

MATRIX 4 MIXER



Cloud
Clearly better sound

MATRIX 4 MIXER

The Matrix 4 from Cloud is designed to provide a one box solution for microphone, background music and paging distribution in hotel, conference and multi-function venues where the sound system is required to offer flexible routing for up to 4 zones. The Matrix 4 front panel provides clear status information and simple user controls while, being behind the scenes, its sophisticated circuitry provides a host of facilities and options.

The principal features include; 4 microphone inputs plus paging mic with full priority; 2 line level music inputs with source select on each zone; tamperproof, separate equalisation for mic and music on all four zones; tamperproof pre-set level control for paging, adjustable for each zone; automatic priority for all mic signals over all music signals; a dedicated four zone paging mic with (defeatable) built-in chime is available. All of this makes the Matrix 4 a potent and flexible proposition. Meticulously engineered and solidly constructed, comprehensively equipped yet simple to operate, the Matrix 4 is a flexible friend to user and contractor alike.

Applications

Key applications for this versatile product are seen as:

Complete solution to the needs of conference rooms, hospitality suites and multifunctional venues. Sophisticated mic/line/zone mixer designed to make life easy for hotel staff and others charged with the business of making things happen.

Microphone Inputs

The Matrix 4 has four microphone inputs; these have electronically balanced, low noise circuitry and connection is via XLR type connectors. Each of the four inputs is suitable for microphones with an impedance in the range of 200 to 600 ohms. The microphone amplifier has two gain settings, selected by configuring PCB mounted jumpers; the high gain option is

compatible with most low impedance microphones and the low gain setting suits line level signals such as radio microphones and the like. All four microphone signals operate without priority over any other mic signal. All microphone signals have priority over music signals; when a mic signal is detected, the music signal will be reduced by 30dB, smoothly restoring to its previous level when the announcement ceases. The paging microphone has total priority over all other microphones and music.

Microphone Routing

The front panel of the Matrix 4 has four routing switches for each of the four microphone inputs; this allows full flexibility where any microphone can operate in any zone or combination of zones. The illuminated switches

provide clear indication of signal routing and can be clearly understood by unskilled operators. The paging microphone also has four routing switches to allow full control of paging announcements.

Microphone Equalisation

Pre-set treble and bass controls are provided for the microphone signals on each of the four zones; this provides the means to optimise the equalisation for differing acoustic conditions in each zone. Once the equalisation is set, the controls can be protected by a tamperproof fascia panel.

Paging Microphone Facilities

The paging microphone channel operates totally independently from other mic inputs, a single XLR type input connector is provided for simple applications and the Matrix 4 is fully



compatible with the Cloud CPM-4 four zone paging microphone. Front panel mounted routing switches are provided to control the paging microphone in each of the four zones. These illuminated switches can be used to either allow or inhibit announcements in any zone as required; the switch function is easy to understand and operation by unskilled operators should present no problems. The paging signal level can be independently adjusted in each zone by pre-set level controls which are normally protected by the



Matrix 4 without tamperproof cover

tamperproof fascia panel. The paging microphone also has its own two band equalisation; these pre-set controls are positioned adjacent to the input connector on the rear panel. The paging microphone has full priority over any other microphone signal and will trigger a 30dB attenuation of any music signal.

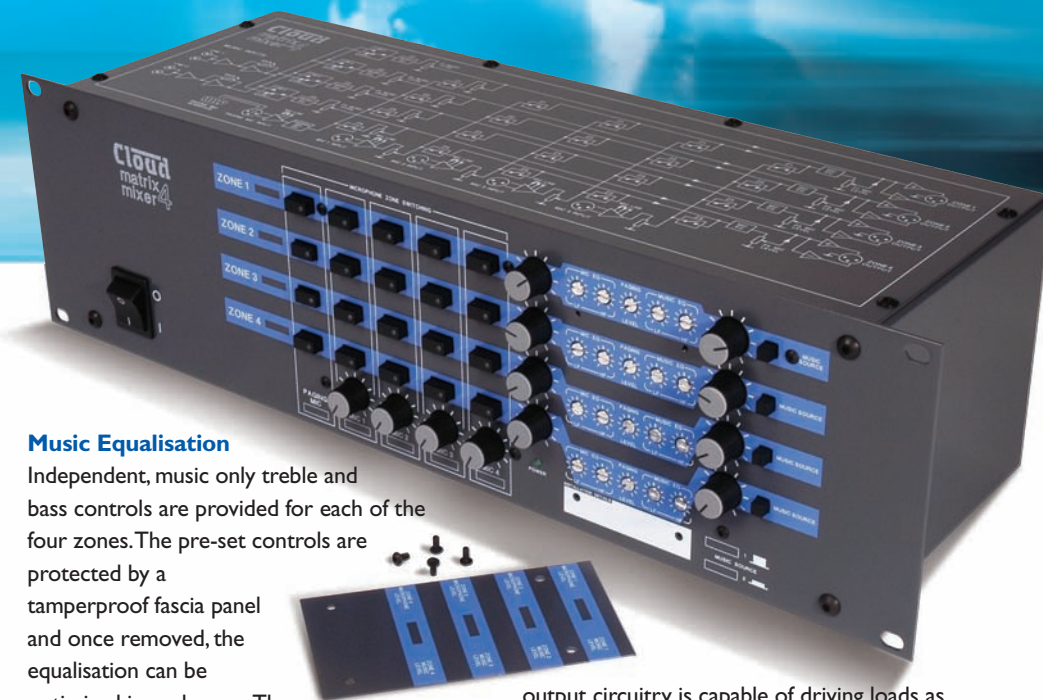
CPM-4 Paging Microphone

The Cloud CPM-4 paging microphone is available as an accessory and features a pre-announcement chime (which can be enabled or disabled as required). The logic controlled zone switching routes the announcement to any combination of the four zones and a concealed switch allows the zone selection to be retained or automatically reset. A 'call all' facility is also provided for instant announcements in all four zones. A small internal chime sounder can be

enabled for installations where the CPM-4 is located in a position where the pre-announcement chime cannot be heard through the PA system. The CPM-4 is connected to the Matrix 4 by a multi-core cable terminated with a 9 pin 'D' connector.

Music Inputs

The Matrix 4 has two line level inputs; for installer convenience, stereo inputs are provided and the left and right signals are summed internally to form a mono signal. The line inputs are suitable for a wide variety of music signal sources such as CD players, tuners, tape players etc. Connection is by way of RCA type phono sockets mounted on the rear panel. The gain of each input can be optimised by the rear panel pre-set controls.



Music Equalisation

Independent, music only treble and bass controls are provided for each of the four zones. The pre-set controls are protected by a tamperproof fascia panel and once removed, the equalisation can be optimised in each zone. The equalisation characteristics are optimised for music signals.

Balanced Outputs

Each of the four zones has a balanced output via 3 pin XLR type connectors. The low noise

output circuitry is capable of driving loads as low as 600 ohms and the nominal output level is 0dBu (775mV) although the Matrix 4 Mixer is capable of providing a maximum output of up to +20dBu (7.75V).

TECHNICAL SPECIFICATIONS



Line Inputs

Frequency response	20Hz-20kHz ± 0.5 dB
Distortion	<0.05% 20Hz -20kHz
Sensitivity	195mV (-12dBu) to 2.0V (+8dBu)
Input gain control	20dB range
Input impedance	47k Ω
Headroom	>20dB
Noise	-90dB 22Hz -22kHz
Equalisation	HF ± 10 dB/10kHz
	LF ± 10 dB/50Hz

Outputs

Auxiliary outputs	775mV (0dBu) balanced (3 pin male XLR)
-------------------	--

Microphone Inputs

Frequency response	100Hz/ -3dB(filter) 20kHz ± 0.5 dB
Distortion	<0.05% 20Hz -20kHz
Sensitivity	-60dBu
Input impedance	>2k Ω (balanced)
Common mode rejection	>70dB 1kHz
Headroom	>20dB
Noise	-120dB EIN 22Hz-22kHz (150 Ω)
Equalisation	HF ± 10 dB/5kHz
	LF ± 10 dB/100Hz

General Specifications

Power input	230V $\pm 10\%$ (internal adjustment for 115V)
Fuse rating	T100mA for 230V supply T200mA for 115V supply
Fuse type	20mm x 5mm class 3T 250V
Dimensions (cm)	48.26 x 13.25 (3U) x 15.00 deep (+connectors)
Weight (kg)	4.10 net

Cloud

Cloud Electronics Limited, 140 Staniforth Road,
Sheffield S9 3HF, England.

Telephone: +44 (0)114 244 7051
Fax: +44 (0)114 242 5462

Web site: www.cloud.co.uk
E-mail: info@cloud.co.uk

In the interests of continuing improvements Cloud Electronics Limited reserves the right to alter specifications without prior notice. E&O.E.

Manufactured in England