

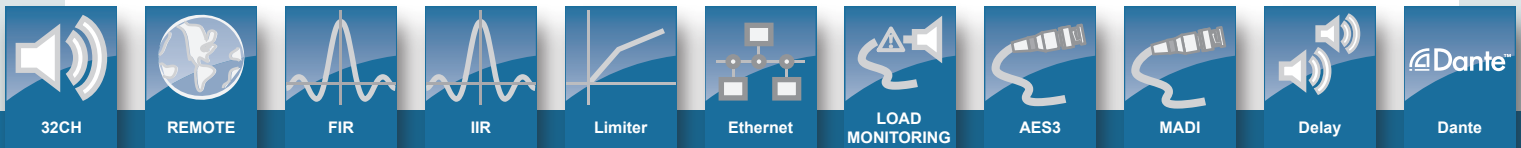


MA32/LP



::: FEATURES :::

- MA32/LP is a cutting edge 32 channel power amplifier combining FPGA-based signal processing with advanced Class D power stages and universal power supply for global use in a 1U 19" package. The cooling is 100% passively, no fans needed.
- Each channel can deliver a power of 20W at 4 Ohm load with less than 1% THD.
- Despite the extremely compact design, the MA32/LP achieves a channel separation of more than 55dB between adjacent channels. Distant channels typically reach 80dB.
- Each channel can be disabled in software. The even low IDLE power consumption of 67W can be further decreased by disabling unused channels.
- Advanced DSP-controlled power supply with PFC for almost sinusoidal current draw an all common line voltages (90 - 264V 50/60Hz).
- Web-based remote control makes usability straightforward and platform-independent. We reveal the complete protocol definition for integration in third party controller. We offer mDNS (Bonjour) and a proprietary simple UPD protocol to discover devices on your network.
- IP settings can be changed across IP subnet borders by the UDP implementation as well.
- The amplifier accepts MADI optical, 2x MADI coaxial, 2x AES3id and DANTE TM (Option IF1) as input. Channels can be patched smoothly between all interfaces. All inputs can also be used as the clock source.
- The optional DSP functionality (D1) offers per channel: 5 EQs, High- Lowpass up to 48dB/Oct, Peak limiter, Volume and Delay. For more advanced filtering FIR filters can be used (D2).
- The output current of all channels is measured and feed to a 20kHz detector. By adding a pilot tone by either the internal generator or an external source, the connection and voice coil of your speakers can be monitored. Threshold and debounce time is adjustable per channel. (M1)
- The "ramp volume at startup" feature with adjustable time and the panic mute via UDP/IP functionality helps to react when errors in complex installations occur.
- IP and mute settings can be changed on the front panel. In normal operation, the LCD shows level meters of all 32-channels.
- The amplifier is protected against DC, overcurrent and overtemperature. A compressor with slow release time is responsible for limiting the maximum power drawn from the power line. The limitation smoothly reduces the gain at all channels simultaneously so that no acoustic picture distortion will occur in overload situations.





::: SPECIFICATIONS :::

General		
Number of Channels	32	
Output Power (EIAJ Test Standard 1kHz 1% THD)	4Ω	8Ω
	20W	20W
Max output Voltage	21 V _{peak}	
Max output Current	5 A _{peak}	
Audio		
DC Offset	< 90mV	
Frequency response	10Hz-20kHz / 4-8Ω: +1.0 -2.0dB	
S/N typ	100dBA	
Gain	28dB (Input dBFS + Gain = Output dBV)	
THD+N @ 4Ω	1W	20W
	< 0.05%	< 0.2%
SMPTE IMD	< 0.06%	
CCIF IMD	< 0.06%	
Output impedance	typ 190 mΩ	
Crosstalk	channel enabled	channel disabled
	typ < 55dB	typ < 100dB
Latency	48kHz	44.1kHz
	0.541ms	0.594ms
Protection	Overtemperature, DC and Overcurrent	
DSP		
Architecture	FPGA based 48-bit fixed point	
Filter per channel	5x EQ, 1x Highpass, 1x Lowpass	
Filter types	bell, notch, highshelf, lowshelf	
High- Lowpass types	6 - 48dB/Oct, Bessel, Butterworth, Linkwitz/Riley, Variable Q	
Peaklimiter	Threshold, Attack, Release	
Cliplimiter	1-20V peak	
Delay	48000 Samples per channel	
FIR Filter	2048 Tabs, ASCII file import	
Test Tone generator	sine, white- pink- brown-noise	
Frontpanel		
Indicators	Multicolor LED, LCD Display	
Controls	Power switch, 6 navigation Keys, rotary encoder	
Maintenance	None	
Rearpanel		
Control input connectors	RJ45 (100Mbit/s Ethernet)	
Audio signal input connectors	RJ45 (DANTE), BNC 75R (MADI Coax, AES3id), SC Optic (MADI Fibre)	
Speaker connector	Wuerth Elektronik 691361300016	
	Phoenix MC 1,5/16-ST-3,81 - 1803714	
AC mains	Neutrik Powercon True1	



::: SPECIFICATIONS :::

AC Mains Power

Power supply	Universal, regulated switch mode with PFC (Power Factor Correction)			
Operating Voltage	90 - 264VAC 50/60Hz			
AC Current max.	6A			
Inrush Current	50A max			
Suggested circuit breaker	B16			
Earth Leakage Current	< 2mA / 240V			
Power Factor	@230V		@110V	
full load	0.95		0.98	
idle	0.68		0.94	
Consumption / current draw	@230V		@110V	
Idle	58W	0.37A	57W	0.55A
1/8 power @ 4 Ohm	113W	0.58A	118W	1.10A

Thermal

Environmental operating temperature	0 - 40°C / 32 - 104°F			
Thermal dissipation	Passive cooled, bottom to top airflow needed			
	@230V		@110V	
idle	50 kcal/h	198 BTU/h	49 kcal/h	195 BTU/h
1/8 power @ 4 Ohm	97 kcal/h	386 BTU/h	102 kcal/h	403 BTU/h

