

DPA404

Multi-Channel Network Amplifier



DPA404 Front



DPA404 Back

Features

- Configurations
 - 4 x 100 Watt 70V (Factory Default)
 - 4 x 100 Watt 100V
 - 4 x 75 Watt 8Ω
 - 4 x 50 Watt 4Ω
 - 2 x 100 Watt 70V / 100V & 2 x 75 Watt @ 8Ω
 - 2 x 100 Watt 70V / 100V & 2 x 50 Watt @ 4Ω
- No Computer Required to Operate
- Networkable
- Configurable DSP via GUI
- Convection Cooled / Fan Assist
- PC Based DPA Site Manager Software with LAN IP Auto-Discovery, Fault Reporting, Input & Output Status, Standby Status and Amplifier Remote Activation via a Scheduler Timer
- On-Board Web Browser GUI for Remote Monitoring of Status & Levels
- User Page with Assignable Level Control, Post Contractor Settings, Password Protection
- Mute Assignments Triggered via Audio Signal or Contact Closure
- Audio Sense Auto Power Down (APD)
- DSP Parameters per Output, Parametric EQ, Hi & Lo Cut Filters, Delay, Limiter
- Four (4) Balanced Inputs, Expandable to Eight (8) via Accessory Card
- Optional Accessory Card Slot for a DPA-DAC4 Four-Channel Dante™ Receiver or a DPA-AMIX (2) Mic / Line, (2) AUX Input Card
- PC, iOS®, & Android® Controllable
- Assignable Level Controls, Onboard GUI (Security Password Protected) or by Front Panel Pots with Tamper Detering Covers
- Four (4) GPIO Control Ports Assignable in GUI for Mute or Remote Level

Applications

The flexible DSP, remote web monitoring, and control of the DPA Series amplifiers makes them the perfect choice for presentation rooms, classrooms, conference rooms, and retail background / foreground music applications.

General Description

The AtlasIED DPA Series amplifiers feature a combination of flexibility, performance, and control to provide high value features for applications that require more than just great sound. The network enabled DPA series amplifiers are DSP controlled four-channel amplifiers that can be configured in three different amplification arrangements to meet a wide range of installation design requirements.

DPA amplifiers can be used right out of the box in their factory default configuration as traditional four-channel 70.7V commercial power amplifiers requiring no programming, special set-up, or network connectivity. However, when web enabled, the DPA amplifiers can be configured in four-channel mode with either 4Ω or 8Ω load impedances for two stereo zones. Many system designs require both low and high impedance amplification. The DPA series can be configured for a 70.7V/100V paging/background system on two channels and the other two channels can be used for 4Ω/8Ω foreground stereo applications.

The DPA comes standard with four balanced line inputs and an accessory slot for an optional DPA-DAC4 four-channel Dante™ receiver card or a DPA-AMIX (2) mic/line and (2) AUX input card, for a total of eight inputs. All inputs can be mixed and routed to any of the four amplifier channels. All amplifier channels have an assortment of DSP tools including level controls, EQs, limiters, high & low pass filters, and delay to provide flexibility for a range of applications.

The output level can be assigned to either the front panel potentiometers or to the onboard GUI. Wired remote level controls can be configured to allow simple control for the end user. Each unit also features GUI based input and output level metering along with assignable mute functions that are triggered via an audio signal or contact closure. Access to the DSP settings is accomplished via computer, tablet, or mobile device using a web browser. All settings can be password protected.

The DPA series amplifiers also include PC based site manager software that automatically searches within a specific network for all DPA amplifiers on the network. It will list them and allow single click access to any unit. The DPA Site Manager software can do a variety of functions besides locating IP addresses such as; fault reporting, input & output status, standby status and remote activation via a scheduler timer.

The flexibility of the DPA Series amplifiers and comprehensive assortment of local or network control configurations make them an ideal choice in today's sophisticated commercial audio market.

System	
Type	400-Watt 4-Channel Configurable Network Digital Commercial Power Amplifier
Power Supply Type	Global Switch Mode
Amp Topology	Class AB Hybrid-BASH
Number of Fixed Inputs	4
Accessory Inputs	4 (Optional Accessory Card Required)
DSP Internal	Yes
Network	Ethernet
Optional Accessory Card Slot	Yes x 1
Output Power (Note 1)	
100V x 4 CH	100W
70V X 4 CH (Factory Default)	100W
8Ω x 4 CH	75W
4Ω x 4 CH	50W
2Ω x 4 CH	NA
8Ω Bridge	NA
4Ω Bridge	NA
100V x 1 + 8Ω x 2CH	100W / 75W
70V x 1 + 8Ω x 2CH	100W / 75W
100V x 1 + 4Ω x 2 CH	100W / 50W
70V x 1 + 4Ω x 2 CH	100W / 50W
Factory Default Settings (As Shipped)	
Amplifier Configuration	4 CH 70V Mode
Level Controls Assignment	Front Panel
I/O Matrix	Input 1 Routed to Output 1, Input 2 to Output 2, Input 3 to Output 3, Input 4 to Output 4
Level Postion	DSP Set to 0dBu, Front Panel Level Control Set to Off
EQ & Filters	DSP High Pass Filers Set to -3dB 50 Hz, EQ Filters Flat
Limiter	0dB (Max Power)
GPIO Control Ports (Rear Panel)	Remote Level, C1 Assigned to Output 1, C2 to Output 2, C3 to Output 3, C4 to Output 4
Auto Power Down (APD)	Disabled
Inputs	
Input Quantity	4 Balanced Inputs, Expandable to 8 via Accessory Card
Input Type (Line Balanced or Unbalanced)	Balanced
Input Impedance	40kΩ
Input Sensitivity	750mV Balanced, 0dBu
Maximum Input Level dBu & Vrms	14dBu, 3.82V
Input Connectors Type	3.5mm Euro Block
Accessory Slot	Four Input Dante™ Digital Card (DPA-DAC4) or Four Input Analog Mic / Line Analog (DPA-AMIX)
Level Control	
Front Panel Manual (Enable-Disable in GUI)	Removable Knobs and Security Cover
GUI Control	PC (Requires Ethernet Cable), iPhone®, Android® Using a Standard Web Browser

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Status Indicators	
Power	Blue Indicator
Standby (Remote Turn ON)	Blinking Blue Indicator, Front Panel Only
Output Signal	Green
LED Bar Meter	GUI Only
Output Limit / Protect	Red
4/8 Ohm	Yellow, CH 1/2 & CH 3/4
70V / 100V Operation	Yellow, CH 1/2 & CH 3/4
Output Mute Status	Flashing Red
DSP Elements	
I/O Routing	Matrix Mixer
Hi & Low Pass Filters	One per Output, Adjustable Slopes and Frequencies
EQ	5 Parametric Filters per Output
Delay	60mS per Output
Limiter	Each Output up to 12dB of Assignable Limiting
DSP Frequency Type	48k, 24bit
Interface Control Ports	
USB	No
Ethernet	GUI Access, RJ45 Rear Panel
WiFi	No
Bluetooth	No
GPIO Ports	
Location	Rear
GPIO Ports	QTY 4, Remote Level & Mute Functions, Assignable, PHX Connector
Connection	Euro Block PHX Type 3.5mm, 6 Pins, Ground, +10VDC, C1, C2, C3, C4
Functions	Mute, Remote Level (Assignable)
Output Terminals (Speaker)	
Output Connectors Type	Screw Terminal Barrier Strip with Cover
Output Connectors Number of Terminals	8, M4 Thread
Output Connectors Fixed or Removable	Fixed
Wire Size	18-10 AWG When Using Yellow Spade Lug .250 Terminal, QTY 8 Included (Class 3 Wiring Required)
Terminal Spacing	.300" (7.62mm)
Current Rating	25A per Terminal
Cooling	
APD Standby, Active Idle	Convection Cooled
In Use	Convection Cooled with Variable Speed Fan Assist
Cooling Air Flow Direction	Rear to Front
Electrical Specifications (General)	
Total Harmonic Distortion 1 kHz and 1 dB Below Rated Power	Typical, .2%
Frequency Response	20Hz - 20kHz (DSP Filters Set to Flat)
Signal to Noise Ratio	>100dB Below Rated Output (A-weighted)
Damping Factor (20Hz to 400Hz)	100 (Measurement is Limited Due To DSP)
Slew Rate	
Crosstalk	73dB @ 1KHz, CH1-2 & CH 2-1, CH3-4 & CH4-3
Protection	Hi / Low Input Voltage, Thermal, Short, Over Current
Max Output Peak Voltage 100V Mode	140V
Max Output Peak Current 4Ω Mode	3.5A

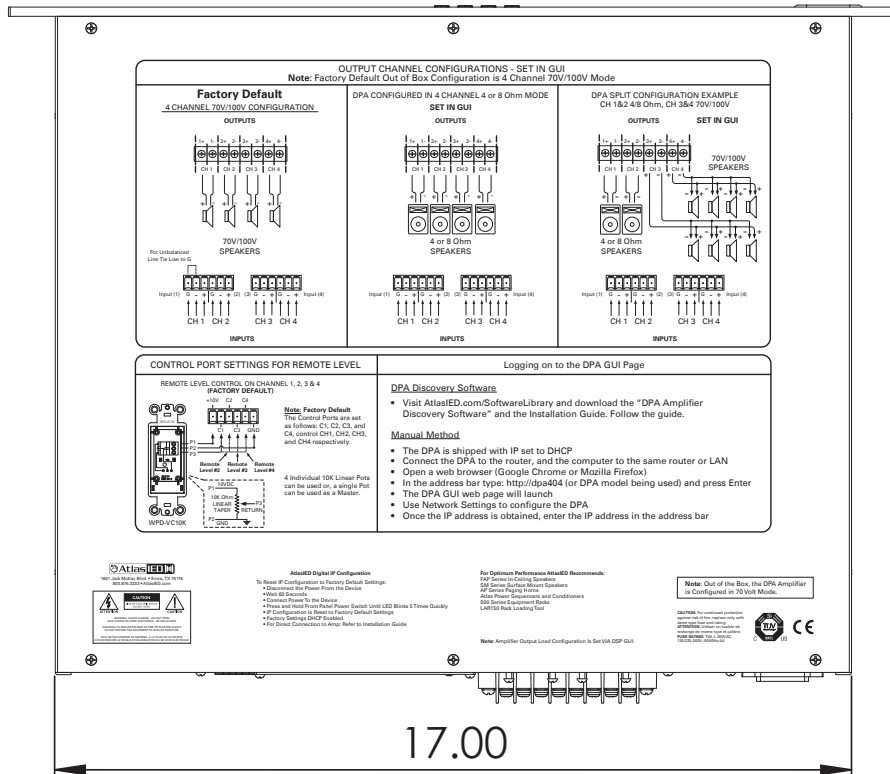
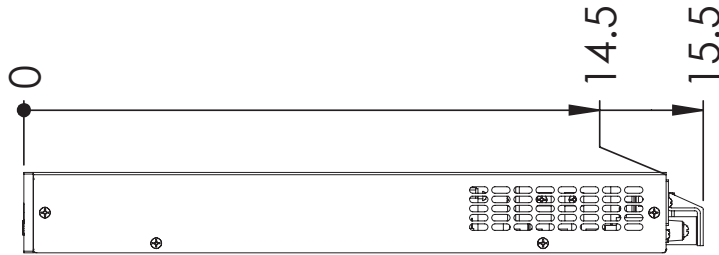
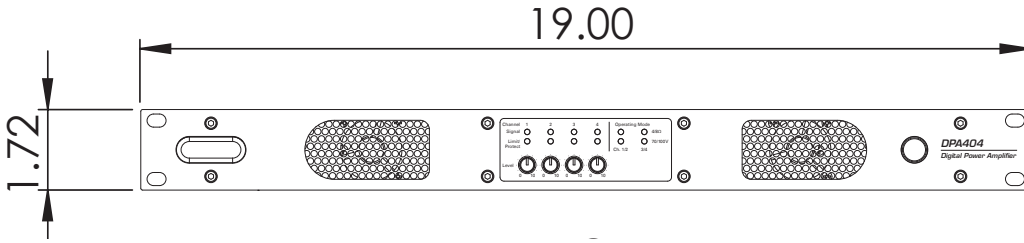
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AC Power Requirements			
Operating Voltage	110V - 120V & 220V - 230V 50/60Hz, Auto Sense		
Mains Interface	IEC 15A Receptical		
Power Cord (Included)	1.5m, IEC C13 to NEMA 5-15P Plug, 18AWG		
Minimum Power-Up Voltage	90V		
Maximum Operating Voltage	264V		
Recommended AC Mains Current Requirements	2.7A (Speech & Back Ground Music), 8.2A (Max Usage)		
Power Consumption and Current Draw (Note 5)	Amps	Watts	BTU
Sleep Mode	90mA	4W	12 BTU
Standby / APD Mode (Note 2)	225mA	18W	56 BTU
Idle Active Mode (Note 2)	650mA	40W	126 BTU
Average Power 4Ω, All Channels Driven (Note 3)	2.2A	160W	504 BTU
Average Power 70V, All Channels Driven (Note 3)	2.7A	215W	648 BTU
Max Power 4Ω, All Channels Driven (Note 4)	6.1A	486W	1479 BTU
Max Power 70V, All Channels Driven (Note 4)	8.2A	710W	2079 BTU
Dimensions and Weight			
Rack Mount Requirements	1 RU, 19"		
Dimensions - Unit	W 19" x H 1.72" x D 15.5" (483mm x 45mm x 394mm)		
Dimensions - Shipping	W 24.5" x H 3.5" x D 18.7" (635mm x 89mm x 477mm)		
Weight - Unit	13 lbs. (5.92kg)		
Weight - Shipping	17.4 lbs (7.94kg)		
Agency Approvals			
North America Agency	TUV		
Testing Standard North America	60065		
FCC Class A (Conducted & Radiated Emissions)	Part 15 of the FCC Rules		
RoHS / WEEE Compliant	Yes		
CE	Yes		
Optional Accessories			
DPA Site Manager	Software		
AA-YSUM	Stereo Signal Passive Summing Cable		
WPD-VC10K	Potentiometer on Wall Plater for Remote Level Control		
DPA-DAC4	4 CH Dante™ Receiver		
DPA-AMIX	Analog 4 CH Mic / Line / AUX Input Card		

NOTES:

1. Power level measurement is define as follows: 1Hz Sine wave signal burst of 20 cycles (20mS) at 1% THD+N, followed by 480 cycles of a 1kHz sine wave at 10% of the max power. Other power measurements are available upon requests.
2. Power measurement with Ethernet connected. Without Ethernet connected deduct .2W
3. Average Power is defined as Pink Noise input signal applied to achieve 1/4 of the 4 Ohm or 70.7V power rating.
4. Max Power is defined as 1 KHz input signal applied to achieve the maxium power output before clipping into a 4 Ohm or 70.7V load.
5. BTU is calculated by the AC Mains Power consumed minus the total power output measured at the specified load and condition, multiplied by 3.412.
Example: 785 Watts from the AC Source - 600 Watts Total Output power = 185 x 3.412 = 631 BTU

Dimensional Drawings



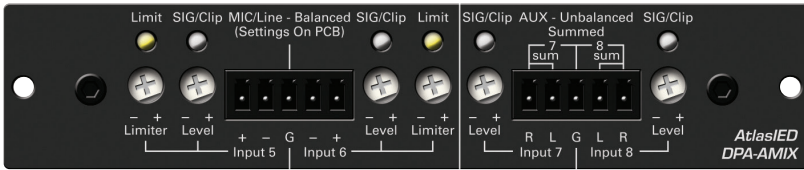
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Optional Accessories

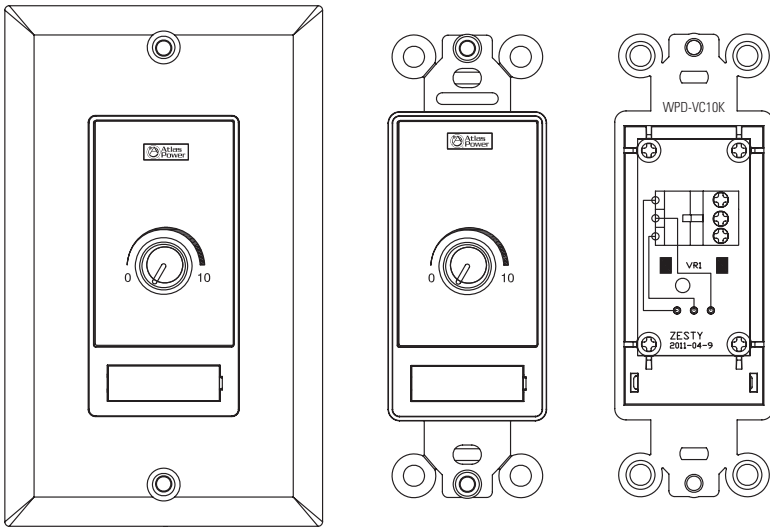
DPA-DAC4 - Dante™ Four-channel Receiver Card



DPA-AMIX - Four-channel Mic / Line AUX Mixer Amp Card



WPD-VC10K: Potentiometer on Wall Plater for Remote Level Control



AA-YSUM: Stereo Signal Passive Summing Cable



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Architect and Engineer Specifications

The power amplifier shall be a four-channel switch mode power amplifier with efficient BASH Hybrid topology output circuitry. The amplifier shall be configurable as four-channel high impedance 70V/100V or four-channel low impedance 4Ω or 8Ω, or two-channel low impedance 4Ω or 8Ω and two-channel high impedance 70V/100V mode. The amplifier shall be shipped factory preset in four-channel 70V configuration. The I/O router shall be configured as follows: Input 1 routed to Outputs 1, Input 2 to Output 2, Input 3 to Output 3 and Input 4 to Output 4. This out of box configuration will not require a computer or network to operate.

The performance specifications shall match or exceed the following:
 70V / 100V = 4CH x 100W; 8Ω = 4CH x 75W, 4Ω = 4CH x 50W;
 70V / 100V = 2CH x 100W & 8Ω = 2 CH x 75W;
 70V / 100V = 2CH x 100W & 4Ω = 4CH x 50W; (reference specifications Notes 1-4); Input Sensitivity 750mV Balanced, 0dBu; Input Impedance Balanced 40K Ohms; Max Input Level channels 1-4, +14dBu, 7dBu inputs 5-8 with Dante™; THD 1% at rated output, .2% Typical; Frequency Response -3dB 20Hz @ 20kHz (DSP set to flat); Signal to Noise Ratio -100dB Below Rated Output A Weighted; Crosstalk >70dB @1kHz; Protection circuits =Thermal, Short, Signal Limiter; Sleep Mode (Ethernet Active) 3.5W, 12BTU; Standby/ADP mode 14W, 48BTU; Max Power All CH driven 70.7V/100V (default mode) = 704W, 390BTU. Dimensions: 1 x RU, 19" W x 1.72" H x 15.5" D. Weight 13 lbs.

The power amplifier shall have a front panel power switch and three states of idle power: Idle Active Mode, Sleep Mode, and Standby Auto Power Down (APD) Mode. Each mode shall have an LED indicator on the front panel indicating the power status. When in Sleep Mode, the Ethernet shall remain active for access to the amplifiers on board GUI.

The amplifier shall include convection cooling with dynamic fan assist for extreme conditions. If the unit is not being used or in Standby mode, the fan shall not be needed for cooling and shall remain Off until the unit is in heavy use. As heat is generated in the amplifier during use, the fan shall activate at a low speed and increase as needed to maintain the amplifier at safe operating temperature. The amplifiers air flow shall be from rear to front.

The front panel controls shall consist of four volume controls that can be removed and replaced with included security covers. Above each volume control, LED indicators for Signal and Limit/Protect/Mute shall signal the amplifier output operating condition. The four-channel output operating mode shall be displayed to the right of the output indicators by 4 multicolor LEDs. These indicators illustrate if Channels 1 and 2 and 3 and 4 are low impedance 4Ω or 8Ω or 70V/100V output. Amplifier operation mode settings shall be completed using the internal DSP GUI.

On the rear panel, the amplifier shall have an IEC AC receptacle that operates from 110V - 120V & 220V - 240V and shall automatically sense the AC Mains voltage and change voltage settings. A removable AC Mains fuse shall be provided for protection.

The rear-mounted Input connectors for inputs 1 - 4 shall be individually removable 3-way 3.5mm Phoenix type connectors that accept balanced line input signals (+) (-) and (GND) pins and will support unbalanced signals by connecting the (-) and (GND) pins together. The amplifier configuration and I/O Routing shall be done in the GUI. Any Input shall be capable of being routed to any Output.

The rear-mounted Output connector shall be a screw terminal block type for connecting speakers to the amplifier. The recommended wire to use shall be Class 3 rated, 14-gauge wire or lower for speaker wiring. Amplifier output channel configurations shall be done in the amplifier GUI. The amplifier shall be shipped with two speaker output terminal covers for safety. Included in the carton with the amplifier shall be eight (8) spade crimp terminals that accept 12-gauge wire and four (4)

security cover screws (M3 x 8mm). Terminal block screws shall be M4. The amplifier shall be pre-configured at the factory for four-channel 70.7V/100V mode.

The amplifier shall have one (1) rear mounted Accessory Card Slot to add accessory modules. Accessory modules shall make available 4 additional inputs (for a total of 8) that can be routed to any of the four output channels. Optional accessory cards shall include a four-channel Dante™ Digital Audio Input Card and a four-channel Analog Mic/Line, Auxiliary Input Card.

The amplifier shall have a rear-mounted Ethernet connector to connect to a Local Area Network (LAN), computer, or router/switch using a standard RJ45 cable to access the amplifiers DSP and control settings.

When network enabled, the amplifier shall have a GUI home page with Input and Output active meters, Output Configuration indicators, with Tab selections to navigate to User PC Control page, Amplifier Setup page, Mobil Control page, IP Configuration page where I/O can be labeled, Update page for firmware upload, and About page. All four amplifier channels shall have an assortment of DSP tools with navigation icons to the following individual GUI pages: Amplifier Configuration, Mute, Link & Ports Assign, I/O Router Assign, Hi & Lo Pass Filters, 5-Band Parametric EQ, Output Level, Delay, and Limiter.

The amplifier shall have four (4) rear-mounted Control Ports to allow assigned/configured Remote Level or Mute functions to be activated by external contact closure relay or controlled by voltage. Each Control Port pin shall be assigned to one function such as Mute or Level, but not both. Control Port assignment shall be done in the GUI Mute, Link, Port Assignment Page. The factory default assignments for the Amplifier Control Ports are assign as a Remote Level & shall be as follows: C1 controls Output 1, C2 controls Output 2, C3 = controls Output 3, C4 controls Output 4. The Control Ports shall provide +10V and GND connections for Remote Level Control Port using 10kΩ Linear Taper pots.

The amplifier shall have Site Manager software to perform a variety of functions including locating DPA amplifiers' IP addresses; fault reporting, input & output status, standby status, and remote activation via a scheduler timer.

The amplifier shall be an AtlasIED DPA404.