MDA3-1000M

3 Channels Power Amplifier

MDA3-1000M is a highly flexible, powerful and intelligent 3-Channel power amplifier delivering up to a total of 3x1000W @ 8 ohms, or able to drive 70V/100V Constant Voltage Lines, in Direct Drive without using internal transformers. Designed to meet the most demanding portable and fixed installation sound systems, it provides a full set of value added features such as high output power, efficient cooling system, on board DSP and USB/Ethernet for monitoring and control via PC software. MDA3-1000M includes a highly efficient Switch Mode Power Supply, which provides power to the output stages. The 3 output stages use the well-proven Pascal Class D SA-2 module-full bandwith PWM modulator obtaining ultra low distortion, high efficiency and also equipped with a full set of circuit protections. Furthermore the Clip/Limiter function provides output monitoring to prevent speaker damage with gentle gain reduction at clip threshold, in addition to the efficient heat dissipation system and Over-Heat protection which themselves ensure uncompromised reliability. MDA3-1000M is more than just an amplifier. It is also a capable and sophisticated loudspeaker processor, thanks to its powerful M716 DSP running 96kHz/24bit (96 bits precision for the internal intermediate processes) and high performance 24bit AD/DA Converters. It offers 3 channels of slope up to 48dB/Oct IIR HP/LP crossover filters, or up to 512 taps FIR filters (FIR Coefficients can be imported as .txt files from external applications), RMS compressor, parametric Eqs, alignment delay and white/pink noise internal generator, everything needed to optimize a loudspeaker system. Moreover, MDA3-1000M allows a 12dB headroom process. User can also set the parameters, select input source, load presets, etc with the extraordinary touchscreen LCD in front panel. Apart from regular analog and digital source input, DANTE is also optional.

Features

Outstanding Performance

High power output: 3 x 1000W @ 8 Ohm or
70V/100V Direct Drive

Highly efficient Switch-Mode Power Supply

Pascal Class D Amp module-full bandwith PWM modulator with ultra low distortion

Full protection circuitry including Over-Current, Over/Under-Voltage, Output DC and Over-Temperature

Support DANTE audio (optional)

Excellent sonic performance with 24bit high end converters running 96kHz sample rate

Top-Grade DSP Engine

12 band parametric equalization per input channel

4 band parametric equalization per output channel

Each band can be switched to Bell, Low/High Shelving variable Q

FIR or IIR Filters for X-Over:

The X-Over can be implemented both by FIR filters or IIR HP/LP, selectable in the dedicated PC software

FIR: Crossover filter can be created by the user selecting from 256 up to 512 taps, the FIR type and the Out Band attenuation (FIR Coefficients can be imported as .txt file from external applications)

IIR: Crossover filter with slopes from 6 ~ 48 dB/Oct, including Butterworth, Bessel, Linkwitz-Riley and customized topologies

Each output channel is equipped with a precise Peak Limiter with selectable ratio, attack/release time

Adjustable Delay time up to 500.998ms for input channel, and 340.998ms for output channel

Each input channel includes a Pink/White noise internal generator, noise gate function, RMS compressor with variable knee and powerful 12-band PEQ

Direct PC/Network Connection & Control

Front panel USB connector for direct PC communications

Ethernet interface for system setup, monitoring and control via manageable remote PC software

Front panel interactive touchscreen LCD display for parametric setting, input source selection, preset loading and so on

Simultaneous control up to 32 units via PC software

50 Preset Selection

Designed in Italy Assembled in China

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Power&Amplifier

Number of Channels	3
Max Output Power	3 x 1000W(Bridge) @4/8 ohms load, or 70V/100V Direct Drive
Output Circuitry	Pascal Class D Amp Module- full bandwith PWM modulator with ultra low distortion
THD @90V	<1%
Frequency Response	>102 dB (A-weighted, AES-17 filter)
Damping Factor	>580 (8Ω load, 1kHz and below)
Power Supply	Independent Switch mode Power Supply
Operating Range	90 - 245 VAC (50/60Hz); 110/220 VAC is selectable manually
Consumption / Current draw and	9.6W/018A/2.8BTU/H (Standby)
Thermal dissipation @ 230 V	1083W/7.94A/317BTU/H (I/8 max. power@8Ω)
Protections	Over-Current, Over/Under Voltage, Output DC and Over-Temperature

Audio

Analog Input	2 x XLR electronically balanced, +13dB
Frequency Response (DSP)	20 Hz - 20 KHz; -0.5dBu at 20 Hz and 20 kHz

DSP&Processing

DSP Engine	1 x MARANI M716, 24 x 32 bit filter processing
DSP Resolution	54bit accumulation registers, 96 bit precision on intermediate processing data
Parametric Equalization	12 band parametric equatlization per input, 4 band parametric equalization per output
FIR for Phase Correction	Asymmetrical 512 Taps, with coefficients generated by Pc Sw embedded Wizard tool, allowing also FIR latency Adjustment/reduction. Coefficients can also be imported by external third party applications, so as can be exported to third parties applications
Filter Type	Bell, Shelving, HP/LP, Band Pass, Notch Filter, All Pass
Filter Gain	From -15dBu up to +15dBu by 0.5dBu resolution steps
Center Frequency	Selectable with a 0.5dBu resolution step from 20Hz up to 20kHz
Filter Q/BW	Bell: Q from 0.4 up to 128, steps: 100 Shelving: Q from 0.1 up to 5.1, steps: 100 Bandpass/Notch: Q from 4 up to 104, steps: 100
Input&Output Gain	-12dB ~ +12dB, resolution: 0.1dBu
IIR Crossover section HPF/LPF	Butterworth 6/12/18/24/36/48dB per octave; Bessel 12/24dB per octave; Linkwitz-Riley 12/24/36/48dB per octave.
FIR Crossover section HPF/LPF	Hp/Lp/Bp filters, Taps from 256 up to 512, Attenuation up to -120dB, Window type as Rect / Sinc / Keiser / Hanning / Hamming / Blackman / Nuttal / Sine
Noise Generator	Type: White/Pink Noise; Level: -40dBu ~ 0dBu
Input RMS Compressor	Threshold from -16dBu up to +14dBu; Ratio: 2:1~32:1; Knee: 0~100%; Attack time from 5ms up to 200ms; Release time from 0.1sec up to 3sec
Output Peak Limiter	Threshold from -16dBu up to +14dBu; Attack time from 1ms up to 900ms; Release time from 0.1sec up to 5sec
Headroom on Internal Overflow Process	12dB
Delay	Each input has up to 500.998ms delay, each output has up to 340.998ms delay
Routing	Full matrix mixing mode

General

User Preset	50
Front Panel	LCD display with Touchscreen Function 1 x Red LED (Power) 1 x Rotary encoder push button switches USB type B connector
Real Panel	3 x XLR female connector (Input) 3 x Neutrik® Speakon NI4 1 x Ethernet 10/100 TCP-IP(PC Control) 2 x Ethernet 10/100 TCP-IP(Dante Audio Signal:Optional) 1 x Locking PowerCON® 20A: AC Power Cord (Blue) 1 x 80*80 mm 24V FAN
Dimensions	482X314.5X88mm
Weight, Net / Shipping	11.80 Kg / 13.00 Kg

Specifications subject to change without notice

Designed in Italy Assembled in China

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