

Plate Amplifiers

for Active Speakers - PDA3001

PDA3001 is a complete solution dedicated to 2-way self-powered loudspeakers. Designed to meet different applications, it provides 2 channels with output power of 300W @ 4ohm. In addition it offers a full set of value adding features such as on board DSP. To guarantee



highly efficient switch mode power supply which provides power to the 2 output channels. The output stage uses the Class D module - full bandwidth PWM modulator obtaining ultra low distortion, high dynamic range and also equipped with a full set of circuit protections. The PDA3001 includes a set of sophisticated processes for loudspeaker, implemented by the powerful MARANI® DSP running 96kHz/24bit [96 bits precision for the internal intermediate processes]. Processes as Noise Gate, crossover filters, parametric EQs per input and output sections, alignment delay, all in all everything needed to optimize a self-powered loudspeaker. Moreover the Clip/Limiter function per channel 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. Furthermore the PDA3001 is also equipped with a Dynamic Boost Filter. All setup parameters for input mixing, DSP features and the limiter setting are accessible by using the remote PC software.

Features

Outstanding Performance

High power output: 2x300W @ 4ohms
Switched-Mode Power Supply with auto voltage sensing Class D Amp Module - full bandwidth PWM modulator with ultra low distortion Full protection circuitry including Over-Current, Over/Under-Voltage, Output DC and Over-Temperature; Excellent sonic performance with 24bit high end converters coupled with 96kHz sample rate

Top-grade DSP Engine

3 band equalization on input channel
5 band parametric equalization on output channel
EQ can be selected as Bell, Hi/Lo-Shelving Q
Input High-Pass filter up to -12dB/Octave

Crossover filters with slopes from 6 to 24dB/Octave including Butterworth, Bessel, Linkwitz-Riley Output channel features a precision dynamic range controller Adjustable Delay time up to 15 ms for input and 5 ms for woofer output. Input channel includes a Noise Gate function, Dynamic Boost Filter function

Direct PC/Network Connection and Control

Rs485 connection internally on the DSP Board, for system setup, monitoring and control via fully manageable remote PC software Simultaneous control up to 32 units via PC software 8 Preset Selection by using rotary encoder switch; Security Lockout

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Power & Amplifier Sections

Number of Channels -----	2
Max Output Power @ 4 ohms----	2x300W
Output Circuitry -----	Class D - full bandwidth PWM modulator with ultra low distortion
Output Voltage -----	70 Vp / 140 Vpp (unload) / Bridged 140 Vp / 280 Vpp (unloaded)
THD +N -----	<0.01%
Signal To Noise Ratio -----	>102 dB (A-weighted, 20 Hz - 20 kHz, 8Ω load)
Frequency Response -----	20 Hz - 20 kHz ± 0,15 dB (8Ω load, 1 dB below rated power)
Damping Factor -----	>1000 (8Ω load, 1kHz and below)
Power Supply -----	Switch mode power supply
Operating Range -----	Universal Mains, 85-268V
Protections -----	Over-Current, Over/Under Voltage, Output DC and Over-Temperature
Maximum Input/Output Level ----	+12dBu

Audio

Analog Input -----	1 x XLR electronically balanced, +12dB
Analog Output -----	1 x XLR electronically balanced (Link)
AD & DA Converters -----	24bit

DSP & Processing

DSP Engine -----	MARANI® DSP
DSP Resolution -----	24bit (data) x 24 bit (coeff.), 54 bit accumulation registers, 96 bit precision on intermediate processing data
Parametric Equalization -----	3 filters on input channel, selected as Lo-Shelving, Bell and Hi-Shelving 5 filters on output channel, selected as Bell or Shelving Q (only one is Lo-Shelving Q on the low, and is Hi-Shelving Q on the high)
Filter Type -----	Bell, Low/High Shelving variable Q
Filter Gain -----	Input from -12dBu up to +12dBu by 0.5dBu resolution steps Output from -6dBu up to +6dBu by 0.5dBu resolution steps
Center Frequency -----	Selectable with a 1HZ resolution step from 20 Hz up to 20 kHz
Filter Q/BW -----	Type Bell: Q from 0.4 up to 8 by 0.1 resolution steps Type Shelv: Q from 0.4 up to 5 by 0.1 resolution steps
Crossover section HPF/LPF -----	Butterworth 6/12/18/24dB per octave Bessel and Linkwitz-Riley 12/24dB per octave Filter resolution 1Hz
Peak Limiter -----	Threshold from -18dBu up to +12dBu Release time from 25ms up to 350ms (1ms resolution up to 200ms, 5ms res. up to 350ms) Attack time from 1ms up to 50ms (1ms resolution) up to 15ms for each input, and up to 5ms for each output, with step of 20.8us
Delay -----	
Ground Noise -----	-86 dBu

General

Dimensions -----	11.65" x 3.15" x 7.05" (296 x 80 x 179 mm)
Weight, Net / Shipping -----	6.09 lbs (2.76 Kg) / 8.83 lbs (4 Kg)