Plate Amplifiers
for Active Speakers - PDA-SUB

PDA-SUB is specifically designed for subwoofer applications. It provides one channel with output power up to 2000W @4ohms. In addition it offers a full set of value added features such as on board DSP and RS485 connection for monitoring and control via dedicated PC software. To guarantee maximum reliability, the PDA-

SUB includes a highly efficient universal switch mode power supply with PFC (Power Factor Correction) which provides a total 2000W power to the output channel. The output stage uses the Class D module. The PDA-SUB 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] and high performance 24bit AD/DA Converters. 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 PDA-SUB 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. High Band can be splited or not in two sub-band. When the Xover split freq is enabled then the RMS compressor working on the lower band and a additional volume (hi_level) working ontheHigherband.

Features

Outstanding Performance
High power output: 1 x 2000W @ 4Ω
Switched-Mode Power Supply with PFC and auto voltage sensing
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
5 band parametric equalization per input channel
7 band parametric equalization per output channels
2 filter can be switched to Bell, Low/High Shelving, per channel;Low/High Shelving, can be selected as variable Q response;Crossover filters with slopes from 6dB/Octave up to -48dB/Octave including Butterworth, Bessel, Linkwitz-Riley
Output features a precision dynamic range controller composed of a RMS Compressor with selectable ratio

and variable knee Input features a precision dynamic range controller composed of a RMS Compressor with selectable ratio, variable knee and Hold Time.
4 Additional All-Pass filter up to 2nd order per output channel;Adjustable Delay time up to 10 ms for input and 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

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

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Power & Amplifier Sections

Number of Channels	1
Max Output Power	1 x 1500W (Bridge) @8 ohms; 1 x 2000W @4 ohms
Output Circuitry	Class D - full bandwith 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 ---	19 W / -A / 64.8 BTU/h (Idle)
Thermal dissipation @ 230 V	411 W / -A / 546.3 BTU/h (I/8 max. power@4Ω)
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
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	5 filters per input channel; 7 filters per output channel
Filter Type	Bell, Low/High Shelving variable Q
Filter Gain	From -12dBu up to +6dBu 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
Low/High ShelvingFilter Q	Q from 0.5 up to 3 by 0.1 resolution steps
Crossover section HPF/LPF	Butterworth 6/12/18/24/48 dB/oct; Linkwitz-Riley 12/24/36/48 dB/oct Bessel 12/24dB/oct. Filter resolution 1Hz
	Sophisticated Dynamic Loudness function and additional High-Pass filter per input section All-pass filter up to 2nd order per output section
OutPut RMS Compressor	Drive from -12 to 6dBu; Threshold from-18dB up to +12dBu; Knee 0~100%; Ratio from 2:1 to 100:1; Attack time from 5ms up to 500ms; Release time from 40ms up to 1000ms (10ms resolution).
Input RMS Compressor	MakeUp from -12 to +12dBu; Threshold from -18dBu up to +12dBu; Knee 0~100%; Ratio from 2:1 to 100:1; Attack time from 5ms up to 500ms; Release time from 40ms up to 1000ms. Input Hold-Time up to 10sec.
Clip Limiter	Bypass, soft and Hard Threshold
Delay	10 ms 10.4us increment/decrement steps per channel
Slipt Band X-over(only High Band)	Freq from 5kHz to 20kHz step 1Hz resolution, slope: bypass, 1st order butterworth and 2nd order Linkwitz-Riley
Ground Noise	-86dBu

General

User Preset	8
Dimensions	16,73" x 3" x 6.3" (425 x 75 x160mm)
Weight, Net / Shipping	6.28 lbs (2.85 Kg) / 8.16 lb (3.7 Kg)