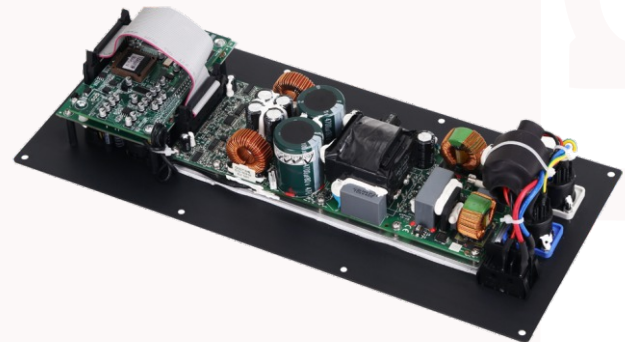


PDA500PF is a complete solution dedicated to 1-way or 2-way self-powered loudspeakers. Designed to meet different applications, it provides 2 channels with output power of 2x500W@4 Ohm or 2x250W@8 Ohm. In addition it offers a full set of added value features such as on board DSP and RS485 connection for monitoring and control via dedicated PC software. To guarantee maximum reliability, the **PDA500PF** includes a highly efficient universal switch mode power supply with PFC (Power Factor Correction) which provides a total 1kW power to the 2 output channels. The 2 output stages use the Class D module. The **PDA500PF** 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. 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 a reliability without compromises. Furthermore the **PDA500PF** is also equipped with a Dynamic Loudness function and an 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 512taps FIR is available for the System Phase Correction, based on System Response measurement.



Features

Outstanding Performance

- High power output: 2 x 500W @ 4Ω or 2 x 250W @ 8Ω
- Switched-Mode Power Supply with PFC 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
- 12dB ADC Headroom is available
- FIR OR IIR Filters for X-OVER:
- 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.
- 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 RMS Limiter with selectable Attack/Release time and Threshold.

On the Low Output, a Bell type Dynamic Filter for Driver protection is available.

Adjustable Delay time up to 161 ms for input and up to 81ms for output channels

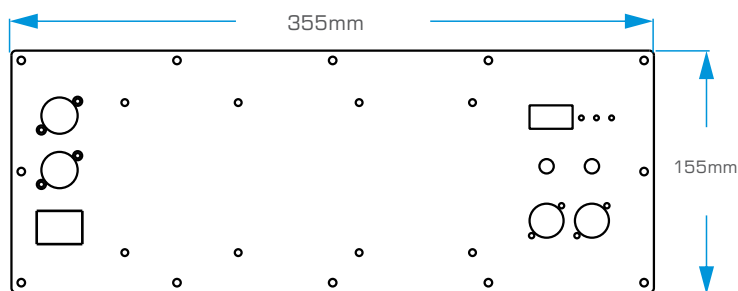
Input channel includes a Noise Gate function, Pink/White noise generator, sophisticated Dynamic Loudness function and a High-Pass filter with slopes from 6dB/Octave up to -48dB/Octave including Butterworth, Bessel, Linkwitz-Riley and a RMS Compressor.

Network Connection

Rs485 connection for system setup, monitoring and control via fully manageable remote PC software

Control

- Simultaneous control up to 32 units via PC software
- 8 Preset Selection by using rotary encoder switch
- Security Lockout



Power & Amplifier Sections

Number of Channels	2
Max Output Power	2 x 250W@8 ohms; 2 x 500W@4 ohms
Output Circuitry	Class D - full bandwidth PWM modulator with ultra low distortion
Output Voltage	+/-70 V (SE Mode unloaded) / Bridged +/-140V(BTL Mode 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	Switch mode power supply with PFC (Power Factor Correction) and integral standby converter
Operating Range	Universal Mains, 85-265V
Consumption / Current draw and	11.2W / -A / 38.3 BTU/h (Idle)
Thermal dissipation @230 V	173W / -A / 143.4 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 (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	10 filters per input channel; 8 filters per output channel
Filter Type	Bell, Low/High Shelving variable Q, Low/High Pass Q Var 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 0.5 up to 10 by 0.1 resolution steps
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 High-Pass filter up to 48dB/Oct; Sophisticated Dynamic Loudness
Input RMS Compressor	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

Panel	GAIN pot. -30dBu ~ 0dBu PRESET EQ 8 positions Rotary encoder switch Red LED (Power); Yellow LED (Link); Green LED (Signal presence) 1 x XLR female connector (Input) 1 x XLR male connector (Link Output) 2 x RJ45 connector (M-LAN Rs485) 2 x Locking PowerCON® 20A: AC Mains (blue) - AC Link (white); Power On/Off
Dimensions	355x70x155mm
Weight, Net / Shipping	6.61 lbs (3 Kg) / 8.82 lb (4 Kg)