

# MAXX SERIES

MA16 HP<sup>2</sup>

MA24 HP<sup>2</sup>

MA32 HP<sup>2</sup>



DATASHEET

# AUDIO

<b>Output Power</b> (EIAJ Test Standard 1kHz 1% THD)	4Ω	8Ω	8Ω Bridge-Mode	
	280W	140W	500W	
<b>Max output Voltage</b>	52 V <sub>peak</sub>		104 V <sub>peak</sub>	
<b>Max output Current Limited</b>	20 A <sub>peak</sub>			
<b>Emergency Shutdown Current</b>	31 A <sub>peak</sub>			
<b>DC Offset</b>	<25mV			
<b>Frequency response</b>	10Hz-20kHz / 4-8Ω: +0.5 -0.5dB			
<b>S/N typ</b>	105dBA			
<b>Analog Gain</b>	Software Adjustable, 0dBFS on any Input Interface: 20V <sub>p</sub> - 60V <sub>p</sub> (default: 60V <sub>p</sub> )			
<b>THD+N @ 4Ω</b>	1W	10W	280W	300W
	< 0.05%	< 0.05%	1%	2%
<b>SMPTE IMD</b>	< 0.1% @ 1/8 Power 4Ω			
<b>CCIF IMD</b>	< 0.1% @ 1/8 Power 4Ω			
<b>Output impedance</b>	typ 10 mΩ			
<b>Crosstalk</b>	channel enabled		channel disabled	
	typ < 75dB	typ 90dB (distant channels)	typ < 100dB	
<b>Protection</b>	Overtemperature, DC and Overcurrent			

# DSP

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

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

	<b>Latency @ 44k1 / 48kHz to Analog</b>
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<b>digital input / without ASRC on AES3</b>	41 samples, (24 samples DSP + 17 samples DAC)
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<b>Input</b>	<b>Latency @ 44.1kHz to Analog</b>
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<b>DANTE / MADI</b>	0.930 ms
<b>AES3@44.1kHz</b>	2.028 ms
<b>AES3@48kHz</b>	1.996 ms
<b>AES3@88.2kHz</b>	1.811 ms
<b>AES3@96kHz</b>	1.797 ms

<b>Input</b>	<b>Latency @ 48kHz to Analog</b>
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<b>DANTE / MADI</b>	0.854 ms
<b>AES3@44.1kHz</b>	2.021 ms
<b>AES3@48kHz</b>	1.854 ms
<b>AES3@88.2kHz</b>	1.690 ms
<b>AES3@96kHz</b>	1.6875 ms

<b>Input</b>	<b>Latency @ 88.2kHz to Analog</b>
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<b>DANTE / MADI to Analog</b>	0.896 ms
<b>AES3@44.1kHz</b>	2.008 ms
<b>AES3@48kHz</b>	1.916 ms
<b>AES3@88.2kHz</b>	1.432 ms
<b>AES3@96kHz</b>	1.416 ms

<b>Input</b>	<b>Latency @ 96kHz to Analog</b>
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<b>DANTE / MADI</b>	0.823 ms
<b>AES3@44.1kHz</b>	1.952 ms

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

## CONNECTOR

<b>Control input connectors</b>	RJ45 ( 1Gbit/s Ethernet )
<b>Audio signal input connectors</b>	RJ45 ( DANTE / AES67 ), BNC 75R ( MADI Coax, AES3id ), SC Optic ( MADI Fibre )
<b>Speaker connector</b>	Wuerth Elektronik 691352710002 Phoenix Contact MSTB 2,5/ 2-ST - 1754449
<b>AC mains</b>	2x IEC C20 inlet / IEC C19 plug

## AC MAINS POWER

<b>Power supply</b>	Two Universal, regulated switch mode with PFC (Power Factor Correction)	
<b>Operating Voltage</b>	90 - 264VAC 50/60Hz	
<b>AC Current typ.</b>	14.3A per PSU	
<b>Inrush Current</b>	60A max.	
<b>Suggested circuit breaker</b>	2x B16	
<b>Earth Leakage Current</b>	<0.75mA / 240V	

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

amps power off	36W	36W
idle	98W	102W
1/8 power @ 4 Ohm	1514W	1532W

24 CH Version		
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<b>Power Factor</b>	@230V	@110V
amps power off	0.44	0.83
idle	0.58	0.93
1/8 power @ 4 Ohm	0.94	0.99
<b>Consumption / current draw</b>	@230V	@110V
amps power off	36W	36W
idle	83W	84W
1/8 power @ 4 Ohm	1145W	1150W

# THERMAL

<b>Enviromental operating temperature</b>	0 - 40°C			
<b>Thermal dissipation</b>	Fan, variable speed, temperature controlled front to rear airflow			
	32 CH			
	@230V		@110V	
amps power off	31 kcal/h	123 BTU/h	31 kcal/h	123 BTU/h
idle	84 kcal/h	333 BTU/h	88 kcal/h	349 BTU/h
1/8 power @ 4 Ohm	269 kcal/h	1066 BTU/h	270 kcal/h	1071 BTU/h
	24 CH			
	@230V		@110V	
amps power off	31 kcal/h	123 BTU/h	31 kcal/h	123 BTU/h
idle	71 kcal/h	282 BTU/h	72 kcal/h	286 BTU/h
1/8 power @ 4 Ohm	210 kcal/h	833 BTU/h	212 kcal/h	840 BTU/h

# USER INTERFACES

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

# CONSTRUCTION

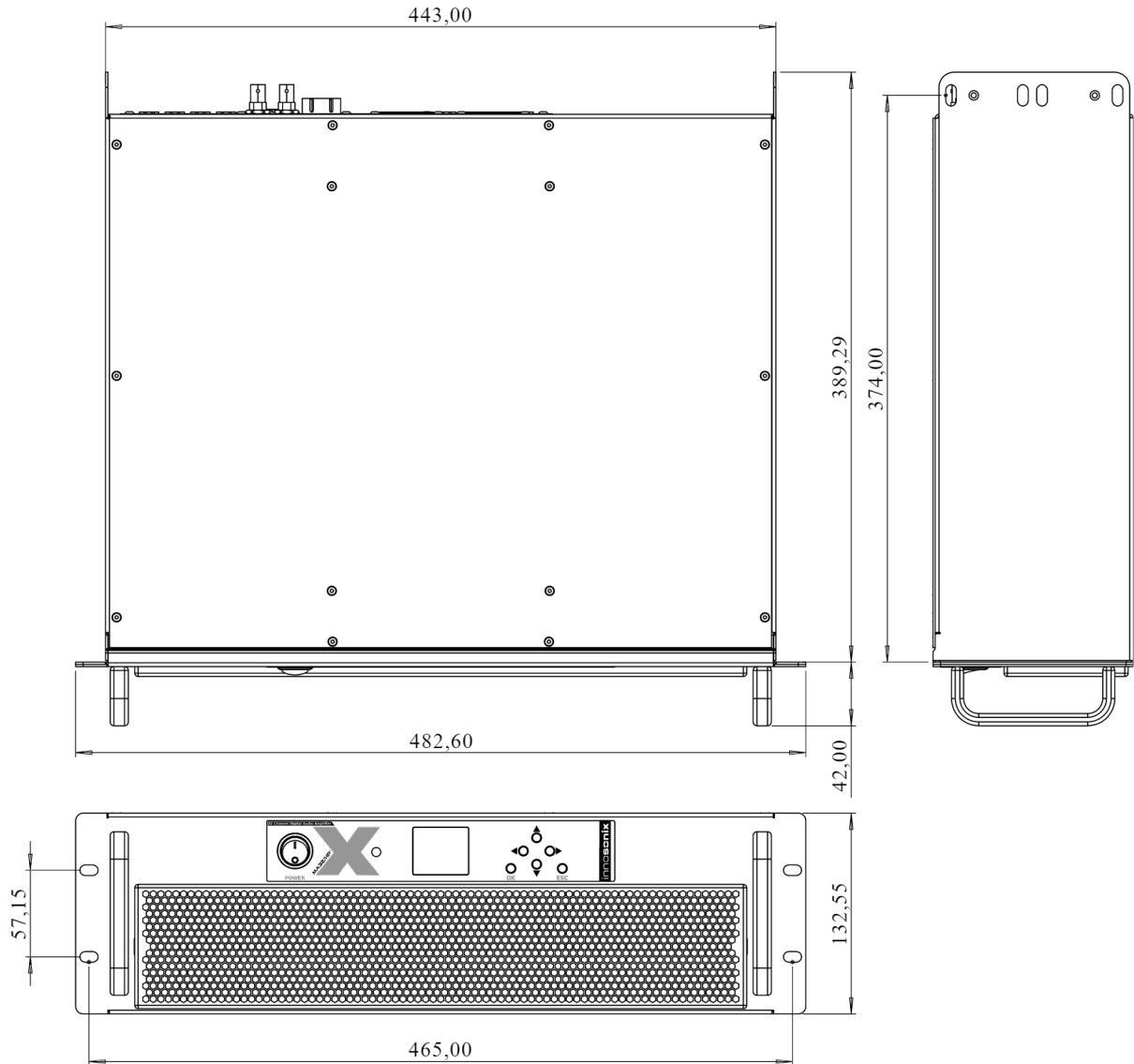


Figure 1. MAXX/HP<sup>2</sup> dimensions

<b>Dimensions</b>	W 482.60mm (19") H132.55mm (3 RU), D 389.29mm	
	32CH	24CH
<b>Weight</b>	19.6 kg	18.3 kg
<b>Dimensions Boxed</b>	60 x 52 x 25 cm	
<b>Weight Boxed</b>	22.6 kg	21.3 kg

