

Marconi High Power H.F Automatic Aerial Exchanges

Type H 1410 series

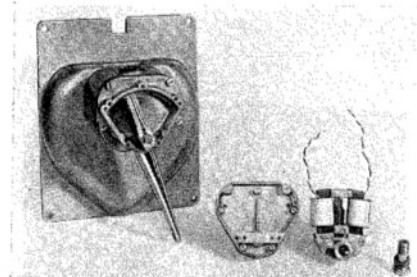
The 2 in. coaxial feeder switch Type H 1420 is suitable for applications where it is desired to feed a number of high powered h.f transmitters to selected aerial outputs. The switching is performed throughout at an impedance of 50 Ω .

An electrically controlled vane-type pneumatic actuator operates the switch from a remote position.

The switches are built up in blocks of five into a frame assembly to form a switching matrix. Three sizes of frame assemblies are available with capacities for interconnecting 5, 10 and 15 transmitters and 5 aerial feeders.

Any number of frame assemblies may be mounted side by side and interconnected to extend the capacity of the switching matrix.

The basic switch unit consists of a cast aluminium box, measuring approximately 6 in. square by 3 in. deep, on the back of which four 2 in. coaxial feeders or feeder links may be terminated. The front of the box provides a bearing for the switch rotor shaft and the operating handle. Auxiliary contacts are operated when the switch is moved, and may be connected into interlock or switch position indicating circuits. Any number of identical switch units may be linked together by the special feeder links to build up a feeder exchange. In this way a matrix may be formed, so that each horizontal row can, for example, be connected to the output feeder of a separate transmitter, and each vertical row to an individual outlet. To prevent the possibility of the same transmitter being



H1086

Type H 1420 Automatic Aerial Switch

connected to more than one outlet, or one outlet to more than one transmitter, a mechanical interlock system is used.

The pneumatic actuator, which is capable of exerting a torque considerably in excess of the maximum required to operate the switch, is controlled by a double-solenoid operated air valve. An air supply of 60 lb/in.² is required.

The whole actuator is contained within the frontal area of the switch and only protrudes 4 in. (10 cm). It does not, therefore, interfere in any way with the mounting of a number of switches to form a matrix. The electrical control leads and small-bore nylon air tubes are fed along the channel between rows of switches.

Micro-switches are incorporated to enable remote indication of the switch positions to be arranged and to enable any interlock system to be introduced. Manual changeover is also possible.

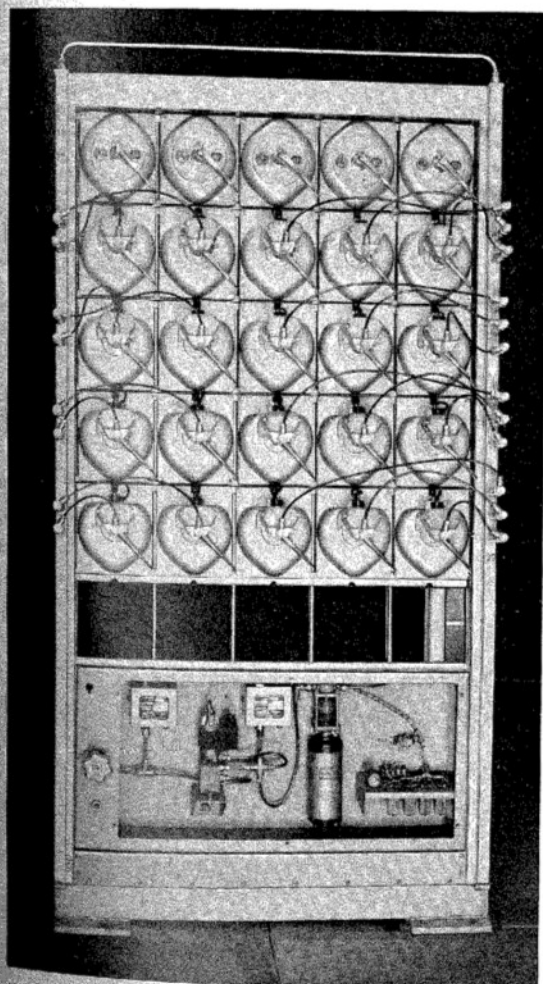
DATA SUMMARY

| | | |
|---------------------------------|-------------------------------|-----------|
| Frequency range: | 2-30 MHz. | |
| Power handling capacity: | 20 kW continuous 30 kW p.e.p. | |
| Impedance: | 50 Ω nominal. | |
| Change-over time: | 1 s. (approx.) | |
| Air supply required: | 60 lb/in. ² | |
| Solenoid supply: | 50 V d.c 0-12 A. | |
| Dimensions: | | |
| Height | 6 $\frac{1}{2}$ in. | (17.5 cm) |
| Width | 5 $\frac{1}{2}$ in. | (14.9 cm) |
| Depth | 8 $\frac{1}{2}$ in. | (21.6 cm) |
| Weight | 8 $\frac{1}{2}$ lb | (3.9 kg) |

THE MARCONI COMPANY LIMITED

Radio Communications Division

Marconi House, Chelmsford, Essex
 Telephone: Chelmsford 53221. Telex: 99201
 Telegrams: Expanse Chelmsford Telex



Y1071

Type H 1410 Automatic Aerial Exchange with air supply