

Power Amplifiers

MDA Series - MDA3-100M

MDA3-100M is highly flexible and intelligent digital audio 3 Channels Class D power amplifier delivering up to a total of 600W@4/8Ω. To guarantee maximum reliability, for the 2 powered channels, the MDA3-100M includes one MARANI® Switch Mode Power Supply and 3 highly efficient Class D Power Stages, 2 working in SL mode and one in BTL, for powering the Sub output. The 3 output stages are very low noise and low distortion with efficiency up to 90% @ full load and also equipped with a full set of circuit protections. Designed to meet the most demanding residential application sound systems, it provides a basic set of features such as a matrix mixing mode where inputs may be routed/mixed in any ratio to any output. The MDA3-100M includes a set of sophisticated processes for loudspeaker, implemented by the powerful MARANI® DSP running 48kHz/24bit [96 bits precision for the internal intermediate processes] and high performance 24bit AD/DA

Converters. Processes as Noise Gate, up to 24dB/Oct IIR Hp/Lp filters for X-Over, parametric EQs per input and output sections, RMS compressor, alignment delay and Notch, Variable Q Hi/Lo Shelving and Hi/Lo Pass filters are available, all in all everything needed to optimize powered loudspeaker. Moreover a Overflow/Limiter function per channel provides internal processes monitoring to prevent Overflow Clipping to occur, in order to avoid feeding Class D amps with clipped waves and finally, jointly with a powerful embedded Clip Limiter, to avoid speaker damage with gain reduction at clip threshold. In addition, efficient heat dissipation system and Over-Heat protection are implemented, which ensure a reliability without compromises. All setup parameters for input/output processes, DSP features are accessible by using remote PC software.



Features

Outstanding Performance

High power output: 2 x150W@4ohm + 1 x 300W@ 8 Ohm ; One MARANI® Switch mode Power Supply and 2 Class D power Stages. Class D output stages with Efficiency up to 90% @ full load Full protection circuitry including Over-Current, Over/Under-Voltage, Output DC and Over-Temperature;Excellent sonic performance with 24bit high end converters running 48kHz sample rate, 3 outputs(L/R/Sub) with full matrix mixing and extended Sound Processes set

Top-Grade DSP Engine

12 bands PEQ filters per input channel 5 bands

with slopes from 6dB/Octave up to 24dB/Octave including Butterworth, Bessel, Linkwitz-Riley. Gain Control, Noise Gate, RMS Compressor Adjustable Delay time up to 961 ms per input channel and 541ms per output channel.

Direct PC/Network Connection & Control

Front Panel USB for system setup, monitoring and control via manageable remote PC software Simultaneous control up to 32 units via PC software 16 Preset Selection

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Power & Amplifier Sections

Number of Channels -----	3 Powered output: L/R/S
Dynamic Power (6dB Crest Factor)-	2 x 150W @4ohm + 1 x 300W (Bridge) @8 ohm
Output Circuitry -----	Class D - Self-Oscillating PWM topology; 400kHz supplied by independent SMPS
THD + N -----	L/R: 1%; Sub: 0.26%
S/N (A-Weighted) -----	L/R: 100dB; Sub: 98dB
Frequency Response -----	20Hz - 20kHz
Power Supply -----	Switch Mode Power Supplies
Consumption/ Current draw and	Sleep/standby Mode: 4.8W/0.078A
Thermal dissipation@230V -----	Idle: 23.8W/0.175A
Protections -----	Over-Current, Over/Under Voltage, Output DC and Over-Temperature
Analog Input-----	2 x RCA A/B Unbalanced, Max Input= 12dBu
Max Output Gain -----	+12 dB

DSP & Processing

DSP Engine -----	MARANI® DSP, 24 bit (data) x 24 bit (coeff.)
DSP Resolution -----	54 bit accumulation registers, 96 bit precision on intermediate processing data
Input Type Selection -----	Analog Inputs, Pink/White Noise Inputs [Level: -40dBu to 0dBu]
Noise Gate-----	Threshold from -90dBu up to -60dBu, 5dB Steps Attack time from 1ms up to 1000ms; Release time from 10ms up to 1000ms
Input 12 Bands PEQ-----	Peaker, Q from 0.4 up to 128, Gain +/-15dB, Center Freq from 20 to 20kHz
Output 5 Bands PEQ -----	Variable Q Hi/Lo Shelving, Q from 0.1 up to 5.1, Gain +/-15dB, Center Freq from 20 to 20kHz Variable Q Hi/Lo Pass, Q from 0.1 up to 5.1, Cutting Freq from 20 to 20kHz Notch, Q from 4 up to 104, Center Freq from 20 to 20kHz
Input RMS Compressor -----	Threshold from -18dBV up to 12dBV; Make Up from 0 to +12dB Knee 0~100%; Ratio from 2:1 to 32:1; Release time from 100ms up to 3s (100ms resolution); Attack time from 5ms up to 200ms
Output HPF/LPF section-----	Butterworth 6/12/18/24dB per octave, Bessel, Linkwitz-Riley 12/24dB per octave, Filter frequency resolution 1Hz
Output Peak Limiter-----	Threshold: -18dBV ~ +12dBV, Attack time: 1ms ~ 900ms, Release time: 100ms ~ 5sec
Delay-----	Each input channel's selectable delay is up to 80.998ms, each output channel's up to 50.998ms
Load per Output Channel-----	4 - 8 Ohm
Ground Noise-----	-86 dB

General

Dimensions -----	482 x 387.8 x 103 (mm)
Weight, Net / Shipping -----	8.57 kg/ 9.40 kg