ZONE X 1212 (D)
HYBRID ARCHITECTURE DSP MATRIX – 12 IN / 12 OUT

LDsystems **LD**

FEATURES

- Hybrid architecture DSP processor
- DSP templates available for different installation requirements
- 40-bit floating point DSP engine with analog devices dual core SHARC+ and ARM Cortex A5 processor
- New generation Linux operating system
- Premium grade microphone preamps and high-performance 32 bit AD/DA converters
- 12 balanced mic/line inputs with 48 V phantom power selection per input
- 12 balanced outputs
- 8 GPI and 8 GPO logic ports
- 6-pole terminal block connectors (pitch 3.81 mm) for all audio and control inputs/outputs
- Clean and intuitive front panel design
- Ethernet interface for remote control via the universal control software Xilica Designer
- Remote control apps available in both iOS and Android, for custom user panels
- Integrated event scheduler
- Optional 64x64 Dante expansion (audio over IP connectivity)
- 19" rack device, 1 RU

DESCRIPTION

Installations are becoming increasingly more complex. Where microphones and speakers once had to be switched or even rewired by hand, now there are flexible routing options using presets and automated processes. The DSP matrix processor ZONE X 1212 (D) from LD Systems enables all that and more.

With its DSP hybrid architecture, the ZONE X 1212 can adapt your sound system for different circumstances and possible uses. Choose one of the different DSP templates and use the event scheduler to set up calendar-managed workflows with automated preset options. Everything you need: Twelve balanced mic/line inputs with low-noise microphone preamplifiers and separate switchable 48 V phantom power as well as twelve balanced line outputs are available. There are also eight GPI and GPO logic ports which can be used e.g. for automated processes and the integration of third-party devices.

The front panel with only 1 RU looks very tidy. The ZONE X 1212 (D) is easy to set up and manage via Ethernet with the universal software Xilica Designer (Mac/Windows) providing an overview of all connections and settings. An Ethernet + Dante card with 64 x 64 channels can be installed as an upgrade option for audio over IP applications. The Dante standard opens up a whole world of compatible devices from different manufacturers for all conceivable applications.

From routing and processing of different microphone and speaker groups, in a church for example, to complex multi-room installations with calendar-managed routing for different configurations – the ZONE X 1212 (D) makes everything possible.

SPECIFICATIONS

Product number	LDZONEX1212 / D
Product type	DSP audio matrix for fixed installation
General data	
Audio inputs	12 balanced line outputs
Audio outputs	12 balanced line outputs
Logic inputs	8 GPI – activation via ground connection.
Logic outputs	8 GPO – modes: LED (3 mA) or sink (300 mA), per output selectable
Connectors	Inputs/outputs: 3-pole terminal block, pitch 3.81 mm; MicroUSB Type-C service connector, Ethernet RJ45 ZoneX1212D: Dante Primary and Secondary RJ45
LEDs	Front: "POWER", "NETWORK", inputs 1 – 12 and outputs 1 – 12: White signal LED, red clip LED
Front panel controls	No
Rear panel controls	Mains ON/OFF, "IP RESET"
Expansion slots	For Ethernet (ZONEX1212) or Ethernet + Dante (ZONEX1212D) cards
Cooling	Passive convection cooling
Power supply	Wide-range switch mode power supply
Power supply connector	3-pole power supply socket (IEC)
Operating voltage	90 – 240 V AC; 50/60 Hz
Mains fuse	T2.5 A L / 250 V
Mains OFF-ON inrush current	21 A
Power consumption, idle mode	23 W
Max. Power consumption	60 W
Operating temperature	0 °C – +40 °C (max. 60 % relative humidity)
Width	19" rack (483 mm)
Height	1 HE (44.5 mm)
Depth	315 mm (with terminal blocks)
Weight	4 kg
Rack distance to the next device (height)	1 HE
Rack depth (required)	350 mm

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Performance specifications	
Nominal input sensitivity	-22 dBu (sine wave, 1 kHz, max. gain)
Nominal input clipping	+20 dBu (sine wave, 1 kHz)
Harmonic distortion (THD+N)	<0.003 percent (Line IN – OUT, +13 dBu signal, 20 Hz – 20 kHz, gain 0 dB)
Intermodulation distortion (IMD), SMPTE:	<0.01 percent (-10 dB under clip), analyzer bandwidth 90 kHz
Frequency response	15 Hz – 22 kHz (+/-0.15 dB)
Input impedance	Line: 4 kOhm (balanced)
Signal-to-noise ratio	>117 dB @ +20 dBu, gain 0 dB, 20 kHz bandwidth, A-weighted
Dynamic range (AES17)	112 dB
Channel crosstalk	120 dB @ 100 Hz, 120 dB @ 1 kHz, 105 dB @ 10 kHz
Common mode rejection, CMRR IEC	>60 dB (1 kHz)
Max. Gain	42 dB
Digital specifications	
DSP	40-bit floating point processing, Analog Devices dual core SHARC+ processor
System latency	4.3 ms
Resolution AD/DA converter	32 Bit
Sampling rate AD/DA converter	48 kHz

ARCHITECT & ENGINEER´S SPECIFICATIONS

The digital signal processor shall include twelve balanced mic/line inputs and twelve balanced line outputs with 3-pin terminal block connectors. The mic inputs shall have switchable 48 V phantom power. The processor shall have 8 GPI and 8 GPO ports, with 3-pin terminal block connectors. All GPO ports shall have software configurable LED (3 mA) or sink (300 mA) modes.

The processor shall feature a hybrid-architecture, allowing users to load different DSP templates, and shall be based on a 40-bit floating point DSP engine with Analog Devices dual core SHARC+ and ARM Cortex A5 processor. Audio conversion shall be 32-bit, 48 kHz and the dynamic range (DR AES17) shall not be lower than 112 dB, with a maximum input level of +20 dBu, and a signal to noise ratio higher than 117 dB, A-weighted. Crosstalk between adjacent channels at 1kHz shall be higher than 120 dB.

The processor shall be completely configurable via a designer software application on computers with a network card installed and running Windows® 7 or higher, or MAC OS X 10.8 or higher operating systems. The software shall include tools for creating user interface clients, compatible with optional QTP touch panels, and integration with third-party control systems. The device shall include an ethernet connector located on the rear panel for configuration and control with the designer software, along with an IP reset button and a micro-USB interface for service purposes. Available DSP components shall include (but not be limited to) various forms of mixers, priority duckers, equalizers, filters, feedback suppressor, crossovers, dynamics and gain controls, routing matrixes, delays, remote controls, meters, signal generators as well as logic controls including preset triggering.

The front panel shall incorporate dual-color LEDs to indicate signal presence for both inputs and outputs, along with LEDs for power and ethernet, providing a comprehensive overview of the device's overall status.

The processor shall be powered by a highly efficient switch mode power supply, providing an operating range from 90 to 240 VAC, 50 – 60 Hz. It shall have a standard IEC C14 connector in the rear panel and shall be supplied with a removable power supply cord. The dimensions of the device shall be 1RU (44 mm) height, 483 mm wide for 19" rack installation, and 315 mm depth, and weight shall be 4 kg. The device shall be in conformity with UL/CSA and CE safety requirements and comply with FCC part 15 emission requirements and the RoHS directive.
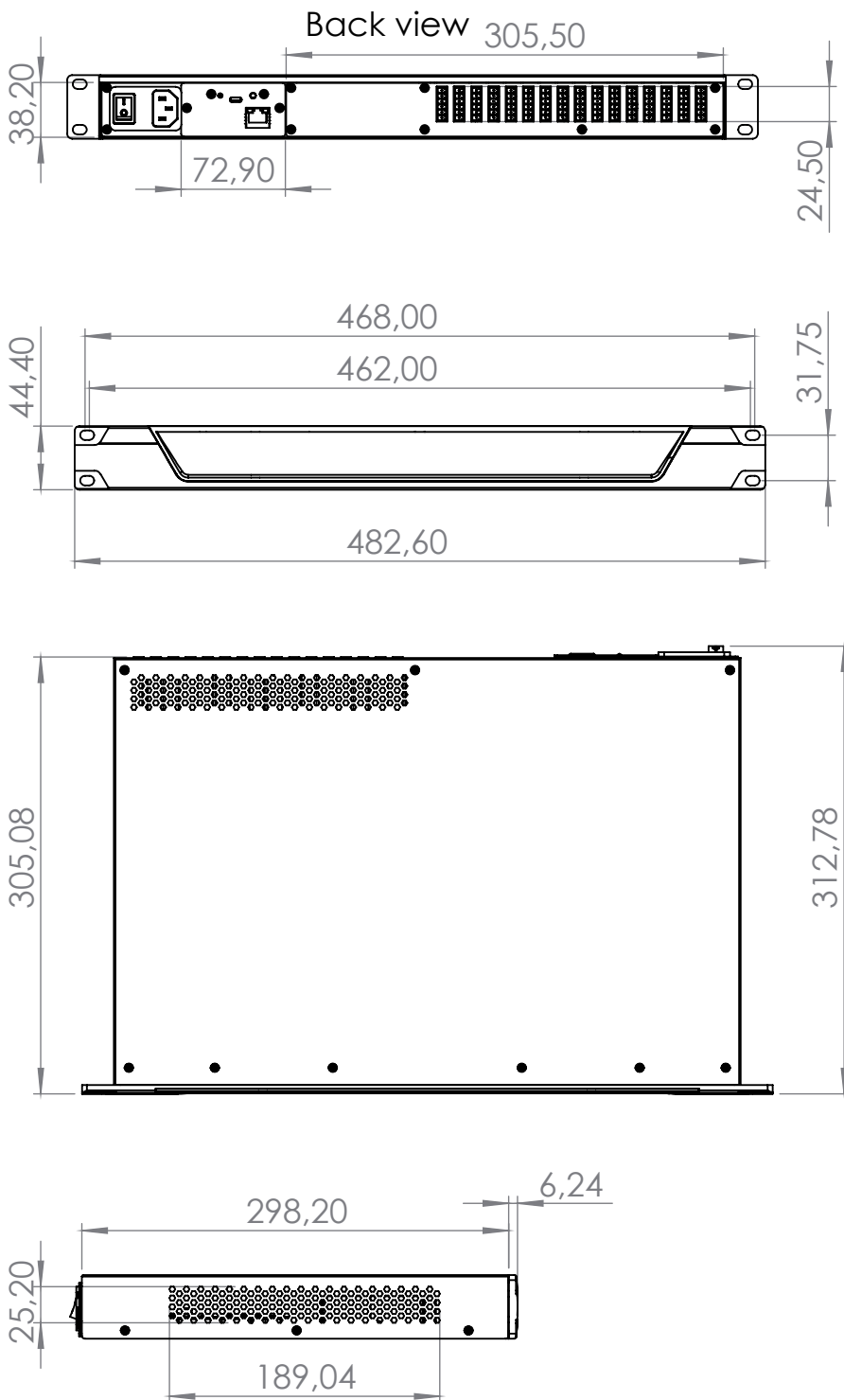
The product shall be an LD Systems ZONE X 1212.

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TECHNICAL DRAWINGS ZONE X 1212

Scale 1 : 5

Back view

305,50

38,20

72,90

24,50

468,00

462,00

44,40

31,75

482,60

305,08

312,78

6,24

298,20

25,20

189,04

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