

Power Amplifiers

MDA Series - MDA3-700M

MDA3-700M is highly flexible and intelligent digital audio 3 Channels Class D power amplifier delivering up to a total of 2.1kW@4/8Ω or able to drive 70V/100V Constant Voltage Lines, in Direct Drive, without using internal transformers. To guarantee maximum reliability, for the 3 powered channels, the MDA3-700M includes one MARANI® SMPS and 3 highly efficient Class D Power Stages, each one working in BTL (Bridge Mode). 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. The MDA3-700M 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, dB/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 themselves ensure a reliability without compromises. Furthermore the MDA3-700M is also equipped with a Dynamic Loudness function and an useful Pink/White noise generator. All setup parameters for input/output processes, DSP features are accessible by using the remote PC software.



Features

Outstanding Performance

High power output: 3 x 700W @ 4/8 Ohm or 70V/100V Direct Drive.

1 x Switched-Mode Power Supply MARANI® + 3 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; One more processed output for use in driving additional power amplifiers; Excellent sonic performance with 24bit high end converters running as 48kHz sample rate, 2+1 (L/R + SUB) outputs with full matrix mixing and extended Sound Processes set

Top-Grade DSP Engine

12 bands PEQ filters per input channel

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5 bands PEQ filters per output channel
Crossover filters 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 ;Ethernet interface 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)-	3 x 1000W @8 ohm load, 3 x 700W @4ohm; or 70V/100V Direct Drive
Output Circuitry -----	Class D - Self-Oscillating PWM topology; 400kHz supplied by independent SMPS
THD + N -----	<0.01%
S/N (A-Weighted) -----	>102 dB
Frequency Response -----	20Hz - 35kHz, ±3 dB (1W 4ohm - 8ohm Load)
Power Supply -----	1 Independent Switch mode Power Supplies
Consumption / Current draw and	9.6 W / 0.18 A / 2.8 BTU/h (Standby)
Thermal dissipation @ 230 V ----	1083 W / 7.94 A / 317 BTU/h (l/8 max. power@8ohm)
Protections -----	Over-Current, Over/Under Voltage, Output DC and Over-Temperature
Max Input Level-----	+12 dBu
Max Output Gain-----	+12 dBu

Audio

Analog Input -----	4 x RCA A/B, electronically inbalanced, +12dB
Digital Input -----	1 x Stereo Coax Input, 1 x Stereo Optical Input
AD&DA Converters -----	24 bit

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, Digital 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 961ms, each output channel's up to 541ms
Load/Direct Drive Selection per----	4 - 8 Ohm/70v
Output Channel-----	16 Ohm/100v
Ground Noise -----	-86 dB

General

Dimensions -----	482 x 314.5 x 88 (mm)
Weight, Net/Shipping -----	8.57 kg/ 9.40 kg