

MAXX SERIES

MA16 D²

MA24 D²

MA32 D²



DATA SHEET

AUDIO

Power Stage	Half-Bridge GaN amplifier (Gallium nitride)			
Output Power (EIAJ Test Standard 1kHz 1% THD)	4Ω		8Ω	8Ω Bridge-Mode
	280W		140W	500W
Max output Voltage	52 V _{peak}			104 V _{peak}
Max output Current Limited	20 A _{peak}			
Emergency Shutdown Current	31 A _{peak}			
DC Offset	<20mV			
Frequency response	10Hz-20kHz / 4-8Ω: +0.2 -0.2dB			
S/N (A-weighted)	> 110dB(A) typ. 114dB(A)			
Analog Gain	Software Adjustable, 0dBFS on any Input Interface: 20V _p - 60V _p (default: 60V _p)			
THD+N @ 4Ω	1W	50W	280W	300W
	< 0.02% typ. 0.005%	< 0.025% typ. 0.005%	1%	2%
SMPTE IMD	< 0.1% @ 1/8 Power 4Ω			
CCIF IMD	< 0.1% @ 1/8 Power 4Ω			
Output impedance 20Hz - 10kHz	< 15mΩ typ. 7 mΩ			
Damping Factor 8 Ohm 20Hz - 10kHz	> 500 typ. 1000			
Crosstalk	channel enabled		channel disabled	
	typ. < 75dB	typ. 90dB (distant channels)	typ. < 100dB	
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
Master Volume	Volume control over all channels
Master Mute	Global Mute, can also be automatically set at every boot
Remote Mute	Feed a GPI state via a failsafe UDP protocol to use as an emergency hardware mute for multiple devices

	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
AC mains	IEC C20 inlet / IEC C19 plug

AC MAINS POWER

Power supply	Universal, regulated switch mode with PFC (Power Factor Correction)	
Operating Voltage	90 - 264VAC 50/60Hz	
AC Current typ.	@230V	@110V
	10A	16A
Inrush Current	50A max.	
Suggested circuit breaker	B16	
Earth Leakage Current	<2mA / 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
Power consumption	@230V	@110V
amps power off	37W	37W
idle	125W	127W
1/8 power @ 4 Ohm	1514W	1532W

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
Power consumption	@230V	@110V
amps power off	34W	34W
idle	109W	110W

1/8 power @ 4 Ohm	1145W	1150W
16 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
Power consumption	@230V	@110V
amps power off	32W	32W
idle	83W	84W
1/8 power @ 4 Ohm	775W	778W

THERMAL

Enviromental operating temperature	0 - 40°C			
Thermal dissipation	Fan, variable speed, temperature controlled front to rear airflow			
	32 CH			
	@230V		@110V	
amps power off	32 kcal/h	126 BTU/h	32 kcal/h	126 BTU/h
idle	108 kcal/h	427 BTU/h	109 kcal/h	433 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	29 kcal/h	116 BTU/h	29 kcal/h	116 BTU/h
idle	94 kcal/h	372 BTU/h	95 kcal/h	375 BTU/h
1/8 power @ 4 Ohm	210 kcal/h	833 BTU/h	212 kcal/h	840 BTU/h
	16 CH			
	@230V		@110V	
amps power off	28 kcal/h	109 BTU/h	28 kcal/h	109 BTU/h
idle	71 kcal/h	283 BTU/h	72 kcal/h	287 BTU/h
1/8 power @ 4 Ohm	150 kcal/h	595 BTU/h	152 kcal/h	603 BTU/h

USER INTERFACES

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

GPI / General Purpose Input	Failsafe remote mute protocol via external GPI device to mute the amplifier via an GPI
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DIMENSIONS / WEIGHT

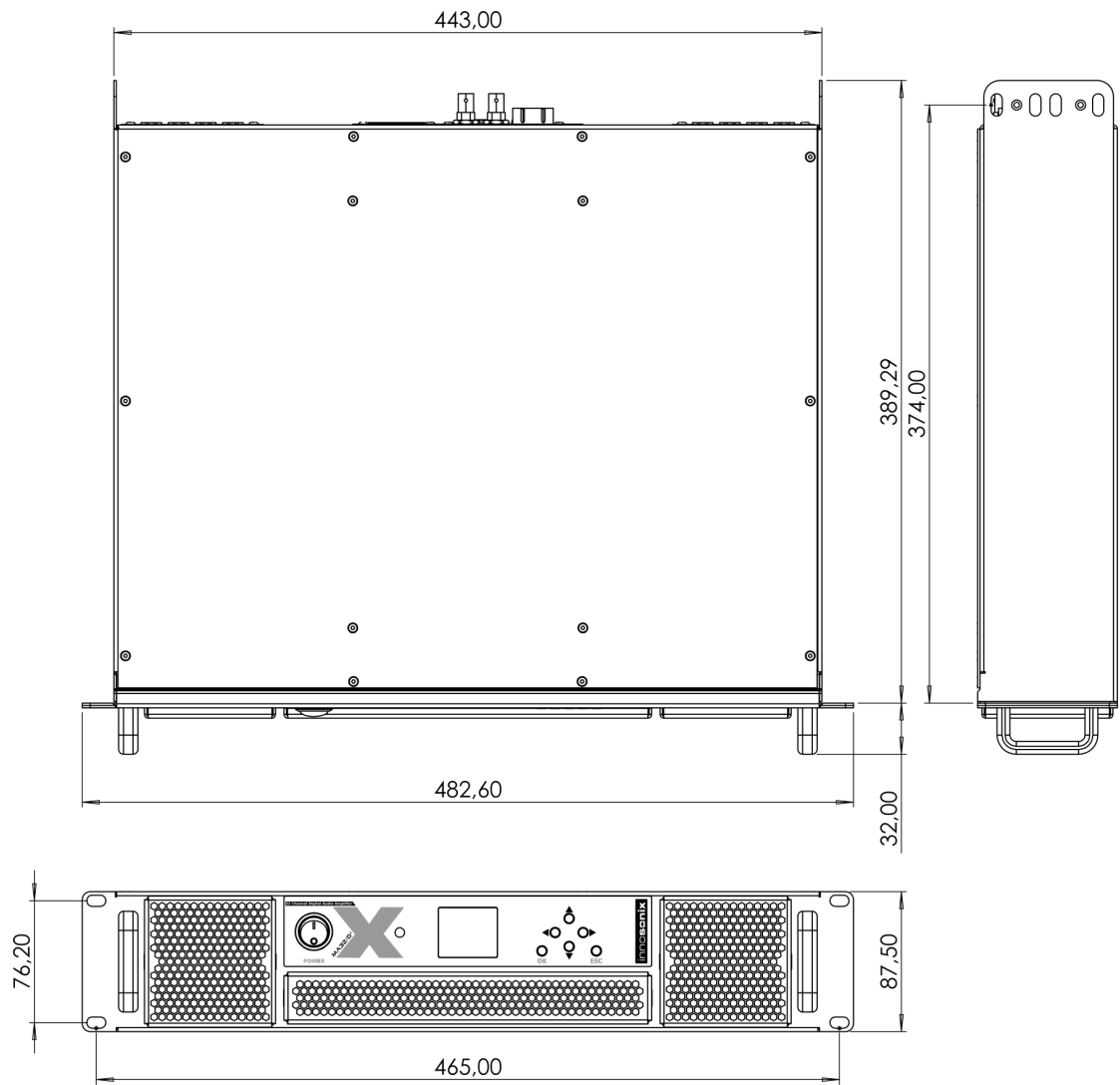


Figure 1. MAXX/D² dimensions

Dimensions	W 482.60mm (19") H 87.50mm (2 RU), D 389.29mm		
	32CH	24CH	16CH
Weight	13.4 kg	12.9 kg	11.2 kg
Dimensions Boxed	68 x 53 x 25 cm		
Weight Boxed	16.4 kg	15.9 kg	14.2 kg

