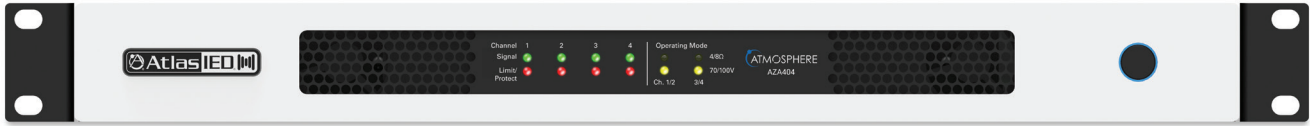


AZA404

Multi-Channel Network Amplifier



Features

- 4 Amplified Channels
- AZA404 Configuration Power Levels
 - 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 75 -Watt @ 4Ω
- Integrates with Atmosphere AZM Zone Master
- Energy Efficient
- Convection Cool / Fan Assist
- Accepts Low Z & Hi Z Loads
- Onboard Web UI for Remote Monitoring of Status & Levels
- Front Panel Power Switch Disable
- APD - Auto Power Down with Audio Sense Turn On
- Dante™ Optional Accessory Card Slot

Applications

AZA Series amplifiers integrate with Atmosphere signal processors which makes them ideal for use in restaurants, presentation rooms, classrooms, conference rooms, and retail background / foreground music applications.

General Description

The AtlasIED Atmosphere AZA404 four-channel amplifier is designed to interface with the Atmosphere family of products, such as the AZM series of processors. The AZA amplifiers can be configured in three different configurations to meet the design requirements of any installation. These AZA models are factory preconfigured in a four-channel, 70V mode. If the design requires four channels of low impedance amplification, the AZA amplifiers can be configured as four-channel models with either 4Ω or 8Ω load impedances. Many system designs require both low and high impedance amplification. These AZA models can be configured to deliver 70V / 100V for a paging / background system on two (2) channels plus two (2) additional 4Ω or 8Ω amplifier channels for foreground stereo application.

These AZA models come standard with four (4) balanced line inputs and an accessory slot for an optional four-channel Dante™ receiver card (model DPA-DAC4), giving the AZA404 and AZA804 a total of up to eight (8) inputs. All inputs can be mixed and routed to any of the four amplifier channels. All four (4) amplifier channels have an assortment of advanced DSP tools.

The AZA404 is ready to use out of the box in four-channel, 70V mode, with no configuration or network connectivity required, making them easily paired for use with AtlasIED Atmosphere Signal Processors.

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 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 Position	DSP Set to 0dBu
EQ & Filters	DSP High Pass Filers Set to -3dB 20Hz, 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 Dante 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	4 Input Dante™ Digital Card (DPA-DAC4)
Level Control	
GUI Control	PC (Requires Ethernet Cable), iPhone®, Android® Using a Standard Web Browser
Status Indicators	
Power	Blue
Standby (Remote Turn ON)	Blinking Blue, Front Panel Only
Output Signal	Green
LED Bar Meter	GUI Only
Output Limit / Protect	Red
4Ω / 8Ω	Yellow, CH 1/2 & CH 3/4
70V / 100V Operation	Yellow, CH 1/2 & CH 3/4
Output Mute Status	Flashing Red

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DSP Elements	
IO 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
Wi-Fi	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 0.250 Terminal, Qty 8 Included (Class 3 Wiring Required)
Terminal Spacing	0.300" (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 1dB Below Rated Power	Typical, 0.2%
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	40Vus
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 4Ω Mode	3.5A
AC Power Requirements	
Operating Voltage	110V - 120V & 220V - 230V 50/60Hz, Auto Voltage Sense
Mains Interface	IEC 15A Receptacle
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 & Background Music), 8.2A (Max Usage)

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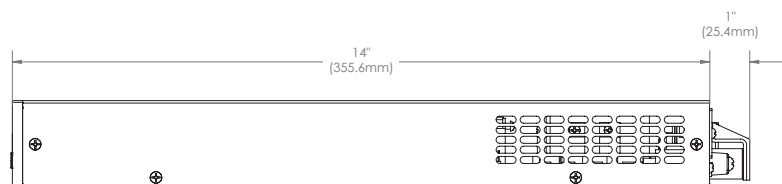
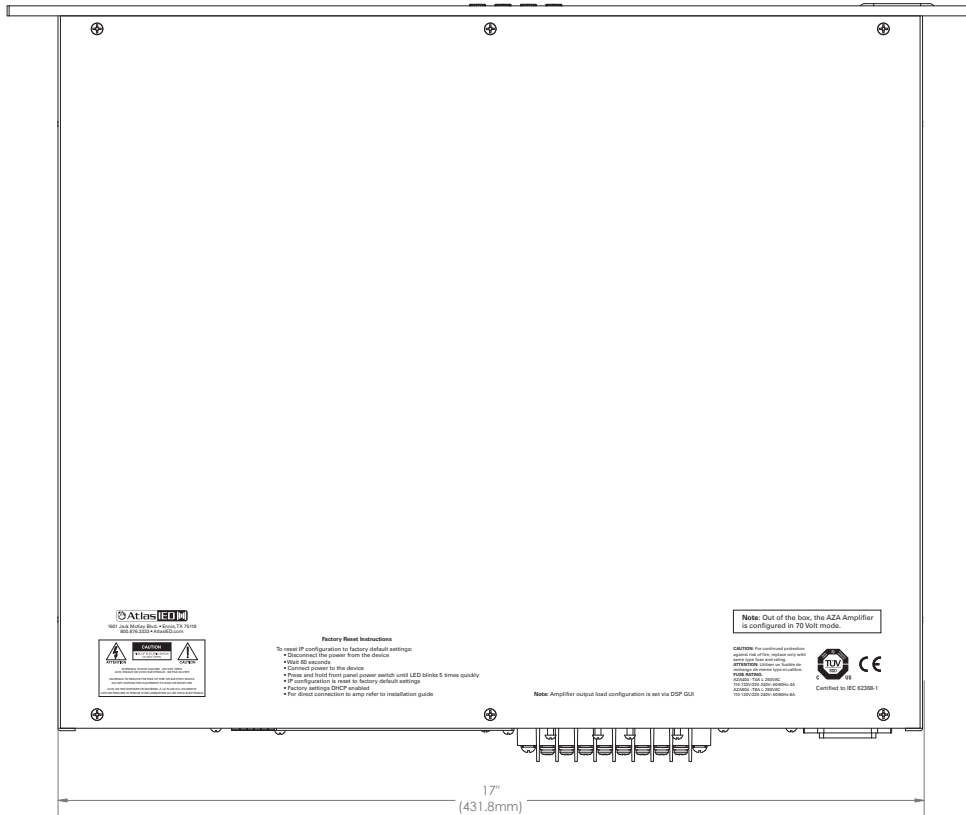
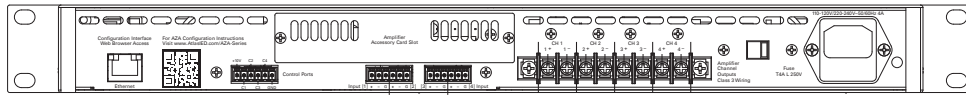
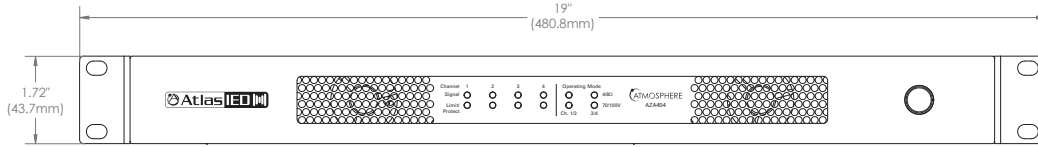
Power Consumption / Current Draw (Note 5)	Amps	Watts	BTU / hr (Note 4)
Sleep Mode	90mA	4W	12 BTU
Standby / APD Mode (Note 2)	225mA	18W	56 BTU
Idle Active Mode (Note 2)	650mA	40W	126 BTU
Average Power 4Ω, All Channels Driven (Note 3)	2.2A	160W	504 BTU
Average Power 70V, All Channels Driven (Note 3)	2.7A	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 1.77" 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	62368-1		
FCC Class A (Conducted & Radiated Emissions)	Part 15 of the FCC Rules		
RoHS / WEEE Compliant	Yes		
CE	Yes		
Optional Accessories			
AZA IP Discovery Software	Yes		
DPA-DAC4	4 CH Dante™ Receiver		
DPA-AMIX	(2) Mic / Line, (2) AUX Input Card		

Notes:

1. Power level measurement is defined as follows: 1KHz 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 0.2W
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 maximum 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

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Dimensional Drawings



Architect and Engineer Specifications

The AZA404 amplifier shall be ready to use, out of the box in four-channel, 70V mode, with no configuration or network connectivity required. The AZA404 shall be ideally suited to be used with AtlasIED Atmosphere Signal Processors. The AZA404 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 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 13.1 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 UI.

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 power switch that is defeatable in the UI. Each channel shall have LED indicators for Signal and Limit / Protect / Mute. 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 UI.

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 UI. 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 UI. 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. The DPA-DAC4 optional accessory card shall include a four-channel Dante™ Digital Audio inputs.

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 control settings.

When network enabled, the amplifier shall have a UI home page with Output active meters, Output Configuration indicators and Network settings. All four amplifier channels shall have an assortment of DSP tools.

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 UI 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 AZA404 amplifier shall be ready to use, out of the box in four-channel, 70V mode, with no configuration or network connectivity required, The AZA404 shall be ideally suited to be used with AtlasIED Atmosphere Signal Processors

The amplifier shall be an AtlasIED AZA404.