|---------------------|
| Manufacturer | M.W.T.Co. | M.W.T.Co. | S.T. & C. |
| Service | Reserve (Home or Light) | Light | Home |
| Frequency Kc/s | 908/1214 | 1214 | 908 |
| Wavelength (metres) | 330/247 | 247 | 330 |
| Modulation | Low power choke | Low power choke | High Power Class B. |
| Carrier Power KW | 50 | 50 | 140 |
| Total Power Input KW | 242 | 257.6 | 335 |
| Overall Efficiency % | 20.6 | 19.4 | 41.8 |
| Final stage conv. Efficiency % | 31.3 | 31.3 | 71 |
| Type of feeder | Concentric Tube | 5 wire open | 5 wire open |
| Impedance into feeder from T/X | 109.3 + j 11.8 | 314 <u>/0</u> | 292 - j 20.9 |
| Aerial | 4 wire T between 200' Masts | 4 wire T between 200' Masts with 350' Mast as reflector | 500ft Mast radiator |
| Top Hamper ft. | 300 | 260 | - |
| Aerial driving point impedance | 96 + j 274 | 916 + j 13.2 | 104.5 - j 222 |
| Cooling water flow galls/min | 52 | 50 | 204 |

Power supplies to Transmitter

| | | |
|-----------------------|--|--|
| Filaments Motor | 65HP. 220V. 247A 570rpm. Compound | 118BHP. 380V. 165A/ph. 50 C/s 725 rpm. |
| Generator | 39KW. 15/30V. 1300A. 570rpm. Shunt | 75KW 30V. 2500A. 725rpm. |
| Exciter | - - - | 2KW. 110V. 18.2A |
| Grid Bias Motor | 3BHP. 220V. 12A. 1500 rpm. | |
| Gen. 1 (A Unit) | 350/500 V. 0.5A 1500 rpm. | Rectfr. 130 V. |
| 2 (B Unit) | 0.4KW. 1000/2000V 0.2A " | " 1000 V. |
| 3 (C Unit) | 1 KW. 150/250V. 4A. " | " 250 V. |
| Aux. H.T. Motor. Gen. | 3.5 BHP. 220V. 14A 1500 rpm. 2.1 KW 2500/3500V 0.6A 1500 rpm. | Rectfr. 425 V. " 850 V. "(M.V) 2250 V. |
| Main EHT. | Motor driving two high voltage generators in series. Motor 250HP. 220V. 915A 720 rpm. Compound. Generators: 80/120KW 3500/6000V 23/16A 220 V. Exciter. | B.T-H. Mercury Arc Rectfrs. 418/450/450/KW. 13.5/14.5/15.5/ KV. 31/31/29 A |

POWER SUPPLIES FOR STATION

Incoming supplies from E.E.B. 10.5 KV. 3ph. 50 C/s

Auxiliary Transformers: Metropolitan-Vickers.
300 KVA. 10,500/410V. 16.1/413A 3ph. 50c/s

Converter Plant:- G.E.C. Three 6 ph. M.A.R.s working normally in parallel. Rating of each Rectifier:-
220/240 V. 910 A.

Emergency Diesel Generators:-

Diesels - Rushton & Hornsby. 6 cylinder vertical
airless injection type.
300 BHP. 300 rpm. Fuel Consumption 12 galls/hr.
(at normal load.)

Generators - 200/233 KW. 200/260V. 900A
300 rpm. Shunt.

Emergency Battery Supply:- 900AH. 115 cells. 230Volts.

Battery Boosters:- Motor - 65BHP. 220V. 247A 570 rpm. Compound.
Generator 35KW. 35/100V. 1000/350A 570 rpm. Sep.excd.
0/28KW 0/70V. 400A 570 rpm. Sep.excd.

GENERAL DETAILS

Site 64 acres

Height above sea level 420 ft.

F.1 MAST 500 ft high. Weight of mast - 45 tons
Total downward load 180 tons supported on 2" dia
steelball.

200ft. Masts. Weight steelwork only = 20 tons.approx.
Max. load on one leg foundation is 30 tons.
Weight of concrete in one leg foundation = 15 tons approx.

Station went into Service 14th October 1929.