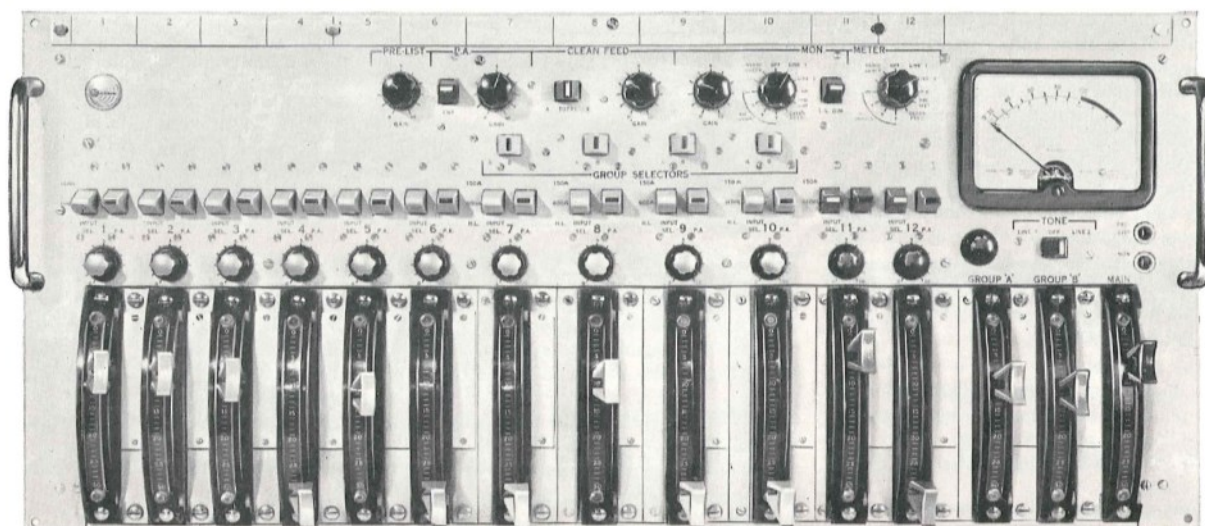




Sound Mixer Type B 1103 (BD 972) for Television



9761

THE B 1103 is basically a 12-channel sound mixer, designed for television outside-broadcast units and small television studios. Additional echo and foldback facilities may be added without affecting the length of the panel. One or two groups of six channels may be added to make it an 18 or 24-channel mixer and these extension units can include echo and foldback facilities. The mixer is fully transistorized and the units are normally also supplied ready for mounting in the customer's own desk, but can also be mounted in cases if required.

FACILITIES

Main unit

12 microphone channels, complete with input impedance selector, pre-set gain control and plug-in quadrant fader.

Two groups, one for 6 low-level channels and one for 2 low-level channels. The remaining 4 channels will accept either high or low-level inputs and can be switched separately to either group.

Two main-programme outputs, at 75 or 600 Ω .

'Clean feed' output which can be fed from either group, or the main output, at 75 or 600 Ω .

Programme meter (either v.u or peak programme) with a 12-way selector switch.

Monitor selector with gain controls and loudspeaker dimming.

Public address facility on every channel.

Tone source included.

Pre-fade listen facility incorporated in fader back stop.

External cue on two inputs.

Echo extension unit includes differential echo-mix control for 8 channels; echo cut and selector for each group; foldback switch for each channel, with output-level control.

Channel extension unit

6 microphone channels (4 low-level, 2 high-level or low-level) complete with input impedance selector pre-set gain control and plug-in quadrant faders and group control.

Differential echo-mix controls for each channel.

Foldback switch for each channel.

EQUIPMENT

CONSTRUCTION

The desk assembly can be built-up, using a main unit and one or two extension units, depending upon whether twelve, eighteen or twenty-four channels are required.

The basic unit is functionally split into 6+6 inputs with a fader on each group.

The first six microphone inputs are always fed to group B. Under normal conditions channel 7, 8, 9, and 10 are fed as low-level channels into group B. It is possible, however, to switch any of these channels to group A and also each one can be switched to accept a high-level input.

Each input has an impedance-selector switch (150 and 600 ohms) and a pre-set gain control of 30 dB. This control is followed by a plug-in quadrant fader. Each channel amplifier is a plug-in unit removable from the front panel.

The two group faders and the main fader are of the same type as used for the channel faders and can be interchanged.

Two outputs are available, both 'switchable' between 75 and 600 ohms using wire links. For outside-broadcast use, a 75-ohm source can be used to feed a non-loaded 600-ohm line and a 600-ohm source is then used to feed the communication unit for distribution to cameramen, etc. When the mixer is used in a studio, 600-ohm outputs are used to feed the programme line and the communication unit.

Auxiliary controls

Pre-fade listen facilities are available on each channel using the overpress micro-switch at the bottom of each channel fader travel. The output is taken via a rotary

gain control and output amplifier. Each channel may also be selected for feeding a public address system using a key situated beside each channel-impedance selector. The output is via a cut key and rotary gain control. The clean feed output is taken via separate amplifiers from the group fader outputs, and a three position key selects either group output or both. The selected output is via a rotary gain control and separate amplifiers.

Metering and monitoring

Either a peak-programme or v.u meter can be fitted and this meter can be switched to various points. The tone source is used as a calibrating signal for the peak-programme meter and can be switched to either of the output lines.

A monitoring output at zero level and 600 ohms is available and is switched to the same sources as the meter. A gain control and loudspeaker-dim switch are provided and a monitoring point is available for listening on 'phones'.

Echo extension unit

The signals from channels 1-6 and 11-12 are routed from the channel faders via splitting amplifiers to separate halves of differential echo-mix controls. These controls allow for any combination of original signal to echo signal to be obtained by rotation of the one control. An 'echo cut and selector' key, switched between the six sources in group A, the two sources in group B and an 'off' position, controls the signal to the external echo unit via a gain control and amplifier. The output from the echo unit is returned via a second fader to its appropriate group.

A key for each channel and both groups provides selection of sources, via a rotary volume control, to an external loudspeaker for foldback purposes.

Two separate equalizer circuits are provided, each switchable between two channels. Variable boost and cut is provided at two different frequencies 60 c/s and 10 kc/s and variable boost only at 3 kc/s.

The echo extension unit is mechanically coupled to the main panel via a hinge. This enables the extension panel to be at an angle to the main panel thereby decreasing the distance to the furthestmost controls from the operator's position.

Channel extension unit

Six microphone inputs are fed into one group, two of these inputs being switchable to accept high-level sources. This gives a maximum of eight high-level inputs in a 24-channel sound mixer.

Each input has an impedance selector between 150 and 600 ohms and a pre-set

gain control of 30 dB, these controls are followed by a plug-in quadrant fader identical to those used in the main 12-channel mixer unit.

Channel extension unit outputs are fed back to the main panel of the main output amplifier and fader to provide a third and fourth group with separate group faders.

Signals from all channels are routed via echo-mix differential controls similar to those on the main control panel. The signal selected for echo is then fed to the external echo unit via the main-panel selector switch, gain control and amplifier. The output from the echo unit is returned via a second fader to the group control.

A key for each channel provides selection of sources via the rotary gain control on the main panel to the external foldback loudspeaker.

The channel extension units are fitted side by side to the main panel. Signal and power connections are made via multiway plugs and sockets at the rear of the units.

Data Summary

D.C power: 24 V, 2.5 A - 2.5 A - 5 A depending upon the number of channels.

Sound: Maximum peak output +20 dBm into 600 Ω . Normal output +4 dBm.

Output impedances of main unit: 2 main outputs at 75 or 600 Ω .

1 clean feed at 75 or 600 Ω .

1 public address output at 600 Ω .

Output impedances of echo extension unit: 1 foldback output at 600 Ω .

1 echo send and 1 echo return line both at 600 Ω .

Frequency response: ± 2 dB from 30 c/s to 15 kc/s. ± 0.5 dB from 100 c/s to 8 kc/s.

Distortion (at 60 c/s or 1 kc/s):

(a) 600 Ω output feeding into 600 Ω .

0.5% +4 dBm output.

1% +20 dBm output.

(b) 75 Ω output feeding into a load between 150 and 1000 Ω .

1% +4 dBm output.

4% +20 dBm output.

Gain (max.): 104 dB (± 2 dB).

Noise level: Not more than -50 dBm with 70 dB gain. -60 dBm with main fader closed.

Dimensions:

Height	Width	Length	Weight
12-channel mixer	10 $\frac{1}{2}$ in.	11 $\frac{1}{8}$ in.	24 $\frac{1}{8}$ in. 75 lb.
	(25.5 cm)	(28.0 cm)	(61.1 cm) (34 kg)
18-channel mixer:	Length increased to 37 in. (91.6 cm.).		
24-channel mixer:	Length increased to 49 in. (124.0 cm).		
Echo extension unit:	Width increased to 15 $\frac{9}{16}$ in. (44.0 cm) maximum.		

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Marconi

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