

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

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, Mute, 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



SINCE 1996



info@marani-proaudio.com



www.marani-proaudio.com



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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.

Specifications

Models	MDA4-6KDM	MDA4-10KDM	MDA4-12KDM	MDA2-8KDM
Number of channels	4	4	4	2
Total Power	6000 W	10000 W	12000 W	8000 W
8 Ω	700 W	1300 W	1600 W	2000 W
4 Ω	1200 W	2500 W	3000 W	4000 W
2 Ω	-	2800 W	3000 W	5000 W
Hi-Z 70/100 V	1200 W	2500 W	2600 W	4000 W
Max Voltage	67 V	89 V	103 V	126 V
Max Current	16 A	22 A	26 A	31 A
Voltage Gain	21dB/27dB/33dB	24dB/30dB/36dB	26dB/32dB/38dB	26dB/32dB/38dB

Power Consumption				
230 V · 4 Ω 1/8	801 W / 4.1 A	1538 W / 7.5 A	1853 W / 8.3 A	1400 W / 6.7 A
110 V · 4 Ω 1/8	832 W / 7.7 A	1614 W / 14.9 A	1742W / 15.8 A	1447 W / 13.3 A
Idle 230 V	48 W / 0.49 A	66 W / 0.64 A	89.6 W / 0.81 A	49 W / 0.61 A
Idle 110 V	55 W / 0.82 A	69 W / 1 A	84 W / 1.2 A	57 W / 0.9 A

Thermal Dissipation in BTU/hr				
230 V · 4 Ω 1/8	2734	5247	6322	4776
110 V · 4 Ω 1/8	2838	5507	5949	4937

Connection Type	TCP/IP (2x RJ45 port for daisy chain), USB			
Sound Source	Analog , Digital (AES/EBCU),Dante(optional Primary & Secondary)			
W x H x D	482 x 88 (2U) x 470 mm / 19 x 3.5 x 18.5 in			
Weight	17 kg / 37.4 lb			