



Module System of Sound Control Units FOR TELEVISION AND BROADCASTING

IN this system a number of compact transistorized units or modules have been produced which form the basis of the equipments to be described.

By their use almost any requirement of the broadcast engineer can be met. The series is continually being expanded to fulfil the necessary configurations of more complex systems.

Each module is an assembly in the shape of a book which can be built into a studio console or desk, and comprises a complete unit including the amplifier control panel and quadrant fader where required.

The use of transistors and printed wiring boards has led to extremely compact units having greater reliability and power economy due to the much smaller power supply units required. Also the form of construction has considerably reduced the production costs relative to earlier designs.

Each module is a plug-in unit (using gold plated connectors) thus allowing it to be immediately replaced in the event of failure.

The fader controls have associated scales which illuminate as the fader begins its travel. Six colours are available, so that groups and main control can be distinguished by different colours. The system can be extended to operate warning lamps.

The modules are in two series which differ mechanically only in the width of the individual units, i.e. 1½ in. (3 cm) or 2¼ in. (7 cm).

CHANNEL/ECHO AMPLIFIER

In this unit two separate inputs, at levels differing by up to 60 dB, are selected. The selected input is transformer-coupled to a three-stage transistor amplifier whose output matches a built-in 600 Ω constant-impedance bridged 'T' fader. A pre-set gain control is provided which can be varied between 10 and 40 dB. The amplifier is followed by an emitter-follower stage, driving two further stages giving isolated outputs which can be used individually for feeding programme, echo or public address lines.

Programme echo-control is provided by a twin-ganged attenuator allowing adjustment of the echo contribution. In addition two push-button switches give isolated outputs for public address and 'fold-back' requirements.

Pre-fade listening is available by pressing the fader control beyond the 'infinity' position, when a spring-loaded contact permits

an output to be taken from the circuit before the fader.

CHANNEL SPLITTER AMPLIFIER

This unit is similar to the channel/echo unit except that the echo balance control is omitted, making it suitable for use where the echo facility is not required but where two isolated outputs are necessary.

GROUP SPLITTER AMPLIFIER

This unit is used for group control and therefore does not require the full facilities of the channel splitter amplifier. It provides two isolated outputs and also has provision for a low level input into 600 ohms.

The switches for public address and fold-back facilities are omitted.

BOOSTER AMPLIFIER

This amplifier is useful in positions where a fade control is not required, the amplifier gain control being used to control the output level.

It accepts a low-level input into 600 ohms and provides a single output.

PROGRAMME AMPLIFIER

This module is designed for use as a main

programme amplifier. The circuit comprises a 600-ohm input transformer followed by a two-stage directly coupled amplifier whose output impedance matches a 600-ohm constant-impedance bridged-'T' fader control. The output of the fader drives a second amplifier consisting of a long-tailed pair followed by a push-pull output.

SINGLE AND DUAL INPUT ISOLATION AMPLIFIERS (under development)

These are variants of the isolation amplifier giving a combined signal control by means of a quadrant fader. The dual unit is used when it is required to bridge two separate 600-ohm lines and mix their programme contents.

DUAL HIGH-LEVEL UNIT

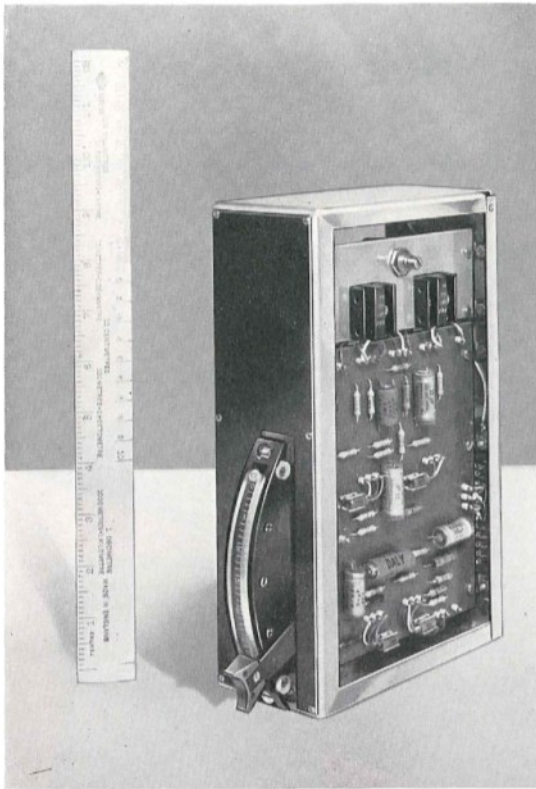
This unit provides the means of controlling two high-level signals. Each channel consists of a 600-ohm transformer followed by a quadrant fader control.

TRIPLE-INPUT HIGH-LEVEL UNIT

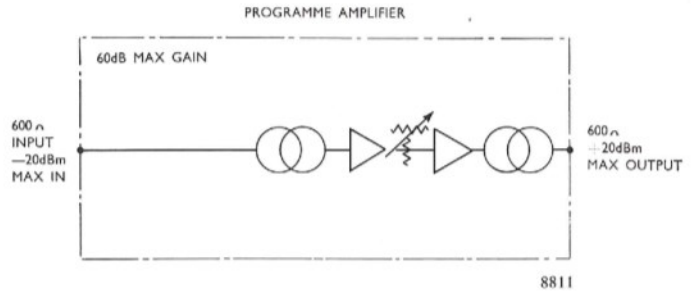
This is a variant of the dual high-level unit having the means of selecting three inputs per channel.

Data Summary

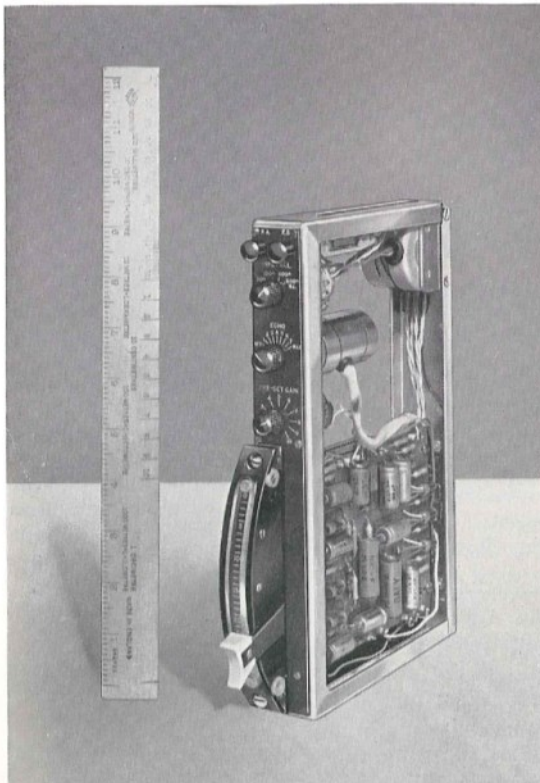
	Channel/echo	Channel splitter	Programme	Isolation
Frequency response:	Within ±0.5 dB of the level at 1 kc/s over the range 30 c/s – 15 kc/s.	As Channel/echo	±0.5 dB	±0.5 dB
Distortion:	Better than 0.5% at 60 c/s and 1000 c/s.	As Channel/echo	1% at 60 c/s 0.5% at 1000 c/s	1% at 60 c/s 0.5% 1000 c/s
Maximum input level:	–25 dBm	—	–20 dBm	+20 dBm
Input impedance:	Low level, 30, 150 or 600 Ω. High level 600 Ω.	As Channel/echo	600 Ω	10 k Ω
Amplifier gain:	Pre-set between 10 and 40 dB.	—	60 dB (max.)	+20 dB (max.)
Output isolation:	Better than 60 dB	Better than 60 dB.	—	—
Output level:	–10 dBm	–10 dBm	+20 dBm (max.)	+20 dBm (max.)
Output impedance:	600 Ω unbal.	600 Ω unbal.	600 Ω bal. or unbal.	600 Ω bal. or unbal.
Dimensions:	All units are 9½ in. (24 cm) high and 5¼ in. (14.6 cm) deep and either 1½ in. (3 cm) or 2¼ in. (7 cm) wide depending on function.			



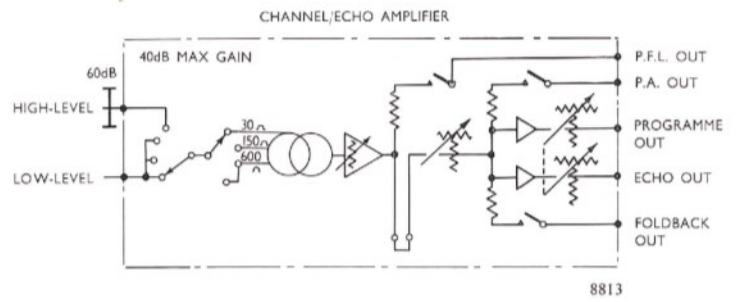
8810



Programme amplifier.



8812



Channel/echo amplifier.

Marconi

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