

Plate Amplifiers

for Active Speakers - PDA350IF

PDA350IF 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 powering the Woofer and one for powering Tweete, with output power of 300W@4 Ohm +50W(CH2)@8 Ohm. In addition it offers a full set of added value features such as on board DSP and RS485



connection from the DSP board. To guarantee maximum reliability, the PDA350IF includes a highly efficient integrated power supply. The Woofer output stage uses the Class D module, the Tweeter stage is powered by a Linear 50W Amp. The PDA350IF 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 512 taps FIR filters OR up to 48dB/Oct IIR Hp/Lp filters for X-Over, parametric EQs per input and output sections, RMS compressor, alignment delay are available, all in all everything needed to optimize a self-powered loudspeaker. FIR coefficients generated from the Third Party Applications can be imported as .txt file. Moreover the Peak 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 a reliability without compromises. Furthermore the PDA350IF is also equipped with a Dynamic Loudness function and a useful Pink/White noise generator. All setup parameters for input mixing, DSP features and the limiter setting are accessible by using the remote PC software. A Powerful 512 taps FIR is available for the System Phase Correction, based on System Response measurement.

Features

Outstanding Performance

High power output: 300W(CH1) @ 4Ω; 50W(CH2) @ 8Ω
 Integrated Power Supply and 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 48kHz sample rate

Top-grade DSP Engine

10 band parametric equalization per input channel
 8 band parametric equalization per output channels
 Internal Overflow Process is available
 The X-Over can be implemented both by FIR filters OR IIR Hp/Lp, as desired by the user which can select the FIR or IIR use by Sw.FIR: Crossover filters can be created by the user selecting from 256 up to 512 taps, the FIR type and the Out Band attenuation. Calculated by internal "Wizard" Software Tools or imported from Third

Party Applications IIR: Crossover filters with slopes from 6dB/Octave up to 48dB/ Octave including Butterworth, Bessel, Linkwitz-Riley and customizable topologies; Each output features a precision Peak Limiter with selectable Attack/Release time and Threshold. Adjustable Delay time up to 161 ms for input and up to 81ms for output channels. Input channel includes a Noise Gate function, Pink/White noise generator, sophisticated Dynamic Loudness function and a High-Pass filter with slopes from 6dB/Octave up to -48dB/Octave including Butterworth, Bessel, Linkwitz-Riley and a RMS Compressor.

Network Connection and Control

Rs485 connection from connector 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

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Power & Amplifier Sections

Number of Channels -----	2 (CH1=Woofer; CH2=Tweeter)
Max Output Power -----	300W(CH1) @4ohms; 50W(CH2) @8ohms
Output Circuitry -----	Class D - full bandwidth PWM modulator with ultra low distortion
Output Voltage -----	48.6 Vp / 9.7 Vpp (unloaded)
THD+N -----	<0.01% (20 Hz - 20 kHz, 8Ω load, 3dB below rated power)
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 -----	Integrated power supply and auto voltage sensing
Operating Range -----	Universal Mains, 85-268 V
Consumption / Current draw and ---	12W / 0.128 A / 41 BTU/h (Idle)
Thermal dissipation @ 230 V -----	112W / 0.834 A / 382 BTU/h (1/8 max. power@4Ω)
Protections -----	Over-Current, Over/Under Voltage, Output DC and Over-Temperature
Maximum Input/Output Level -----	+12 dB

Audio

Analog Input -----	1 x XLR electronically balanced, +12dB
Analog Output -----	1 x XLR electronically balanced, +12dB
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 -----	10 filters per input channel; 8 filters per output channel
Filter Type -----	Bell, Low/High Shelving variable Q, and Notch
Filter Gain -----	From -15dBu up to +15dBu by 0.5dBu resolution steps
Center Frequency -----	Selectable with a 1Hz resolution step from 20Hz up to 20kHz
Bell Filter Q/BW -----	Q from 0.4 up to 108
System Phase Correction -----	512 taps FIR
Crossover section FIR -----	From 256 to 512 taps coefficients, FIR type selection and out of band attenuation, operating from 250Hz, up as Xover point; accepted coefficients generated by external applications.
Crossover section IIR -----	HPF/LPF Butterworth 6/12/18/24/48dB per octave; Linkwitz-Riley 12/24/36/48dB per octave; Bessel 12/24dB per octave. Filter resolution 1Hz
Input Special Filters -----	FIR up to 512 Taps for System Phase Correction working with Internal Wizard Tool or importing Coefficients from External Application
Input RMS Compressor -----	High-Pass filter up to 48dB/Oct; Sophisticated Dynamic Loudness Drive from -12 to 6dBu; Threshold from -18dBu up to -12dBu; Attack time from 5ms up to 100ms; Knee 0~100%; Ratio from 2:1 to 100:1; Release time from 40ms up to 1000ms (10ms resolution).
Output Peak Limiter -----	Threshold from -18dBu up to +12dBu Release time from 40ms up to 1000ms; Attack time from 1ms up to 100ms;
Delay -----	161 ms, 20.8us increment / decrement steps on Input Channel and 81ms, 20.8us increment / decrement steps on each output Channel
Ground Noise -----	-86 dBu

General

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