

# Plate Amplifiers

for Active Speakers - PDASP2SA1

**PDASP2SA1** is a complete solution dedicated to 2-way or 3-way self-powered loudspeakers. Designed to meet different applications, it provides 3 channels with output power of 500W@4Ω. In addition it offers a full set of value adding features such as on board DSP. To guarantee maximum reliability, the PDASP2SA1 includes a highly efficient switch mode power supply with PFC (Power Factor Correction) which provides power to the 3 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 PDASP2SA1 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 RMS Compressor function per channel provides output monitoring to prevent speaker damage with gentle gain reduction at threshold, in addition to the efficient heat dissipation system and Over-Heat protection which themselves ensure uncompromised reliability. 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: 500W+500W+500W@4  
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

5 band equalization on input channel selected as Hi-Shelving, Bell and Lo-Shelving Variable Q  
3 band parametric equalization on Output SUB, selected as Bell  
7 band parametric equalization on Output A/B,

selected as Bell, Low/High Shelving variable Q  
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 40 ms for input and 20 ms for output.  
Input channel includes a Noise Gate function  
Output RMS Compressor

### Direct PC/Network Connection & Control

USB connection for system setup, monitoring and control via fully manageable remote PC software  
Up to 16 Preset Selection  
Security Lockout

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## Power & Amplifier Sections

|                                 |  |
|---------------------------------|--|
| Number of Channels -----        | 3  |
| Max Output Power @ 4 ohms----   | 500W+500W+500W @4Ω   |
| 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 with PFC and integral standby converter |
| Operating Range -----           | Universal Mains, 85-268V (dual voltage auto selection)           |
| 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 intermediate processing data  |
| Parametric Equalization-----   | 5 filters on input channel, selected as Bell, Low/High-Shelving variable Q<br>3 filters on output SUB channel, selected as Bell 7 filters on output A/B channel, selected as Bell, Low/High-Shelving variable Q |
| Filter Type -----              | Bell, Low/High Shelving variable Q  |
| Filter Gain -----              | Input from -12dBu up to +12dBu by 0.5dBu resolution steps<br>Output from -18dBu up to +18dBu by 0.5dBu resolution steps<br>Selectable with a 1Hz resolution step from 20 Hz up to 20 kHz                        |
| Center Frequency -----         | Type Bell: Q from 0.5 up to 10 by 0.1 resolution steps  |
| Filter Q/BW -----              | Type Shelv: Q from 0.5 up to 3 by 0.1 resolution steps<br>Butterworth 6/12/18/24dB per octave<br>Bessel and Linkwitz-Riley 12/24dB per octave<br>Filter resolution 1Hz  |
| Crossover section HPF/LPF ---- | Threshold from -18dBu up to +12dBu<br>Knee: 0~100%; Ratio: 2:1~100:1<br>Release time from 40ms up to 1000ms; Attack time from 5ms up to 100ms   |
| Output RMS Compressor-----     | In1, In 2, In 1+2<br>up to 40ms for each input, and up to 20ms for each output, with step of 10.4us   |
| Output Routing-----            | Delay-----  |
| Delay-----                     | Ground Noise -----  |
| Ground Noise -----             | -86dBu  |

## General

|                              |  |
|------------------------------|--|
| User Preset-----             | 16   |
| Dimensions -----             | 13.78" x 3.15" x 7.88" (350 x 80 x 200 mm) |
| Weight, Net / Shipping ----- | 6.09 lbs (2.76 Kg) / 8.83 lbs (4 Kg)       |