

MDA-KDM Series



Touring Amps



The MDA-KDM Series by MARANI is a high-performance line of rack amplifiers tailored for professional touring applications. These amplifiers integrate high-end Class D amplification with advanced DSP processing, offering unparalleled synergy between power delivery and signal processing. The DSP system, derived from MARANI's MIR Dynamic Audio Management, ensures precise control over power dynamics, optimizing performance and protecting the amplifier's power stage while maintaining signal integrity. Key features include 96 kHz sampling rate, advanced filtering (MIR/IIR/FIR), dynamic processing, and calibration tools for seamless integration with speaker systems. This MDA-KDM Series is designed for touring professionals, providing robust networking capabilities such as dual Ethernet ports, DANTE primary and secondary, AES3 inputs, analog inputs, and a user-friendly control interface.

"Our approach transcends mere DSP processing and Class D modules; it embodies a holistic system where power, control, and signal processing coexist as a single entity. This integration ensures that the dynamics of the processed signal and the power status are continuously interrelated, optimizing performance and efficiency." (Michele Marani)

Features

- Exclusive MARANI Technology
- Proprietary MIR filtering technology (no phase distortion)
- Advanced DSP processing at 96 kHz
- Dante, AES/EBU and Analog Inputs
- Automatic system calibration tool with tone sweep
- Integrated AEQ room equalization
- Dynamic low frequency audio processing with Amp Boost
- Backup source input switching
- Flexible Routing Matrices
- Up to 512 Taps FIR filter
- RMS compressor on each input/output channel
- Low distortion Peak and Hard Limiter on output channels
- Android App for Remote Control
- Dual Ethernet and DANTE networking
- Simultaneous control of 128 networked units
- Grouping with control of gain, mute, PEQ, and polarity
- Remote firmware update capability
- Managed through our MARANI Control software

Output Power

Models	MDA4 4KDM	MDA4 6KDM	MDA4 10KDM	MDA2 8KDM
Number of ch.	4	4	4	2

Watts · 220 V				
8 Ohm	420	650	1600	2000
4 Ohm	780	1200	2200	4000
2.7 Ohm	1200	-	1600	3800
Hi-Z 70/100 V	1200	1200	2200	4000

Watts · 110 V				
8 Ohm	380	620	1600	2000
4 Ohm	680	1130	2000	3970
2.7 Ohm	1200	-	1580	3800
Hi-Z 70/100 V	1200	1130	2000	3800

Watts · Total Output				
@ 220 V	5000	6000	10000	8000
@ 110 V	4800	4600	8000	7900
Max Voltage	52 V	67 V	89 V	126 V
Max Current	13 A	16 A	22 A	31 A



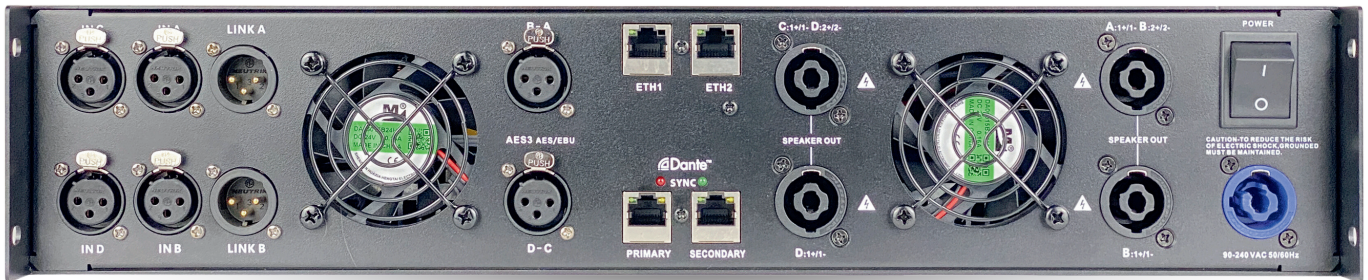
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The amplifier operates within a mains voltage range of 90 to 260 VAC and achieves remarkably low distortion levels of <0.03% THD, ensuring exceptional audio fidelity. With a power factor exceeding 0.96 and an efficiency greater than 87%, it stands out as both effective and energy-efficient. Robust protection systems are implemented to safeguard against DC faults, high-frequency interference, and thermal risks. The remarkable signal-to-noise ratio of 104 dB guarantees clear audio output, significantly enhancing the overall listening experience.

User-friendly features include 50 customizable presets, manufacturer/user passwords for enhanced security, independent selectable output power for each channel, and a latency link that automatically adjusts output latency when using FIR filters. Furthermore, the amplifier supports linking of analog inputs and offers comprehensive control and monitoring capabilities, such as load type selection per channel, remote firmware updates, a temperature LED indicator, and an amplifier protection indicator.

DSP

- 15/21 dB Max Input level selectable
- Amplifier gain selectable via software

Input

- Backup source input switching
- Signal noise generator
- Input routing on processing channels
- Gain, Multe, and Polarity
- Noise Gate and Dynamic Loudness
- PEQ Filters
- Up to 512 Taps FIR filter
- RMS Compressor
- Delay up to 300 ms
- Input Channels Link

Output

- Crossover Filters: MIR/IIR/FIR
- Output IIR EQ
- RMS Compressor
- Peak Limiter
- Hard Limiter
- Delay up to 150 ms

Monitoring

- Load type
- Temperature Led
- Amplifier protections indicator

Specifications CEA-2006/409A

Models	MDA4-4KDM	MDA4- 6KDM	MDA4-10KDM	MDA2-8KDM
Number of ch.	4	4	4	2
Total Power	5000 W	6000 W	10000 W	8000 W
8 Ω · 220 / 110 V	420 / 380 W	650 / 620 W	1600 W	2000 W
4 Ω · 220 / 110 V	780 / 680 W	1200 / 1130 W	2200 / 2000 W	4000 / 3970 W
2.7 Ω · 220 / 110 V	1200 W	-	1600 / 1580 W	3800 / 3800 W
Hi-Z 70/100 V	1200 W	1200 / 1130 W	2200 / 2000 W	4000 / 3800 W
Max Voltage	52 V	67 V	89 V	126 V
Max Current	13 A	16 A	22 A	31 A
Voltage Gain	25 dB	27 dB	30 dB	32 dB

Power Consumption				
230 V · 4 Ω 1/8	514 W / 2.8 A	801 W / 4.1 A	1538 W / 7.5 A	1400 W / 6.7 A
110 V · 4 Ω 1/8	533 W / 2.8 A	832 W / 7.7 A	1614 W / 14.9 A	1447 W / 13.3 A
Idle 230 V	47 W / 0.48 A	48 W / 0.49 A	66 W / 0.64 A	49 W / 0.61 A
Idle 110 V	51 W / 0.78 A	55 W / 0.82 A	69 W / 1 A	57 W / 0.9 A

Thermal Dissipation in BTU/hr				
230 V · 4 Ω 1/8	1754	2734	5247	4776
110 V · 4 Ω 1/8	1821	2838	5507	4937

Connection Type	TCP/IP (2x RJ45 port for daisy chain), USB, Dante (Prim. & Sec.)
W x H x D	483 x 89 (2U) x 470 mm / 19 x 3.5 x 18.5 in
Weight	17 kg / 37.4 lb

