

## MIMO4040CDN

### DIGITAL MATRIXES

Conferencing Digital Matrix with AEC & DANTE™/AES67 Interface



### PRODUCT OVERVIEW

MIMO4040CDN is a conferencing digital matrix with native processing of 40 inputs and 40 outputs (8 analogue inputs, 8 analogue outputs, 32 DANTE™/AES67 digital inputs and 32 DANTE™/AES67 digital outputs). Incorporating audio over IP technology, MIMO4040CDN allows signal transmission using a Local Ethernet network, suppressing cabling distance limitations. MIMO4040CDN comes with a CONFERENCE tailored firmware, including Automixer, Feedback Killer and Acoustic Echo Cancelling functions (\*). It features accessories from WPNET Series connected by Ethernet interface and PoE DC supply ready. This ensures flexible and efficient installations. MIMO4040CDN is also capable of executing EclerNet projects embedded into its processor and electronics engine, acting as a UCP (User Control Panels) server within an EclerNet devices network.

Each microphone added to an AEC room (available under AEC tab in ENM SW) will decrease the remaining standard MATRIX size by 4 input channels and 4 output channels (available under the MATRIX tab in ENM SW). Please, see [EclerNet Manager Software user manual](#) for further details.

(\*). Acoustic Echo Cancelling processing for the MIMO4040CDN is available by means of software licensing, upon request. Contact your Ecler distributor for further information.

**KEY FEATURES**

- CONFERENCE firmware only (no STANDARD firmware available)
- 40x40 audio input / output ports available
- 40 input channels x 40 output channels digital audio native matrix
- Audio input / output available ports:
  - 8 MIC / LINE analogue audio inputs
  - 8 LINE analogue audio outputs
  - 32 DANTE™/AES67 digital input channels
  - 32 DANTE™/AES67 digital output channels
- 8 GPI ports
- 8 GPO ports
- 2 DANTE™/AES67 interfaces (primary and secondary), available for configuration of redundant DANTE™/AES67 networks
- 1 Ethernet programming and control interface (EclerNet, UCP, TP-NET and WPNET series control panels)
- 1 serial control port, RS-232 (TP-NET)
- Embedded project manager and server of the project's integrated UCP panels
- Connection of all peripherals directly via EtherNet network, and without local wiring (remote controls WPNET series, WP22DN wall panel DANTE™/AES67 interface, etc.)

**APPLICATIONS**

- Commercial
- Hospitality
- Education
- Corporate
- Sports and wellness

**ACCESSORIES & COMPATIBLE DEVICES**

- WPNET4KV
- WPNET8K
- WPNETEX
- WP22DN
- WPNETTOUCH
- PAGENETDN



WPNETTOUCH



PAGENETDN



WPNET4KV

(Paging not available just compatible as standard microphone and aux input Dante transmitters and UCP Control)

**TECHNICAL SPECIFICATIONS**

MIMO4040CDN

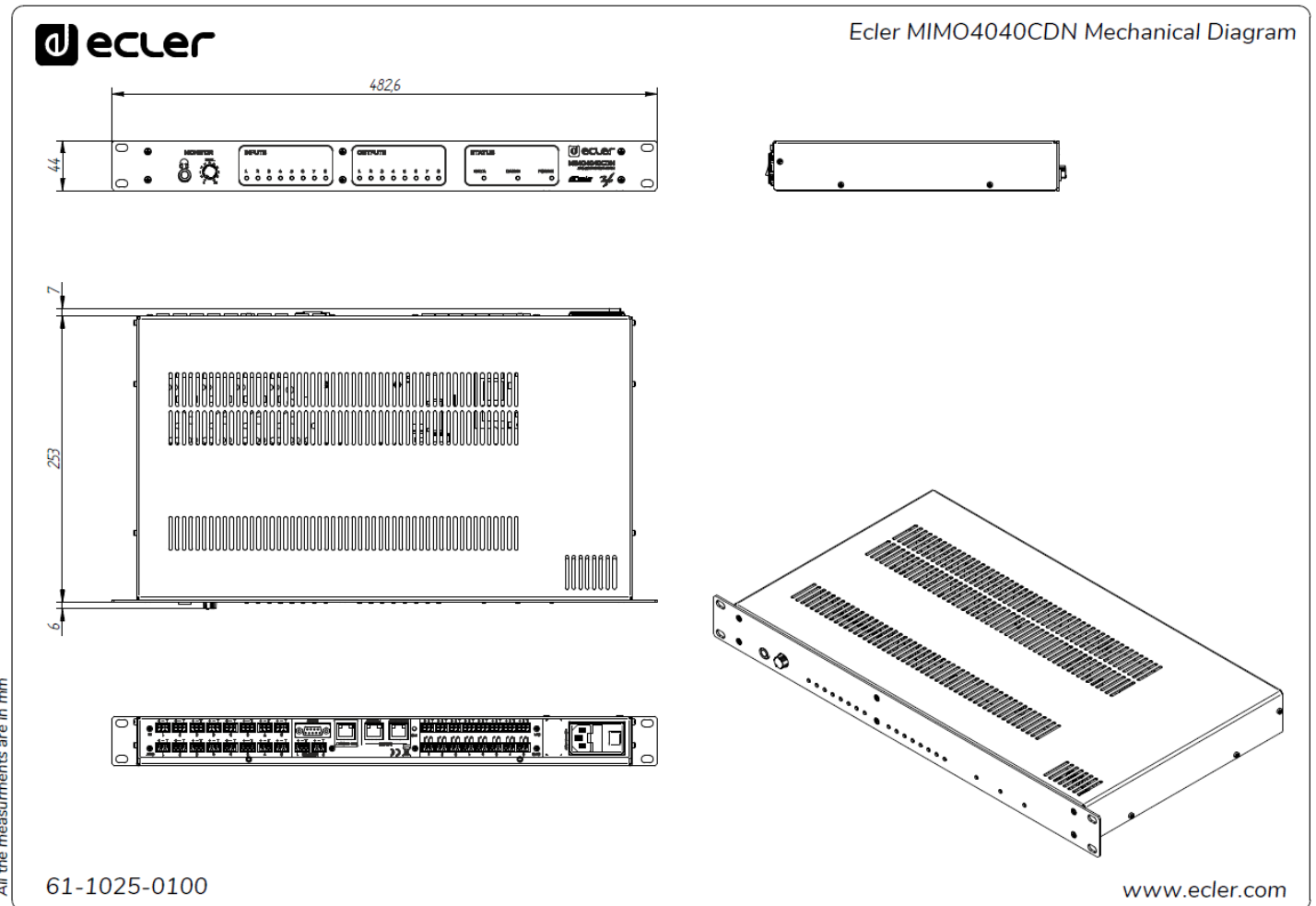
|                                 |                                      |  |
|---------------------------------|--------------------------------------|--|
| <b>DSP</b>                      |                                      |  |
| CPU                             | Quad core 64bits 1GHz                |  |
| Sampling rate                   | 48 kHz                               |  |
| Latency analog IN to analog OUT | <4.3 ms.                             |  |
| <b>Converters</b>               |                                      |  |
| Resolution                      | 24 bit                               |  |
| Dynamic range                   | AD:110dB, DA: 115dB                  |  |
| <b>Analogue</b>                 |                                      |  |
| 8 Input / Output                | Terminal block (Symmetrical)         |  |
| 2 monitor output                | Terminal block (Symmetrical)         |  |
| Headphones connector            | Jack ¼                               |  |
| Analogue input headroom         | +27dBV = +30dBu                      |  |
| Max. output level               | +18dBV = +21dBu                      |  |
| Input sensitivity @0dBV out     | from -50dBV to +10dBV in 0.5dB steps |  |

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| 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.   |
| <b>DANTE™/AES67 Audio interface</b>            |   |
| DANTE™/AES67 Network Tx / Rx channels          | 32 / 32 (Brooklyn)  |
| Latency  | 1 / 2 / 5 ms (selectable)   |
| Connector                                      | 1xRJ45 primary, 1xRJ45 secondary  |
| Cable length between devices                   | 100m CAT5e/CAT6   |
| <b>Processing</b>                              |   |
| Input level (x40)                              | Range: from Off to 0 dB<br>Mute: Yes<br>Signal Polarity reverse: Yes<br>Metering: VU+clip pre & post fader  |
| Output level (x40)                             | 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 (x40)                              | Range: from 0 to +6 dB  |
| Input delay (x40)                              | from 0 to 1000 ms. Units: sec/ms/m/cm.  |
| Output delay (x40)                             | from 0 to 1000 ms. Units: sec/ms/m/cm.  |
| Parametric EQ types (4max/input - 8max/output) | 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 |
| High & Low pass output X-over filters (x40)    | 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  |

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| Input noise gate (x40)                                   | <p>Bypass On-Off</p> <p>Threshold: from -80 dBV to +18 dBV</p> <p>Depth: 0 dB to 80 dB</p> <p>Attack time: from 0,1 ms. to 500 ms.</p> <p>Hold time: from 10 ms. to 3000 ms.</p> <p>Release time: from 10 ms. to 1000 ms.</p>  |
| Input compressor / limiter (x40)                         | <p>Bypass On-Off</p> <p>Threshold: from -36 dBV to +18 dBV</p> <p>Knee: hard / soft</p> <p>Ratio: inf:1 (limiter)</p> <p>Attack time: from 0,1 ms. to 500 ms.</p> <p>Release time: from 10 ms. to 1000 ms.</p> <p>Make up gain: from 0 to +10 dB</p>                             |
| Input Frequency Shifter (x40)<br>(Feedback Loop Reducer) | Per input. ON / OFF function   |
| Output Limiter (x40)                                     | <p>Bypass On-Off</p> <p>Threshold: from -36 dBV to +18 dBV</p> <p>Attack time: from 0,1 ms. to 500 ms.</p> <p>Release time: from 10 ms. to 1000 ms.</p>  |
| Built in Signal Generator                                | <p>Sine: from 20 Hz to 20 kHz</p> <p>Polarity: from 20 Hz to 20 kHz</p> <p>White noise</p> <p>Pink noise</p>   |
| Stereo Linking   | <p>Adjacent input / output channels</p> <p>Linked processing</p> <p>Matrix routing linked</p>  |
| Mix Matrix   | <p>Size: 40x40</p> <p>Analogue in/out ports: 8x8</p> <p>DANTE™/AES67 network in/out ports: 32x32</p> <p>Vol: Input, Output, Crosspoint</p> <p>Mute: Set/Clear individual, row, column, all</p> <p>Input /output Mono/stereo selector</p> <p>Meter: Input /output VU and clip</p> |
| Ducker (x25)   | <p>Input: IN1 to IN40</p> <p>Priorities: 25 (1 max, 25 min)</p> <p>Depth: 0 dB to 80 dB</p> <p>Attack time: from 5 ms. to 2000 ms.</p> <p>Release / Hold time: from 50 ms. to 3000 ms.</p>   |
| AEC audio input channels                                 | Up to 8, subject to software licensing   |

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| <b>Mechanical</b>                          |   |
| Dimensions (WxHxD)                         | 482.6 x 44 x 253 mm / 19 x 1.73 x 9.96 in.                  |
| Weight                                     | 3,25kg / 7.17 lb.   |
| <b>Power supply</b>                        |   |
| Mains                                      | 90-264VCA 47-63Hz   |
| Power consumption                          | 30VA  |
| <b>Miscellaneous</b>                       |   |
| Management Connectivity                    | Ethernet Base-Tx 10 /100Mb, 1GB Auto X-Over CAT5e or better |
| GPI  | 8, from 0 to 12VDC 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)          | > 3 months  |
| <b>Programming and control application</b> |   |
| EclerNet Manager                           | From v6.00  |

**MECHANICAL DIAGRAM**



## A & E SPECIFICATIONS

The digital matrix with native processing shall provide up to 40 x 40 audio channels individually configurable over EclerNet Manager Software. It shall support 8 analogue I/O and 32 digital I/O channels configurable as either DANTE™ or AES67 formatted networked audio. It shall include 2 DANTE™/AES67 interfaces (primary and secondary), available for configuration of redundant DANTE™/AES67 networks.

The digital matrix shall manage external control interfaces such as remote control touch screens, digital audio wall panel interfaces, remote controls panels and networked amplifiers.

Programming and remote management shall be available via Ethernet using EclerNet Manager software (either point-to-point, with direct CAT5/CAT6 cable, or from an Ethernet network connection). Remote control via custom control panels UCP (User Control Panels). iOS and Android remote control app available (Ecler UCP V2). Remote control from third-party systems shall be available using TP-NET control protocol through Ethernet or RS-232 ports.

On the front panel, the matrix shall include Power, DANTE™/AES67 and Data status LEDs, Inputs and outputs signal level indicator, monitor output jack and monitor level knob. On the rear panel, the matrix shall include 8 analogue I/O and 2 monitor outputs (euroblock connector), 8 GPI and 8 GPO general purpose controls (euroblock connector), RS-232 port (DB9 connector), Ethernet, Primary and Secondary DANTE™/AES67 RJ-45 ports.

All internal processing shall be digital (DSP). The DSP shall include Matrix router-mixer, from any input to any output (analog and/or digital DANTE™/AES67) with adjustable crosspoint level, treatment of channels in mono or stereo mode, level, mute, vumeters and phase adjustment in inputs and outputs, internal signal generator (sinusoidal signal, pink noise, white noise, polarity test), parametric EQ, delays, noise gate, compressor on input channels, compressor / limiter on outputs, priorities (ducking) between input channels, virtual and physical paging consoles. Configuration memory management (presets). Events scheduled on a calendar basis.

The digital matrix shall include Automixer and Feedback killer features by default, as well as a maximum of 8 AEC microphone processing channels that can be enabled by software licenses

Audio conversion shall be 24-bit, 48 kHz. The dynamic range shall not be lower than 110 dB, A-weighted with a maximum input level of +27 dBu and maximum output level of +21 dBu.

The dimensions of the matrix shall be 482.6 x 44 x 253 mm. The weight shall be 3,25 Kg.

The digital matrix shall be the ECLER MIMO4040CDN

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.

For technical requests address to your supplier, distributor or fill the contact form in our website, at Support / Technical Request.

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