



DPA-Q Series

DPA4.2Q | DPA4.3Q | DPA4.5Q

Multi-Channel
Network Amplifiers



Features

- Seamless Q-Sys™ integration with audio transport and control via standard Gigabit Ethernet protocols and hardware.
- Capable of providing up to 5,000W continuous and 8,000W peak.
- Flexible Amplifier Summing Technology™ (FAST) permits total amplifier power to be distributed across one, two, three or all four channels.
- PowerLight™ universal switchmode power supply with PFC for highest efficiency, improved audio performance, and low weight.
- Mic/Line input Euroblock connectors and touch-proof Euroblock loudspeaker connections.
- Eight bi-directional GPIO connections that can be used for analog or digital inputs or outputs to/from Q-Sys.
- Built-in energy saving modes ensure that the amplifier will draw the minimum amount of AC power while still providing outstanding audio quality.
- Q-Sys technical support is available 24/7 - worldwide.

The QSC DPA-Q Series represents a revolutionary advancement in amplifier technology and innovation, coupled with outstanding integration capability as part of a Q-Sys system. DPA-Q provides efficient, robust and extraordinarily high fidelity power to drive multiple channels and configurations of loudspeakers – all with optimal energy and rack space efficiency. The DPA-Q Series consists of three powerful, four-channel amplifiers, each a Q-Sys peripheral enabling audio routing, processing, and control. Provided in the amps is 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 make your 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

DPA-Q amplifiers feature Flexible Amplifier Summing Technology™ (FAST) that allows you to allocate power across one, two, three or all four outputs.

This flexibility allows DPA-Q 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.

Q-Sys Connectivity

The DPA-Q amplifiers benefit from the strength of the Q-Sys platform. As true Q-Sys peripherals they can connect on a Q-LAN Ethernet network and source and receive audio signals. The four Mic/Line inputs (with phantom power) are on-ramps into the system and can be routed to anywhere in the design. Amplifier outputs can be routed from any input or processing source in the system. In addition, the DPA-Q amplifiers offer eight bi-directional GPIO ports for further interfacing with other equipment. As part of the Q-Sys design and system, the amplifiers are managed and monitored by the Core. If for any reason an amplifier goes off-line or has a fault, the Core can alert the operator to restore system integrity.

Power & Space Efficiency

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

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

With four channels of Mic/Line inputs and four channels of amplification in just 2RU, the DPA-Q amplifiers replace equipment occupying as much as three times the rack-space.

Integration Simplicity

Q-Sys is a complete integrated system that encompasses everything from the audio input to the output of the loudspeakers. As part of a Q-Sys system, the DPA-Q amplifiers are just some of the many peripherals that can be intuitively placed in a design and wired into the system. The centralized design maintains operational simplicity because not only does it allow for a "whole system" design philosophy, but the Q-Sys Core configures and manages all peripherals to ensure that all elements of the system are functioning correctly.

With the complete integration facilities provided by Q-Sys and the power efficiency provided by the custom MOSFET and FAST, the DPA-Q amplifiers are ideally suited for any cinema application, especially large surround arrays for object-based audio formats.

DPA-Q Series Specifications

Preliminary

	DPA4.2Q		DPA4.3Q		DPA4.5Q	
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 • NEXT, PREV, ID Buttons • Control Knob					
Controls and indicators (rear)	AC Power Disconnect					
Input connectors	3-pin Phoenix					
Output connectors	8-pin Phoenix Speaker					
Amplifier and load protection	Short circuit, open circuit, thermal, RF protection. On/Off muting, DC fault shutdown, active inrush 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	IEC Cable, Quick Start Guide, Phoenix Connectors					

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



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