



## Television Switching System Type BD 937

THE REQUIREMENTS of the television industry for programme switching systems are extremely varied. The Type BD 937 System is designed to meet the needs of:

- A master control switching system for small television stations.
- A presentation studio mixer of the 'next channel' type.
- An A/B and cut studio mixer.
- A special-effects selector.
- Additional preview switching for use with larger mixers.

### Features

- Provision for 12 inputs and 3 outputs.
- Vision and sound switching.
- Input isolation amplifier provided on all inputs.
- Roving preview provided.
- Emergency by-pass provided.
- Each cross point uses a highly reliable spring-wire contact relay.
- Matrix housed in a dustproof box.
- Transistors used throughout.
- Plug-in units and modular construction for ease of servicing.

### EQUIPMENT

The equipment consists of a control panel, a mixer mounting frame and a relay matrix.

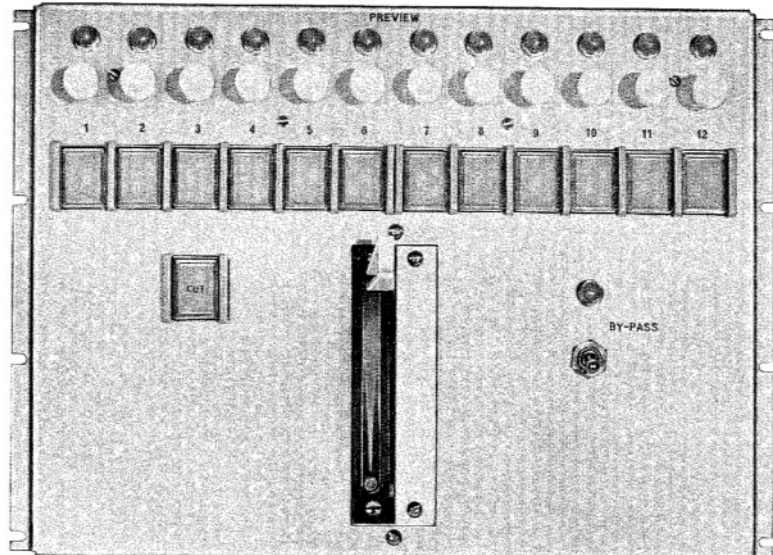
**Control panel.** The control panel fits into a control desk aperture of approximately 14 in. x 12 in. (36 cm x 31 cm). The cutting buttons are normally illuminated green, yellow or blue when on preview, and change to red when on transmission. A single fader is provided. A cut to the selected source takes place at the bottom of the fade.

**Matrix.** The relay matrix is enclosed in a dustproof box and is mounted in a 19-inch (48 cm) rack.

**Mixer.** The electronic units are of modular construction and are contained in a frame for 19-inch rack mounting.

### OPERATION

The matrix contains four rows of relays. The fourth row is used to provide the switching sequence and the routing of cues. It is adjusted by changing links on a tag board.



9054

**Next-channel mixing.** In the standard unit the first two rows of relays are arranged for 'next-channel' pre-selection. Thus, if an input on the first row is selected and 'on air', any other input on the second row can be previewed. When the previewed source is wanted for transmission it can be switched to line by operating the cut button or fade control. Cutting is carried out during the field blanking period.

The third row of relays of the matrix is available for a roving preview which, in the event of a failure in the electronic circuits, can be used for transmission by the operation of a by-pass switch.

As one picture is faded down, separated synchronizing pulses (which are extracted before the A/B fader) are fed into the other input of the fader, so ensuring a constant level of synchronizing pulses at the output.

**A/B and cut studio mixer.** In this application normally two matrices will be joined together to form a larger mixer. The links on the tag board provide for three independent outputs, each with its own output isolation amplifier. Associated units are available for cross-mixing and fading of local and remote pictures.

**Special effects and preview selection.** Since the three rows can readily be isolated the matrix can be used for special effects and preview selection. Used in this manner the

matrix is remarkably flexible and can provide almost any of the standard services required of mixers.

### Data Summary

**HF response:**  $\pm 0.2$  dB to 6 Mc/s; not more than  $-3$  dB at 10 Mc/s.

**LF response:** Tilt on 50 c/s square wave not more than 2%.

**Input impedance:**  $75 \Omega \pm 2 \Omega$  to 5 Mc/s.

**Output impedance:**  $75 \Omega \pm 5 \Omega$  to 5 Mc/s.

**Crosstalk:** Less than 50 dB at 5 Mc/s.

#### Dimensions:

Height	Width	Depth
Matrix		
1 ft 2 in.	1 ft 7 in.	1 ft 1 in.
(35.6 cm)	(48.3 cm)	(33 cm)

#### Control panel

12½ in.	1 ft 1⅜ in.
(31 cm)	(33 cm)

#### Mixer mounting frame

5½ in.	1 ft 7 in.	1 ft 5½ in.
(14 cm)	(48.3 cm)	(45 cm)

### Marconi

Marconi's Wireless Telegraph Company Limited  
Marconi House, Chelmsford, Essex  
Telephone: Chelmsford 3221 · Telex: 1953  
Telegrams: Expanse Chelmsford Telex