MIMO4040CDN

DIGITAL MATRIXES

Conferencing Digital Matrix with AEC & Dante™ Interface

Dante AES67

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.

(*) Acoustic Echo Cancelling processing for the MIMO4040CDN is available by means of software licensing, upon request. Contact you 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™ interfaces (primary and secondary), available for configuration of redundant Dante ™ 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

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

WPNET4KV

TECHNICAL SPECIFICATIONS

MIMO4040CDN

DSP

CPU	Quad core 64bits 1GHz
Sampling rate	48 kHz
Latency analog IN to analog OUT	<4.3 ms.

Converters

Resolution	24 bit
Dynamic range	AD:110dB, DA: 115dB

Analogue

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
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.

Dante™/AES67 Audio interface

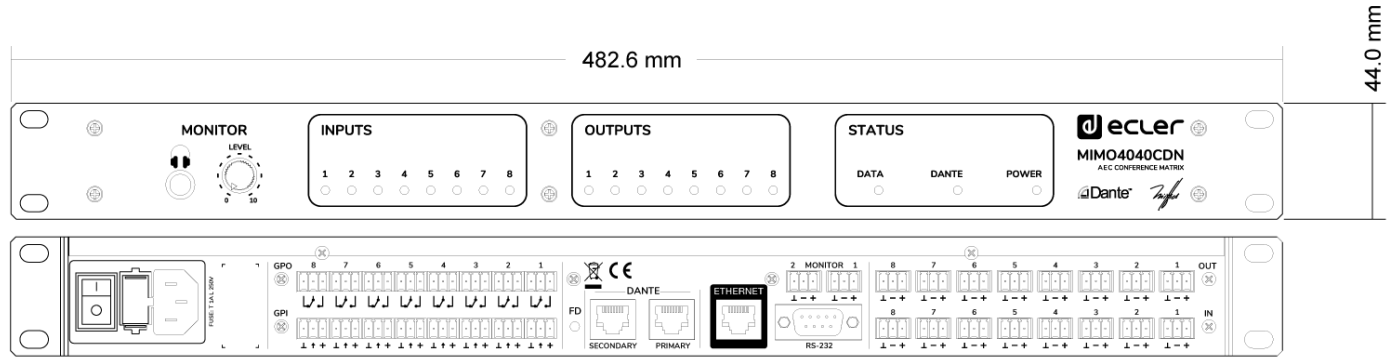
Dante/AES67 Network Tx / Rx channels	32 / 32
Latency	1 / 2 / 5 ms (selectable)
Connector	1xRJ 45 primary, 1xRJ 45 secondary
Cable length between devices	100m CAT5e/CAT6

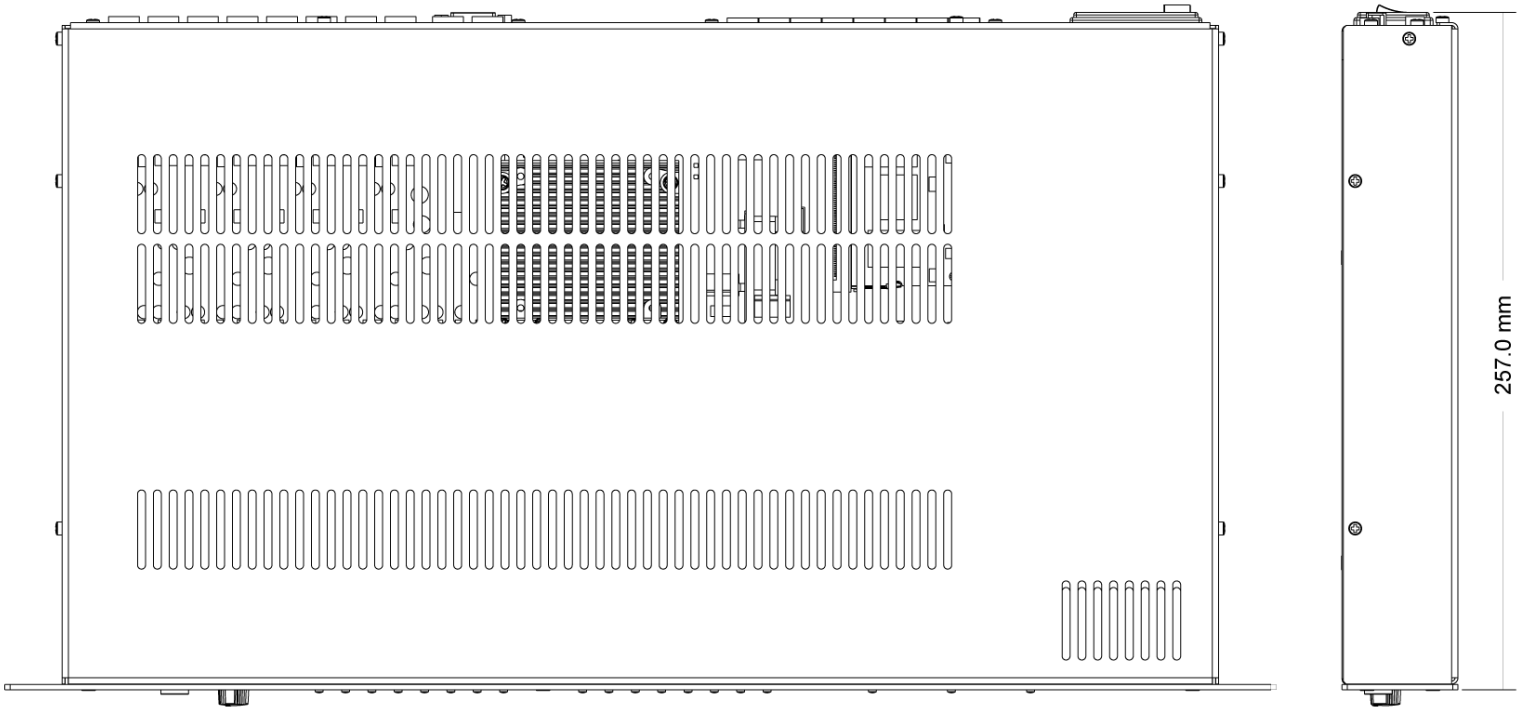
Processing

Input level (x40)	Range: from Off to 0 dB Mute: Yes Signal Polarity reverse: Yes Metering: VU+clip pre & post fader
Output level (x40)	Range: from Off to 0 dB Mute: Yes Solo: Yes Signal Polarity reverse: Yes 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 Param Eq. Freq: 20Hz-20kHz; Gain: -60/+12 dB Q: 0.3 to 200 Low & High Shelf 6/12 dB/oct Low & High Pass 6/12 dB/oct All Pass 1/2 order

High & Low pass output X-over filters (x40)	Bypass On-Off Butterworth in 6/12/18/24 dB/oct Bessel in 12/18/24 dB/oct Linkwitz-Riley in 12/24 dB/oct
Input noise gate (x40)	Bypass On-Off Threshold: from –80 dBV to +18 dBV Depth: 0 dB to 80 dB Attack time: from 0,1 ms. to 500 ms. Hold time: from 10 ms. to 3000 ms. Release time: from 10 ms. to 1000 ms.
Input compressor / limiter (x40)	Bypass On-Off Threshold: from –36 dBV to +18 dBV Knee: hard / soft Ratio: inf:1 (limiter) Attack time: from 0,1 ms. to 500 ms. Release time: from 10 ms. to 1000 ms. Make up gain: from 0 to +10 dB
Input Frequency Shifter (x40) (Feedback Loop Reducer)	Per input. ON / OFF function
Output Limiter (x40)	Bypass On-Off Threshold: from –36 dBV to +18 dBV Attack time: from 0,1 ms. to 500 ms. Release time: from 10 ms. to 1000 ms.
Built in Signal Generator	Sine: from 20 Hz to 20 kHz Polarity: from 20 Hz to 20 kHz White noise Pink noise
Stereo Linking	Adjacent input / output channels Linked processing Matrix routing linked
Mix Matrix	Size: 40x40 Analogue in/out ports: 8x8 Dante/AES67 network in/out ports: 32x32 Vol: Input, Output, Crosspoint Mute: Set/Clear individual, row, column, all Input /output Mono/stereo selector Meter: Input /output VU and clip
Ducker (x25)	Input: IN1 to IN40 Priorities: 25 (1 max, 25 min) Depth: 0 dB to 80 dB Attack time: from 5 ms. to 2000 ms. Release / Hold time: from 50 ms. to 3000 ms.
AEC audio input channels	Up to 8, subject to software licensing
Mechanical	
Dimensions	482.6 x 44.0 x 266.5mm / 19.0" x 1.7" x 10.5"
Weight	3.25kg / 7.17 lb.
Power supply	
Mains	90-264VCA 47-63Hz
Power consumption	30VA
Miscellaneous	
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
Programming and control application	
EclerNet Manager	From v6.00

MECHANICAL DIAGRAMS





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™ interfaces (primary and secondary), available for configuration of redundant Dante™ 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 o RS-232 ports.

On the front panel, the matrix shall include Power, Dante™ 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 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™) 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 x 44 x 266,5 mm. The weight shall be 3,25 Kg.

The digital matrix shall be the ECLER MIMO4040CDN

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