innosonix

MAXX SERIES

MA16 LP²

MA24 LP²

MA32 LP²

DATASHEET

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AUDIO

Output Power (EIAJ Test Standard 1kHz 1% THD)	4Ω	8Ω	8Ω Bridge-Mode
	50W	30W	100W
Max output Voltage	24 V_{peak}		48 V_{peak}
Max output Current Limited	10 A_{peak}		
Emergency Shutdown Current	15 A_{peak}		
DC Offset	<25mV		
Frequency response	10Hz-20kHz / 4-8Ω: +0.0 -1.5dB		
S/N typ	108dBA		
Analog Gain	Software Adjustable, 0dBFS on any Input Interface: 20V_p - 60V_p (default: 32V_p)		
THD+N @ 4Ω	1W	10W	
	< 0.05%	< 0.1%	
SMPTE IMD	< 0.1%		
CCIF IMD	< 0.1%		
Output impedance	typ 60 mΩ		
Crosstalk	channel enabled		channel disabled
	typ < 70dB	typ 90dB (distant channels)	typ < 120dB
Protection	Overtemperature, DC and Overcurrent		

DSP

Architecture	FPGA based 32-bit fixed point
Inputs	16 x input matrix per channel (DANTE / AES67 via Dante Module / AES3 / MADI)
	sine, white- pink- brown-noise
Level Control	Mute, Volume, Phase
Filter per channel	32 x EQ / Highpass / Lowpass
Filter types	bell, notch, highshelf, lowshelf, allpass 1th / 2nd order

High- Lowpass types	6 - 48dB/Oct, Bessel, Butterworth, Linkwitz/Riley, Variable Q
FIR Filter	2048 Tabs, ASCII file import
Fraction Delay	48000 Samples / 330m / 1000ms (resolution 0.001 units) per channel
CurrentLimiter	Threshold [Ap]
Voltagelimiter	2 x Threshold [Vp], Attack, Release
Powerlimiter	Threshold [W], Attack, Release
Speakerdetection	20kHz Pilot Tone generating with Volume, Threshold, Debounce

	Latency @ 44k1 / 48kHz to Analog
digital input / without ASRC on AES3	41 samples, (24 samples DSP + 17 samples DAC)
Input	**Latency @ 44.1kHz to Analog**
DANTE / MADI	0.930 ms
AES3@44.1kHz	2.028 ms
AES3@48kHz	1.996 ms
AES3@88.2kHz	1.811 ms
AES3@96kHz	1.797 ms
Input	**Latency @ 48kHz to Analog**
DANTE / MADI	0.854 ms
AES3@44.1kHz	2.021 ms
AES3@48kHz	1.854 ms
AES3@88.2kHz	1.690 ms
AES3@96kHz	1.6875 ms
Input	**Latency @ 88.2kHz to Analog**
DANTE / MADI to Analog	0.896 ms
AES3@44.1kHz	2.008 ms
AES3@48kHz	1.916 ms
AES3@88.2kHz	1.432 ms
AES3@96kHz	1.416 ms
Input	**Latency @ 96kHz to Analog**
DANTE / MADI	0.823 ms
AES3@44.1kHz	1.952 ms

AES3@48kHz	1.856 ms
AES3@88.2kHz	1.365 ms
AES3@96kHz	1.330 ms

CONNECTOR

Control input connectors	RJ45 (1Gbit/s Ethernet)
Audio signal input connectors	RJ45 (DANTE / AES67), BNC 75R (MADI Coax, AES3id), SC Optic (MADI Fibre)
Speaker connector	Wuerth Elektronik 691352710002
	Phoenix Contact MSTB 2,5/ 2-ST - 1754449
	Phoenix Contact MSTB 2.5/16-ST-5,08 - 1757158
AC mains	IEC C14 inlet, IEC C13 plug

AC MAINS POWER

Power supply	Universal, regulated switch mode with PFC (Power Factor Correction)
Operating Voltage	90 - 264VAC 50/60Hz
AC Current typ.	4.85A
Inrush Current	60A max.
Suggested circuit breaker	B16
Earth Leakage Current	<0.75mA / 240V

32 CH Version		
Power Factor	@230V	@110V
amps power off	0.46	0.85
idle	0.64	0.95
1/8 power @ 4 Ohm	0.96	0.98

Consumption / current draw	@230V	@110V
amps power off	29W, 0.13A	29W, 0.26A
idle	56W, 0.24A	57W, 0.54A
1/8 power @ 4 Ohm	322W, 1.4A	332W, 3.0A

24 CH Version		
Power Factor	@230V	@110V
amps power off	0.44	0.83
idle	0.58	0.93
1/8 power @ 4 Ohm	0.94	0.99
Consumption / current draw	@230V	@110V
amps power off	26W, 0.11A	26W, 0.24A
idle	46W, 0.20A	38W, 0.35A
1/8 power @ 4 Ohm	241W, 1.05A	247W, 2.25A

16 CH Version		
Power Factor	@230V	@110V
amps power off	0.41	0.81
idle	0.52	0.90
1/8 power @ 4 Ohm	0.89	0.99
Consumption / current draw	@230V	@110V
amps power off	23W, 0.10A	24W, 0.22A
idle	36W, 0.16A	38W, 0.35A
1/8 power @ 4 Ohm	152W, 0.66A	164W, 1.49.A

THERMAL

Enviromental operating temperature	0 - 40°C			
Thermal dissipation	Fan, variable speed, temperature controlled front to rear airflow / passiv cooled			
	32 CH			
	@230V		@110V	
amps power off	24 kcal/h	95 BTU/h	24 kcal/h	95 BTU/h
idle	49 kcal/h	194 BTU/h	50 kcal/h	198 BTU/h
1/8 power @ 4 Ohm	104 kcal/h	412 BTU/h	105 kcal/h	416 BTU/h
	24 CH			
	@230V		@110V	
amps power off	22 kcal/h	87 BTU/h	22 kcal/h	87 BTU/h
idle	40 kcal/h	159 BTU/h	40 kcal/h	159 BTU/h
1/8 power @ 4 Ohm	78 kcal/h	309 BTU/h	79 kcal/h	313 BTU/h
	16 CH			
	@230V		@110V	
amps power off	19 kcal/h	75 BTU/h	19 kcal/h	75 BTU/h
idle	30 kcal/h	119 BTU/h	32 kcal/h	127 BTU/h
1/8 power @ 4 Ohm	43 kcal/h	171 BTU/h	44 kcal/h	174 BTU/h

USER INTERFACES

Hardware	Multicolor LED, LCD Display with 6 navigation Keys
Software	Webpage, RESTful-API
Third Party Plugins	Q-SYS, Loxone

DIMENSIONS / WEIGHT

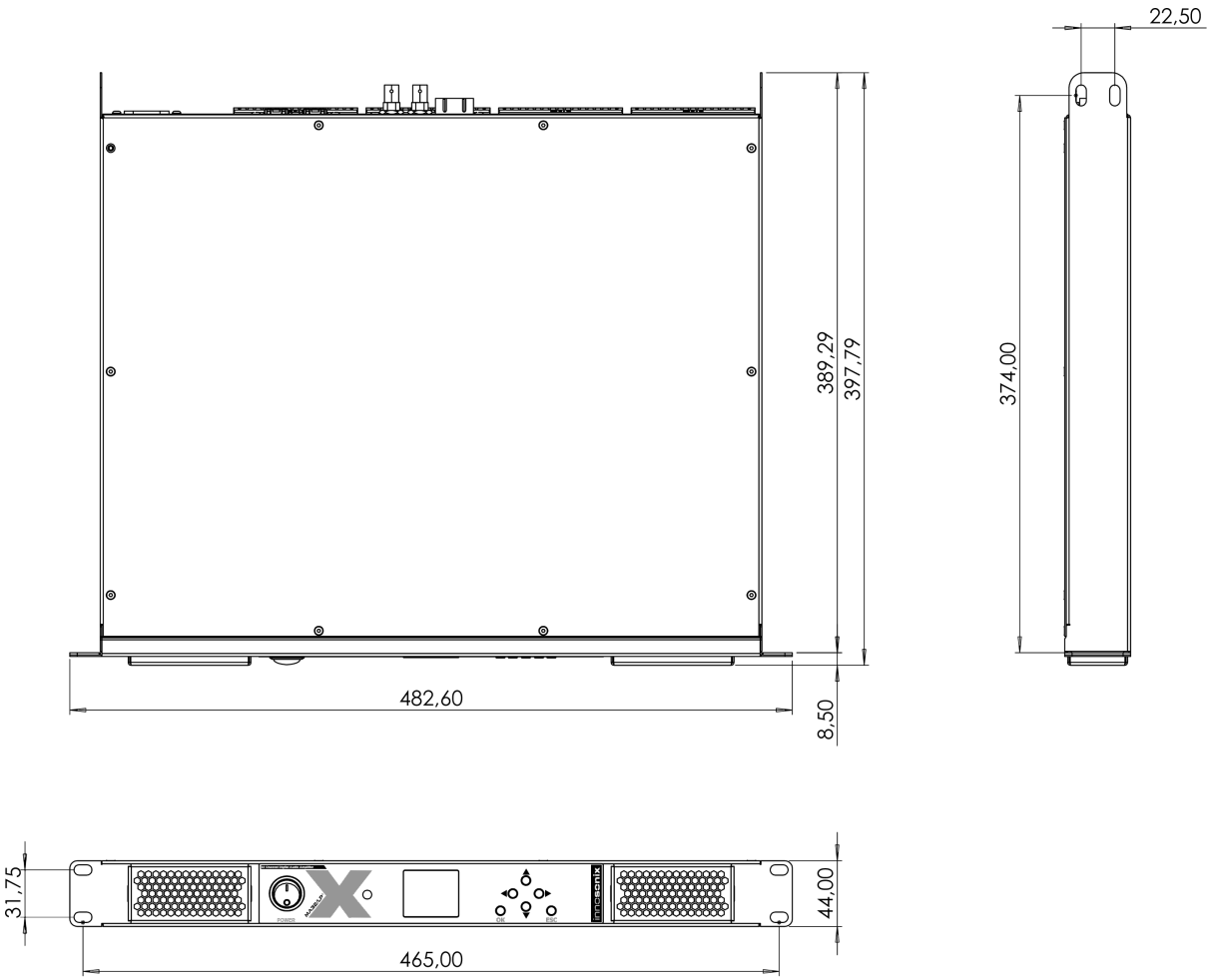

Figure 1. MAXX/LP² dimensions

Dimensions	W 482.60mm (19") H 44.00mm (1 RU), D 389.29mm		
	32CH	24CH	16CH
Weight	6.0 kg	5.7 kg	5.4 kg
Dimensions Boxed	68 x 53 x 25 cm		
Weight Boxed	9.0 kg	8.7 kg	8.4 kg

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