



## DPA Series

### DPA4.2 | DPA4.3 | DPA4.5

#### Multi-Channel Digital Processing Amplifiers

##### Features

- Total power up to 5,000 watts
- Flexible Amplifier Summing Technology™ (FAST) drives most any loudspeaker system or configuration by distributing total amplifier power across one, two, three or all four channels.
- Full function onboard loudspeaker processing DSP with Crossover and Parametric EQ Filters, Limiting and Alignment Delay eliminate the need for outboard loudspeaker processors.
- PowerLight™ universal switchmode power supply with PFC for highest efficiency, improved audio performance, and low heat dissipation.
- Preset Wizard simplifies amplifier setup providing system design tools and loudspeaker selection from a list of speakers.
- Powerful digital processing maximizes the sonic performance of QSC loudspeakers.
- 20 Factory Preset configurations that can be modified and stored in the 50 User Presets.
- Integrated front panel with channel Select and Mute buttons, Input and Output LED Metering, 400x240 LCD, intuitive navigation buttons, LED power button and indicator, and cast aluminum handles.
- GPIO for additional functionality including a heartbeat output for Life-Safety supervision.
- Four Input Euroblock connectors, and four Euroblock touch-proof Speaker connectors.



The QSC DPA Series represents a revolutionary advancement in amplifier technology and innovation. Each model provides efficient, robust and extraordinarily high fidelity power to drive multiple channels and configurations of loudspeakers while simultaneously deploying sophisticated digital processing – all with optimal energy and rack space efficiency. The DPA Series consists of three powerful, four-channel amplifiers, each with onboard DSP, and the capability to configure and combine channels in various ways to drive a wide range of loudspeaker systems. These amplifiers not only provide the power and processing to make your cinema sound system perform better, they offer outstanding efficiency ensuring that energy costs will be kept to a minimum over the life of the installation.

##### Flexible Amplifier Summing Technology™ (FAST)

DPA amplifiers feature Flexible Amplifier Summing Technology™ (FAST) that actively distributes the total amplifier power in various configurations across one, two, three or all four outputs. This flexibility allows DPA Series amplifiers to drive (for example) two bi-amplified 3-way screen channel loudspeakers: a tri-amplified screen channel loudspeaker along with a subwoofer; a quad-amplified screen channel loudspeaker; or two large subwoofers.

##### Power Efficiency

DPA4.3 and DPA4.5 amplifiers use QSC's next generation class-D power amp design in combination with a custom power stage utilizing a new output device. These purpose built MOSFET devices provide high voltage operation without needing a full bridge output and offer better audio quality and thermal performance due to co-location of the semiconductors.

DPA amplifiers benefit from the proven PowerLight power supply, made even better with Power Factor Correction (PFC) that aligns the current waveform with the AC mains voltage waveform. PFC enables DPA Series amps to draw current from the wall in a more efficient and controlled manner resulting in incredible power from a single standard AC circuit breaker.

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#### Preliminary

DPA amplifiers also incorporate several energy conservation and efficiency strategies. One such tool is the unique multi-stage sleep mode that saves energy when possible without sacrificing performance.

##### System Processing

A single DPA Series amplifier is more than just an amplifier. It is also a capable and sophisticated loudspeaker processor. Integration of DSP and amplification allows the dynamics processing and protection circuitry to be far more accurate and effective. This synergistic approach employs both RMS and Peak Limiters that provide the amplifier and loudspeaker combination to produce more output without being pushed to distortion or destruction.

The onboard DSP offers four channels of crossover filters, parametric EQ, alignment delay and dynamics processing - everything needed to optimize a cinema loudspeaker system. Additionally when using QSC cinema loudspeakers, the DPA amplifiers offer a combination of Filtering, Limiting and speaker processing that compensates for inherent non-linearities in loudspeaker and horn design, resulting in exceptional performance.

##### Space Efficient

With four channels of amplification plus signal processing in just 2RU, the DPA series replaces equipment taking up as much as three times the rack-space.

##### Simplicity and Control

The on-board processing is managed and stored as presets, with 20 modifiable factory presets for the most common applications. A Preset Wizard is also available that simplifies amplifier setup and enables selection of loudspeakers. With an intuitive front panel UI, programming is a breeze. The DPA amplifiers also offer GPIO for system supervision and the ability to utilize contact closures to set the amps into standby or recall specific presets.

# DPA Details

	DPA4.2		DPA4.3		DPA4.5	
4 Ch.	Burst	Continuous	Burst	Continuous	Burst	Continuous
8Ω	500 Watts	400 Watts	900 Watts	625 Watts	1200 Watts	1150 Watts
4Ω	700 Watts	400 Watts	1400 Watts	625 Watts	2000 Watts	1250 Watts
2Ω	600 Watts	350 Watts	1200 Watts	625 Watts	1600 Watts	625 Watts
2 Ch.	Burst	Continuous	Burst	Continuous	Burst	Continuous
8Ω	1200 Watts	800 Watts	2400 Watts	1250 Watts	4000 Watts	2250 Watts
4Ω	1500 Watts	800 Watts	2000 Watts	1250 Watts	2400 Watts	2250 Watts
2Ω	1500 Watts	650 Watts	2500 Watts	1250 Watts	4000 Watts	2100 Watts
1 Ch.	Burst	Continuous	Burst	Continuous	Burst	Continuous
8Ω	1600 Watts	1500 Watts	3500 Watts	2500 Watts	4500 Watts	4200 Watts
4Ω	2500 Watts	1600 Watts	5000 Watts	2500 Watts	7500 Watts	4200 Watts
2Ω	1700 Watts	1600 Watts	3500 Watts	2500 Watts	4500 Watts	4250 Watts
1Ω	2500 Watts	1600 Watts	5000 Watts	2500 Watts	7500 Watts	3700 Watts
Typical Distortion						
8Ω	0.01 - 0.03%		0.01 - 0.03%		0.01 - 0.03%	
4Ω	0.03 - 0.06%		0.03 - 0.06%		0.03 - 0.06%	
Maximum Distortion						
4Ω - 8Ω	1.0%		1.0%		1.0%	
Frequency response (8Ω)	20 Hz - 15 kHz +/- 0.2 dB 20 Hz - 20 kHz +0.2 dB / -0.7 dB		20 Hz - 15 kHz +/- 0.2 dB 20 Hz - 20 kHz +0.2 dB / -0.7 dB		20 Hz - 15 kHz +/- 0.2 dB 20 Hz - 20 kHz +0.2 dB / -0.7 dB	
Noise						
Unweighted Output Unmuted	-101 dB		-101 dB		-101 dB	
Weighted Output Muted	-109 dB		-109 dB		-109 dB	
Gain (1.2V setting)	34.0 dB		38.4 dB		38.4 dB	
Damping factor	>150		>150		>150	
Input impedance	>10k, balanced or unbalanced		>10k, balanced or unbalanced		>10k, balanced or unbalanced	
Maximum input level						
(3.9V setting)	12.28V (+24 dBu)		12.28V (+24 dBu)		12.28V (+24 dBu)	
(1.2V setting)	3.88V (+14 dBu)		3.88V (+14 dBu)		3.88V (+14 dBu)	
Controls and indicators (front)	Power • Channel MUTE Buttons • Channel SELECT Buttons • Channel Input Signal and CLIP LED Indicators • Channel Output and LIMIT LED Meters • HOME, ENTER, EXIT, GAIN Navigation Buttons • Control Knob					
Controls and indicators (rear)	AC Power Disconnect		AC Power Disconnect		AC Power Disconnect	
Input connectors	3-pin Euroblock		3-pin Euroblock		3-pin Euroblock	
Output connectors	2-pin Euroblock Speaker		2-pin Euroblock Speaker		2-pin Euroblock Speaker	
Amplifier and load protection	Short circuit, open circuit, thermal, RF protection. On/Off muting, DC fault shutdown, active inrush limiting, input current limiting					
AC Power Input	Universal Power Supply 100 - 240 VAC, 50 - 60 Hz					
Dimensions (HWD)	3.5" x 19" x 12" (89mm x 482mm x 305mm)		3.5" x 19" x 16" (89mm x 482mm x 406mm)		3.5" x 19" x 16" (89mm x 482mm x 406mm)	
Weight, Net / Shipping	18.5 lb (8.4 kg) / 22 lb (10.0 kg)		21.0 lb (9.5 kg) / 25 lb (11.3 kg)		22.0 lb (10.0 kg) / 26 lb (11.8 kg)	
Agency approvals	UL, CE, RoHS/WEEE compliant, FCC Class A (conducted and radiated emissions)					
Carton contents	Locking IEC Cable, Quick Start Guide, USB Cable					

Burst Power - 20 ms 1 kHz sine burst, all channels driven  
 Continuous Power - EIA 1 kHz 1% THD, all channels driven

Specifications subject to change without notice.



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