

# Marconi U.H.F Feeder and Auxiliary Equipment for Television Broadcasting

The range of coaxial feeder equipment described is particularly suitable for use with u.h.f transmitters and form the 'building blocks' for custom built transmission systems and combining unit assemblies. The fittings are fully compatible with the E.I.A requirements and are available in the 1½ in., 3¼ in. and 6½ in. sizes to carry television signals up to powers of 50 kW peak of sync. The feeders consist of aluminium outers and copper inners and are supplied in lengths of 10 ft (3.05 m) or 12 ft (3.66 m).

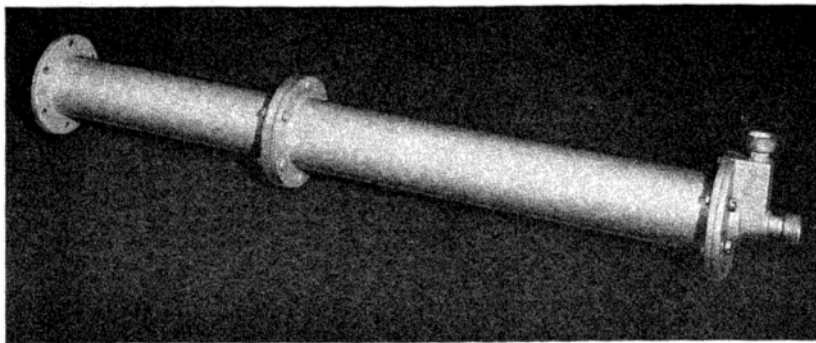
### Manual Feeder Switches

These switches are 'cross-over' (transfer) type. In operation, the two coaxial inputs change over to the opposite outputs. A motorized version of the 6½ in. switch is available for remote control; it has a manual

over-ride so that manual control can be used if the motor drive should fail. The switches are invaluable for switching a transmitter into a test load for setting-up or testing, aerial change-over and emergency feeder facilities.

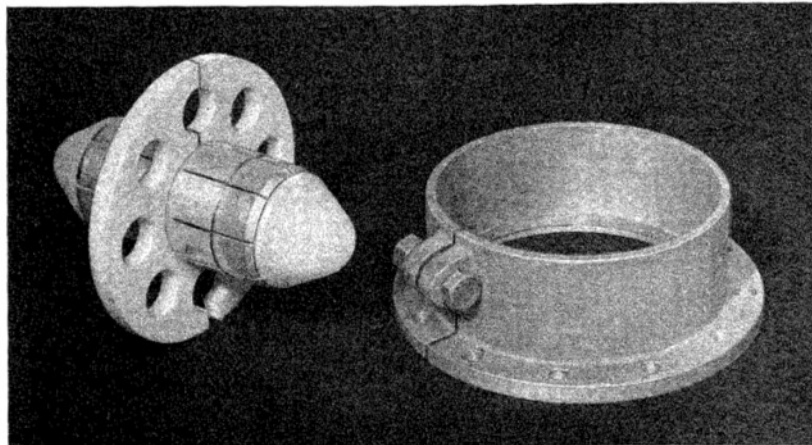
### Specification:

Termination (E.I.A Flange)	1½ in.	3¼ in.	6½ in.
Characteristic Impedance, ohms	50	50	50
V.S.W.R, Maximum	<1.03:1	<1.06:1	<1.04:1
Crosstalk, not worse than	-58 dB	-40 dB	-60 dB
Power Rating, KW Peak	6.25	25	50
Feeder Entries	Side	Rear	Side
Frequency Range MHz	470-960	470-960	470-854



40 kW liquid-cooled U.H.F test load

B1241



Double-ended Spring Plug (Inner Connector) BT 05-8030-01 and Flange for Feeder Tube BT 07-8030-01

B1242

Ambient Temperature Range °C	0-40	0-40	0-40
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### Harmonic Attenuator

The Harmonic Attenuator is usually part of the B8144 Combining Unit System Assembly; it is placed in each of the vision and sound inputs to reduce transmission of the 2nd and 3rd harmonics of the carrier.

### Specification:

Termination (E.I.A Flange)	1½ in.	3¼ in.	6½ in.
Characteristic Impedance, Ohms	50	50	50
Harmonic Attenuation (2nd and 3rd) dB	30	30	30
V.S.W.R, Maximum	<1.03:1	<1.06:1	<1.1:1
Frequency Range, MHz	470-960	470-960	470-854
Power Rating, kW Peak	6.25	25	50
Ambient Temperature Range, °C	0-40	0-40	0-40

### 90° Angle Bend

The bend consists of an aluminium outer and a matched inner, terminating in spring connectors. The bend is attached to the feeder by bolts through a rotating flange.

### Specification:

Termination (E.I.A Flange)	1½ in.	1½ in.	6½ in.
Characteristic Impedance, Ohms	50	50	50
V.S.W.R, Maximum	±1.01:1	±1.02:1	±1.02:1
Power Rating, kW Peak	6.25	25	50
Frequency Range, MHz	470-960	470-960	470-854
Ambient Temperature Range, °C	0-40	0-40	0-40



6½ in. Right Angle Bend

### Clamp Flanges and Inner Connectors

Straight lengths of feeder are joined by clamps on the feeder outers having standard E.I.A. flanges, and double-ended spring plugs and insulators for the inners. The components are available for all three sizes of feeder.

### U-Link Panel

An alternative to the Feeder Switch is the U-Link Panel. The Panel comprises four coaxial sockets mounted in square formation on an aluminium panel, and a U-Link which can be plugged into pairs of sockets.

The U-Link is held in position by quick-release clamps.

#### Specification:

Termination (E.I.A. Flange)	6½ in.
Characteristic Impedance, Ohms	50
V.S.W.R, Maximum	< 1.05:1
Power Rating, kW Peak	50
Frequency Range, MHz	470-854
Ambient Temperature, °C	0-40

Size of Panel 2 ft 4 $\frac{7}{8}$  in. × 2 ft 3 $\frac{3}{8}$  in.  
(72.5 cm × 71.6 cm)

### 40 kW Liquid-cooled U.H.F Test Load

The test load uses a water/glycol mixture for the coolant. Accurate measurements of power may be made, using the flow-meter and thermometers associated with the test load. Connection of the feeder to the test load is by a 3½ in. E.I.A. flange.

#### Specification:

Power Dissipation 40 kW Peak Sync.  
Vision plus  
8 kW F.M Sound

Frequency Range 470-854 MHz

Characteristic

Impedance 50 ohms

V.S.W.R,

Maximum < 1.04:1

Operating

Position Vertical

Maximum Outlet

Temperature of

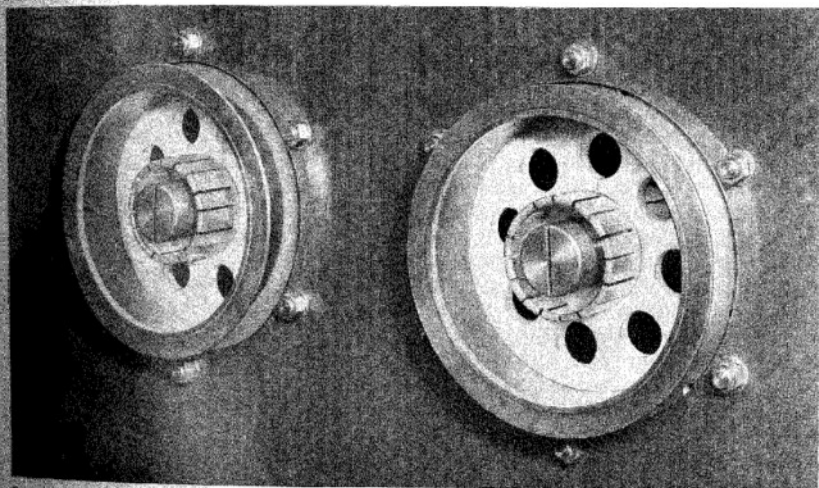
Coolant 55°C

Dimensions

Length 38 in. (96.5 cm)

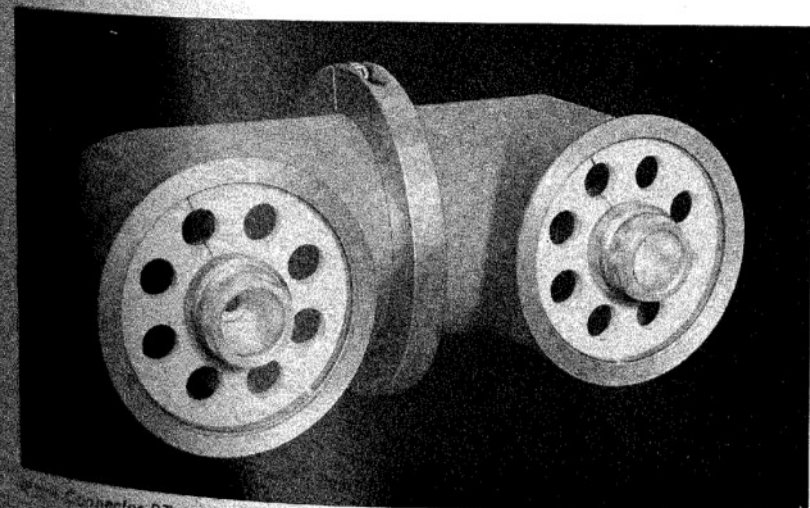
Max. Diameter 5½ in.

(13.7 cm)



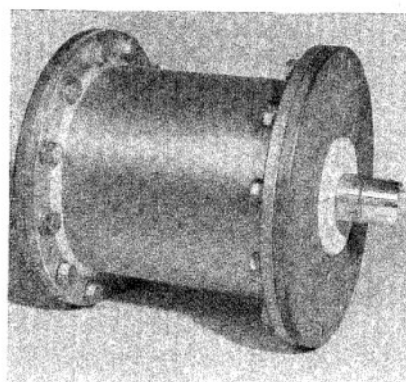
Panel-mounted Sockets for 6½ in. Feeder U-link Connector, comprising Flange BT 02-8034-01 and Spring Plug (Inner Connector) BT 02-8034-03

B1243



U-link Connector BT 01-8034-01 for 6½ in. Feeder

B1244



A 3½ in. Harmonic Attenuator

B1245

### THE MARCONI COMPANY LIMITED Broadcasting Division

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