# MIMO88

DIGITAL MATRIXES

*Installation Digital Matrix*

## PRODUCT OVERVIEW

MIMO88 is an 8 in / 8 out digital audio matrix, fully programmable and linkable to a second unit to become a 16x16 matrix, with real routing from any input to any output.

## KEY FEATURES

• Expandable to 16 inputs / 16 outputs to become a real 16 x 16 matrix
• Fully programmable and controllable via EclerNet software
• UCP (User Control Panels) remote control system, compatible with WPmSCREEN and third-party devices, such as computers, tablets, smartphones, etc.
• TP-NET protocol compatible, for third-party control systems integration
• A few processing bits: signal generator, delays, full parametric EQ filters at inputs and
outputs, inputs noise gate, level, mute, phase, vu-meters, outputs compressor / limiter,
ducking (priority & overriding), virtual and physical paging stations management,
automatic mixer function, presets save & recovery, scheduled events triggering
• FREQUENCY SHIFTER function to avoid acoustic feedback (Larssen Effect), available for each INPUT channel.

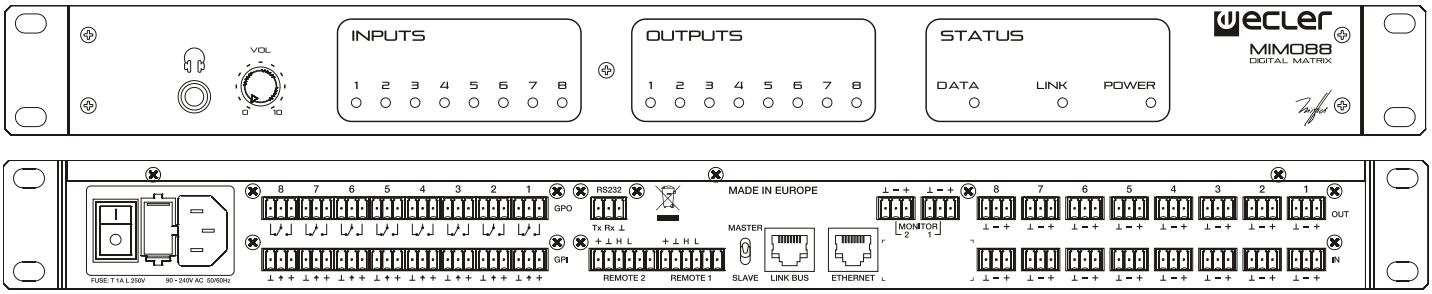
## APPLICATIONS

• Centralized, distributed or hybrid fixed installation
• BGM & Paging solutions
• Conferencing (automatic mixing)
• P.A. management
• Installations requiring remote total control
• Live sound (WiFi management is possible)

## CERTIFICATIONS

• EN60065:2014
• EN55103-1:2009
• EN55103-2:2009
• 2006/95/EC
• 2004/108/CE

## MECHANICAL DIAGRAMS




## TECHNICAL DATA

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|---|---|
| **DSP** | |
| **DSP** | 2 x 32/64bit |
| **Sampling Rate** | 48kHz |
| **Latency IN to OUT** | <2.9ms (+1ms for 16x16) |
| **Converters** | |
| **Resolution** | 24bit AKM |
| **Dynamic Range** | AD:110dB, DA: 115dB |
| **Analogue** | |
| **8+8 Input/Output** | Terminal block (Symmetrical) |
| **2 monitor output** | Terminal block (Symmetrical) |
| **Headphones related** | Jack ¼ |
| **Analogue Input headroom** | +27dBV = +30dBu |
| **Max. output level** | +18dBV = +21dBu |
| **Input sensitivity @ 0dBV out** | From -50dBV to +10dBV in 0.5dB step |
| **Input Impedance** | Balanced, >4kΩ |
| **Phantom power** | +42VDC, 5mA max. software switched |
| **Headphones** | >200mW/200Ω |
| **Frequency response (-3dB)** | 5Hz to 24kHz |
| **Flatness** | better than ±0.1dB |
| **THD+Noise @ 1kHz, 0dBV input (line)** | <0.004% |
| **THD+Noise @ 1kHz, -40dBV input (mic.)** | <0.008% |
| **Output Noise floor FFT (20Hz - 20kHz)** | better than 115dB |
| **Interchannel crosstalk (20Hz - 20kHz)** | better than 90dB (100dB typ.) |
| **Channel Leakage (20Hz - 20kHz)** | better than 100dB (115dB typ.) |
| **CMRR 20Hz- 20kHz** | 65dB typ. |
| **Processing** | |
| **Input Level (x8)** | Range: from Off to 0 dB<br>Mute: Yes<br>Signal Polarity reverse: Yes<br>Metering: VU+clip pre & post fader |
| **Output Level (x8)** | Range: from Off to 0 dB<br>Mute: Yes<br>Solo: Yes<br>Signal Polarity reverse: Yes<br>Metering: VU+clip pre & post fader |
| **Output Gain** | Range: from 0 to +6 dB |
| **Input Delay (x8)** | from 0 to 1000 ms<br>Units: sec/ms/m/cm. |
| **Output Delay (x8)** | from 0 to 1000 ms<br>Units: sec/ms/m/cm. |
| **Parametric Eq. Types**<br>**(4 max per input)**<br>**(8 max per output in 8x8 mode)**<br>**(4 max per output in 16x16 mode)** | Bypass / On-Off all channels<br>Param Eq. Freq: 20Hz-20kHz<br>Gain: -60/+12 dB<br>Q: 0.3 to 200<br>Low & High Shelf 6/12 dB/oct<br>Low & High Pass 6/12 dB/oct<br>All Pass 1/2 order |

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| **High & Low pass output Crossover filters (x8)** | Bypass On-Off<br>Butterworth in 6/12/18/24 dB/oct<br>Bessel in 12/18/24 dB/oct<br>Linkwitz-Riley in 12/24 dB/oct |
| **Input Noise Gate (x8)** | Bypass On-Off<br>Threshold: from –80 dBV to +18 dBV<br>Depth: 0 dB to 80 dB<br>Attack time: from 0,1 ms. to 500 ms.<br>Hold time: from 10 ms. to 3000 ms.<br>Release time: from 10 ms. to 1000 ms. |
| **Input Compressor / Limiter (x8)** | Bypass On-Off<br>Threshold: from –36 dBV to +18 dBV<br>Ratio: 1:1 to inf:1 (limiter)<br>Knee: hard / soft<br>Attack time: from 0,1 ms. to 500 ms.<br>Release time: from 10 ms. to 1000 ms.<br>Make up gain: from 0 to +10 dB |
| **Input Frequency Shifter** | Available on all inputs. ON / OFF function |
| **Output Limiter (x8)** | Bypass On-Off<br>Threshold: from –36 dBV to +18 dBV<br>Attack time: from 0,1 ms. to 500 ms.<br>Release time: from 10 ms. to 1000 ms. |
| **Built in Signal Generator** | Sine: from 20 Hz to 20 kHz<br>Polarity: from 20 Hz to 20 kHz<br>White noise<br>Pink noise |
| **Stereo Linking** | Adjacent input / output channels<br>Linked processing<br>Matrix routing linked |
| **Mix Matrix** | Size: 8x8 (1-MIMO88)<br>Size: 16x16 (2-MIMO88 with expan. link bus)<br>Vol: Input, Output, Crosspoint<br>Mute: Set/Clear individual, row, column, all<br>Input /output Mono/stereo selector<br>Meter: Input /output VU and clip |
| **Pager** | Input: IN1 to IN8 (or to IN16 in 16x16)<br>Priorities: 4(1max) 4 (min)<br>Depth: 0 dB to 80 dB<br>Attack time: from 5 ms. to 2000 ms.<br>Release time: from 50 ms. to 3000 ms.<br>Chime Source: None, Melody 1, Melody 2<br>Chime Volume: from –12 dB to 0 dB |
| **Mechanical** | |
| **Dimensions** | 482.6x44x266.5mm |
| **Weight** | 3.5kg |
| **Supply** | |
| **Mains** | 90-264VCA 47-63Hz |
| **Power consumption** | 45VA |
| **Miscellaneous** | |
| **Management Connectivity** | Ethernet Base-Tx 10/100Mb Auto X-Over CAT5 up to 100m. |
| **Expansion LINK BUS (16x16 ch.)** | Proprietary over CAT5, Xover cable up to 100m. |
| **Remote Bus** | 2, over twisted pairs; up to 1km (see specific specs.) |
| **GPI** | 8, from 0 to 10VDC or TTL level |
| **GPO** | 8, 3 poles isolated relay; 1A, 48VDC max. - |
| **Aux. Power Supply for Remotes & GPI** | +12VDC, 1.2A. max. (short circuit protected) |
| **Time and date retention (battery)** | 1 month aprox. (ambient temperature dependant) |
| **RTC accuracy** | ±1 minute /year |
| **SOFTWARE** | |

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| **EclerNet Software** | Realtime full GUI of all functions and controls thru Ethernet with interactive graphical display<br>Grouping mode channels or devices<br>Grouping of other groups<br>Automated report generation<br>Up to 256 devices on same net<br>Autodiscovery devices feature<br>Routing capability through NAT gateways<br>Real time metering at input/output (DSP)<br>Device “Finder” feature<br>Save & Recall setup and preset functions<br>Firmware update capability thru Ethernet<br>Password protection (device & project with two user levels)<br>Default Network configuration:<br>IP: 192.168.0.100<br>Mask: 255.255.255.0<br>Gate: 192.168.0.1<br>UDP Port: 2210 |
| **Operating System** | Windows® 10; W8.1; W8; W7; Vista (SP1); XP Prof. (SP3); W2000 Prof. (SP4) |
| **Minimum EclerNet System Requirements** | Pentium IV ® 1GHz<br>512MB RAM<br>40MB HDD free space<br>800x600 pixels & 16bits color display<br>10/100/1G Ethernet Network card |



All product characteristics are subject to variation due to production tolerances. NEEC AUDIO BARCELONA S.L. reserves the right to make changes or improvements in the design or manufacturing that may affect these product specifications.
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