

DSP Plate Amplifiers with Pascal Amp Modules and Dante Ultimo Support



The **PPA** series provides a high-quality DSP-powered amplifier solution for active loudspeakers.

It features **Pascal** high-power modules, analog, digital and **Dante** inputs and is available in **different configurations** for various kinds of speakers.

Signal processing is done in 32 bit floating point on an **Analog Devices Sharc DSP** and uses **dual range ADC** for high dynamic input range.

Besides usual IIR X-Overs and EQs, also **FIR** filters are available for linear phase system response.

An **advanced limiter concept** protects speakers and prevents amp and PSU overheating.

Programming can be done via **USB** and the included **touch display**.

A sophisticated user interface for programming and **easy-to-use FIR filter creation** is provided.

Features

- 32-bit floating-point signal processing using a Sharc-DSP
- linear phase FIR and IIR-Crossovers, EQs
- Advanced Limiter concept with
 - dual band look ahead Peak-Limiter in each output
 - dual band RMS limiter in each output
 - Overall power supply limiter
- USB connection for programming via remote software
- Touchscreen for controlling the unit
- High dynamic range (128 dB(A) dual range converter input, 112 dB(A) output)
- Analog, AES/EBU and Dante input
- Pascal high-power amplifier modules and PSU
- 11 models with active cooling
- 7 models with passive cooling



System design and user operation

The units can be programmed with several system presets by the system developer.

End users are allowed to adjust room EQs, gains and delays in a user mode and store user presets without touching the system presets.

OEM customers can provide keyfiles to enable GUI features for end users.

The touch panel shows level meters, limiter operation and allows switching presets and inputs.

OEM Solutions / Customization

For high volume customers, Four Audio supplies custom designs with reduced features tailored to the needs of the customer.

E.g., standalone operation of DSP and amplifier without using the touch display is possible.

Contact Four Audio for more information.



Four Audio GmbH & Co. KG

Konrad-Zuse-Str. 4
52134 Herzogenrath
Germany
email: info@four-audio.com
web: www.four-audio.com

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Signal Processing

Limiters	Look ahead peak limiter, thermal limiter, both dual band overall power supply limiter
EQs	Bell /notch filter, allpass, shelving filter 6dB / 12dB
X-overs	Bessel, Butterworth, Linkwitz-Riley, Critical
FIR	Linear phase X-over and linear phase loudspeaker equalization
Others	input delay, output delay, phase invert, gain

Software

GUI Software with Developer and User modes to create developer and user presets.
Interactive operation on channel parameters and EQing.
Advanced easy-to-use FIR generation from speaker measurements with defined latency.

Common Technical Data

Max. input voltage	23 dBu
Analog input SNR	128 dB[A]
Output SNR	112 dB[A]
Mains input volt.	85 - 265 VAC
Protection	All models provide over current, DC, temperature and high frequency protection The 1600/2200 models additionally feature over-/undervoltage protection

Technical Data

	Output power [Watts @ 4Ω]					Minimum Load SE [Ω]				Dimension [mm]	Cooling Concept
	Total	Out 1	Out 2	Out 3	Out 4	Out 1	Out 2	Out 3	Out 4		
PPA 500-1-PC	500	500	—	—	—	2.7	—	—	—	135x306	Passive
PPA 500-2-PC	500	500	150	—	—	2.7	8	—	—	135x306	Passive
PPA 500-3-PC	500	500	150	500	—	2.7	8	2	—	135x386	Passive
PPA 500-4-PC	500	500	150	500	500	2.7	8	2	2	135x386	Passive
PPA 1000-2-PC	1000	500	500	—	—	2	2	—	—	135x331	Passive
PPA 1000-3-PC	1000	500	500	500	—	2	2	2	—	135x411	Passive
PPA 1000-4-PC	1000	500	500	500	500	2	2	2	2	135x411	Passive
PPA 500-1-AC	500	500	—	—	—	2.7	—	—	—	135x324	Active
PPA 500-2-AC	500	500	150	—	—	2.7	8	—	—	135x324	Active
PPA 500-3-AC	500	500	150	500	—	2.7	8	2	—	135x405	Active
PPA 500-4-AC	500	500	150	500	500	2.7	8	2	2	135x405	Active
PPA 1000-2-AC	1000	500	500	—	—	2	2	—	—	135x380	Active
PPA 1000-3-AC	1000	500	500	500	—	2	2	2	—	135x452	Active
PPA 1000-4-AC	1000	500	500	500	500	2	2	2	2	135x452	Active
PPA 1600-2-AC	1400	800	800	—	—	4	4	—	—	205x440	Active
PPA 2200-1-AC	2200	2000	—	—	—	4	—	—	—	205x470	Active
PPA 2200-2-AC	2200	2000	800	—	—	4	4	—	—	205x510	Active
PPA 2200-3-AC	2200	2000	800	800	—	4	4	—	—	205x550	Active