Plate Amplifiers

for Active Speakers - PDA350I

PDA350I is a complete solution dedicated to 2-way self-powered loudspeakers. Designed to meet different applications, it provides 2 channels, composed of one way for Woofer and one for Tweeter , with output power of 300W @ 4ohm+ 50W @8ohm. In addition to a full set of value adding features such as on board DSP. To guarantee maximum reliability, the PDA350I includes a highly efficient switch mode power supply, which provides power to the 2 output channels. The woofer output stage uses the Class D module - full bandwith PWM modulator obtaining ultra low distortion, high dynamic range and also equipped with a full set of circuit protections, the Tweeter output stage, is instead powered by a Linear 50W Amp. The PDA350I 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, RMS compressor, alignment delay and All-Pass filters are available, all in all everything needed to optimize a self-powered loudspeaker. Morever 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 PDA350I 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: 150W(CH1)+50W(CH2) @ 8ohms; 300W(CH1) @ 4ohms 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 Excellent sonic performance with 24bit high end converters coupled with 96kHz sample rate

Top-grade DSP Engine
3 band equalization on input channel 1st Lo-Shelv, 2nd Bell, 3th Hi-Shelving
5 band parametric equalization on output channel;Input High-Pass filter up to -12dB/Octave Crossover filters with slopes from 6dB/Octave up to 24dB/Octave including Butterworth, Bessel, Linkwitz-Riley Output channel features a precision dynamic range controller Adjustable Delay time up to 7 ms for input and 2 ms for woofer output.
Dynamic Boost Filter function

Direct PC/Network Connection and Control
Rs485 connection 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

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Power & Amplifier Sections

Number of Channels	2(CH1=Woofer; CH2=Tweeter)
Max Output Power	300W(CH1) @ 1%+50W(CH2) @ 2%
Output Circuitry	Ch1: Class D - full bandwith PWM modulator with ultra low distortion Ch2: Class AB
Output Voltage	48.6 Vp / 97 Vpp (unload)
THD +N	<0.01%
Signal To Noise Ratio	>102 dB (A-weighted, 20 Hz - 20 kHz, 8Ω load)
Frequency Response	Ch1: 20 Hz - 20 kHz , -0.3dB ~ -0.5dB; Ch2: 100 Hz - 20 kHz , -0.5dB ~ -0.5dB;
Damping Factor	>1000 (8Ω load, 1kHz and below)
Power Supply	Switch mode power supply
Operating Range	Universal Mains, 85-268V (dual voltage auto selection)
Consumption / Current draw	13W / 78.4 BTU/h (Idle) and Thermal dissipation @ 230 V
Protections	Over-Current, Over/Under Voltage, Output DC and Over-Temperature
Maximum Input/Output Level	+12dB

Audio

Analog Input	1 x XLR electronically balanced, +12dB(MUSIC), -30dB(MIC)
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 LoShelving, Bell and HI-Shelving 5 filters on output channel only one selected as Bell or Shelving
Filter Type	Bell, Low/High Shelving variable Q
Filter Gain	Input from -6dBu up to +6dBu by 0.5dBu resolution steps Ouput from -12dBu up to +12dBu by 0.5dBu resolution steps
Center Frequency	Selectable with a 1HZ resolution step from 20 Hz up to 20 kHz
Filter Q/BW	Bell: Q from 0.4 up to 8 by 0.1 resolution steps Hi/Lo 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)
Delay	7ms for input channel and 2ms for output woofer 10.4us/Adj 1ms per channel
Ground Noise	-86dBu

General

Dimensions	410mmX150mmX65mm
Weight, Net / Shipping	6.03 lbs(2.76kg)/ 8.83 lbs (4kg)