

# MXE5 DSP matrix mix engine 36x32 channels

## MXE Series



- Open architecture DSP matrix for high performance audio applications
- 12 mic/line inputs, 8 line outputs, 8 configurable GPIOs
- 24 x 24 OMNEO/Dante channels
- Task Engine for sophisticated system control and integration
- Integrated into SONICUE Sound System Software\*

\* Technical data for SONICUE 1.3 or higher

The MXE5 Matrix Mix Engine is an open architecture audio matrix and system controller with professional sound quality, Dante network and AES70/OCA control. Featuring leading-edge 48/96 kHz signal processing, extremely low audio signal latencies, professional routing and mixing functionalities, it is the perfect fit for venues requiring high quality foreground music, such as stadiums and sports facilities, live music venues, contemporary churches, performing art centers, theaters, conference centers and clubs. MXE5 is completely integrated into Dynacord’s SONICUE Sound System Software for easy control. Dedicated user control panels can be designed in SONICUE and operated via SONICUE panel viewer app on PCs and iOS-devices, the TPC-1 touch panel controller, or the WPN1 wall panel.

### Parts included

Quantity	Component
1	MXE5 DSP Matrix Mix Engine
10	6-pin Euroblock-type connector, inputs/outputs
1	15-pin Euroblock-type connector, control port/GPIO
2	Mains input AC power cables, US- and EU-types
1	Installation manual
1	Important safety instructions booklet

## Technical specifications

### DESCRIPTION AND FEATURES

<b>MXE5 DSP Matrix Mix Engine</b>	Audio system manager with integrated matrix mixing, signal processing, network routing, system control and supervision. Free DSP configuration with up to 3840 x-points and 256 signal paths, or fixed configuration with 24 x 24 channel zone mixer.
<b>Audio</b>	36 x 32 channel audio mix matrix 12 analog inputs, 8 analog outputs 24 OMNEO/Dante network inputs and outputs
<b>Safety / Redundancy</b>	Internal supervision, system monitoring, watchdog, fault output Redundant audio networking supported
<b>Configuration and control software</b>	SONICUE audio system design and control application Integration of MXE series, remote amplifiers, loudspeakers, peripheral devices Configuration, control, and monitoring for complete audio systems

	Programmable user control panels and access levels
<b>AUDIO SPECIFICATIONS</b>	
<b>Frequency response</b>	
ref. 1 kHz, analog in to analog out, 48 kHz	20 Hz to 20 kHz ( $\pm 0.5$ dB)
ref. 1 kHz, analog in to analog out, 96 kHz	20 Hz to 40 kHz ( $\pm 0.5$ dB)
<b>Signal-to-noise ratio</b>	
A-weighted, analog input	> 118 dB
A-weighted, analog output	> 118 dB
A-weighted, analog input to analog output	> 115 dB
<b>EIN</b> Equivalent Input Noise	< -128 dB
20 Hz to 20 kHz, A-weighted	
<b>THD+N</b>	< 0.002 %
1 dB below max., @ 1 kHz	
<b>Crosstalk</b>	< -105 dB
1 dB below max., @ 1 kHz	
<b>Common mode rejection</b>	> 70 dB
@ 1 kHz, nominal Level	
<b>Phantom power</b>	+48 V / 10 mA, switchable per analog input
Voltage @ Current	
<b>Input gain</b>	0 dB to +60 dB
Analog inputs	
<b>DIGITAL SIGNAL PROCESSING</b>	
<b>Sampling rate</b>	48 kHz / 96 kHz, OMNEO/Dante synchronized
<b>Signal delay / Latency</b>	
Analog In to Analog Out, 48 kHz / 96 kHz	< 0.45 ms / < 0.22 ms
<b>Signal processing</b>	32/40 bit, floating point
Filter	PEQ, Lopass, Hipass, Loshelv, Hishelv, X-Over, FIR
Dynamics	Ducker, Compressor, Noisegate
Limiter	Peak (PA) limiter, RMS / TEMP limiter
Pilot tone	Generator, Detector with Notch
Generators	Sine, Pink noise, White noise
Mixer/Router	Router, Matrix mixer
Misc	VU Meter, Level, Polarity, Mute, Delay
Special algorithms	Speaker processing
<b>Memory</b>	
DSP presets	60
<b>CONNECTIVITY</b>	
<b>Analog audio input / output</b>	
Type	12 mic/line level inputs, 8 line level outputs, electronically symmetric

Connectors	10 x 6-pole Euroblock connectors, 2 channels each
Nominal input / output level	+6 dBu / 1.55 V
Maximum input / output level	+22 dBu / 9.7 V
Reference level equal to digital input	+22 dBu for 0 dBFS
Input impedance, active balanced	2.2 k $\Omega$
Output impedance, active balanced	47 $\Omega$
Min. load impedance	600 $\Omega$
<b>Network</b>	
Type	3 x RJ45
Standards	1000base-T / 100base-TX, integrated switch
Network audio inputs	24 channels, 48 kHz / 96 kHz, OMNEO/Dante format
Network audio outputs	24 channels, 48 kHz / 96 kHz, OMNEO/Dante format
<b>GPIO control port</b>	
Type	15-pole Euroblock connector
Ports and operating modes	8 x GPIO, switchable Analog In / Digital In / Digital Out
Analog input range	0 V to +11 V, 110 k $\Omega$ input resistance
Digital inputs	ON: < 1.5 V OFF: > 2.0V, internal pull-up (10 k $\Omega$ )
Digital outputs	ON: Output switched to GND, max. 200 mA OFF: Open Collector (110 k $\Omega$ to GND)
Reference voltage output	+10 V, max. 200 mA, supervised, short circuit protected
READY / FAULT contact	Galvanic isolated relay, max. 30 VDC / 500 mA
<b>Mains input</b>	1 x IEC appliance inlet
<b>USER INTERFACE</b>	
Display	Black/white OLED 256 x 64 pixel
Front panel indicators	12 x Input LEDs (Signal/Clip) 12 x Phantom Power LEDs (+48 V) 8 x Output LEDs (Signal/Clip) 4 x status LEDs (POWER, STANDBY, FAULT, OMNEO)
Front panel operating elements	3 push buttons (UP, ENTER, DOWN)
Rear panel indicators	1 x status LED (STATUS)
Rear panel operating elements	Mains switch
<b>GENERAL SPECIFICATIONS</b>	
<b>Power requirements</b>	100 V to 240 V, 50 Hz to 60 Hz AC
<b>Power consumption</b>	
Operating mode	50 W typical, 55 W max

<b>Protections</b>	High temperature, Mains over-/undervoltage protection	<b>Certifications</b>	CE, IEC 62368, IEC 60065, CAN/CSA 60065:16, UL Std No. 60065-2015, EN55032, EN61000-3-2, EN61000-3-3, EN55103-2, FCC Part 15 Class B, ICES-003, RoHS/WEEE compliant
<b>Cooling</b>	Front-to-rear, temperature controlled fan	<b>Color</b>	Black
<b>Ambient temperature limits</b>	-5 °C to +45 °C (+23 °F to +113 °F)	<b>Dimensions (W x H x D)</b>	483 x 43.5 x 471 mm (19", 1 RU)
<b>Operating altitude</b>	2000 m	<b>Weight</b>	6.0 kg (13.2 lb)
<b>IEC protection class</b>	Class I (grounded)	<b>Shipping weight</b>	8.1 kg (17.9 lb)
<b>Electromagnetic environment</b>	E1, E2, E3		

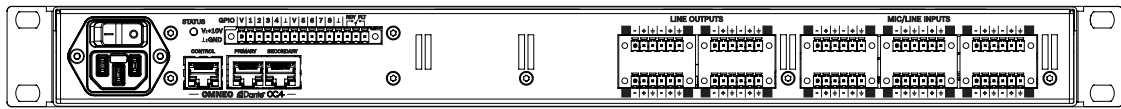


Fig. 1: Rear panel

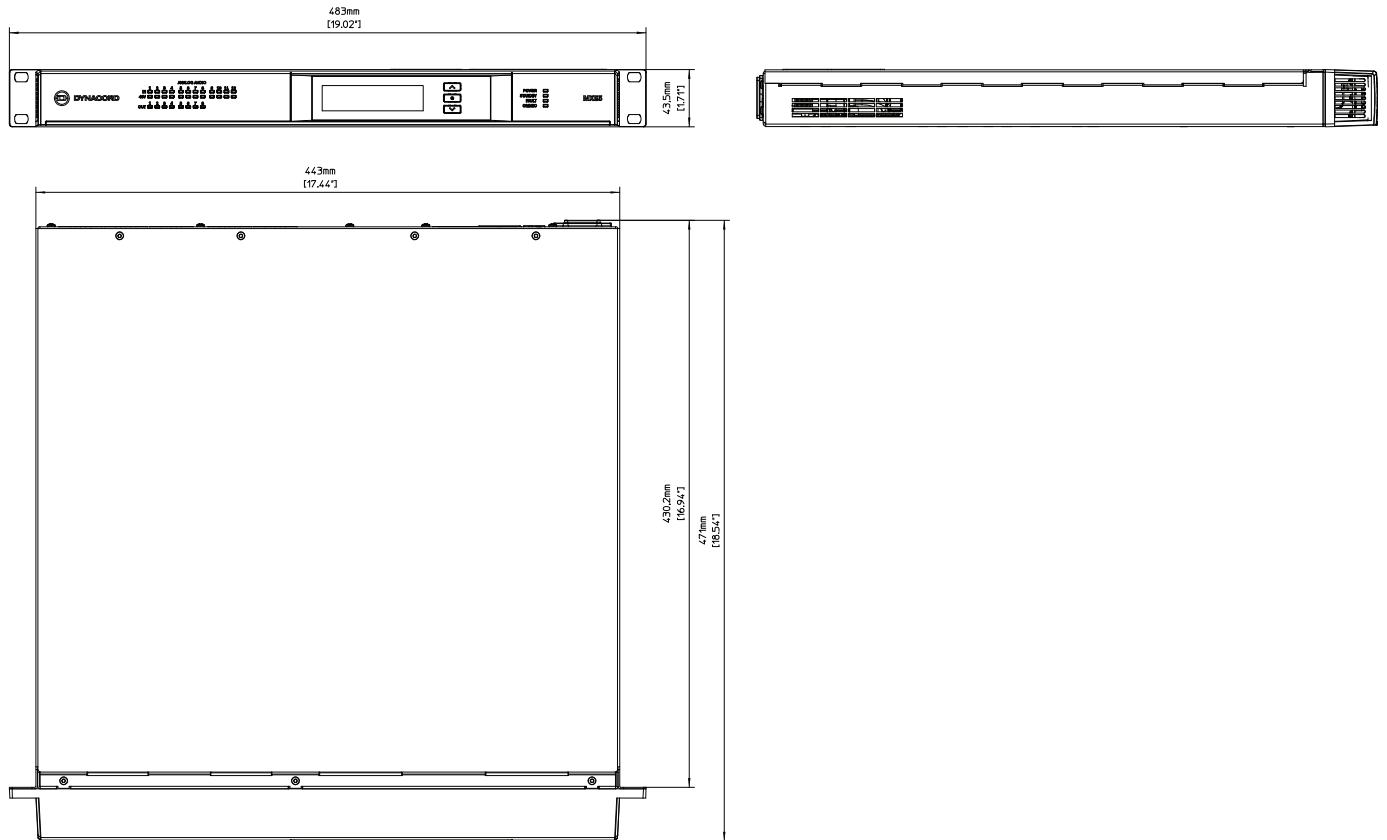


Fig. 2: Dimensions

## Ordering information

### **MXE5 DSP matrix mix engine 36x32 channels**

12 mic/line, 8 line outputs, 24 x 24 Dante channels,  
48 kHz/96 kHz sample rate, GPIO and OCA controller  
Order number **MXE5 | F.01U.335.530**

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### **Accessories**

#### **CP-MXE Professional connector panel for MXE**

Professional connector panel for MXE  
Order number **CP-MXE | F.01U.385.745**

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#### **Represented by:**

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