



CLA404

FOUR CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER

TECHNICAL DATA SHEET

PRODUCT SUMMARY

The AtlasIED CLA404 is a four-channel, 400W multi-impedance amplifier featuring AtlasIED's Patent-Pending Power Share technology. This innovative feature is an industry first, allowing for controllable power levels to be accurately applied to different zones regardless of the load impedance.

Designed for versatility, the CLA404 amplifier is suitable for both commercial 25V/70.7V/100V distributed systems and sound reinforcement applications requiring amplification for low impedance loads like 2, 4, or 8 ohms. The amplifier's power supply adopts a switch-mode, global auto-sensing design, ensuring a stable output even in fluctuating power conditions. The power supply and output stage are meticulously engineered to deliver exceptional dynamic high output voltage and current simultaneously to virtually any loudspeaker load.

Configuring each channel's Power Share level and speaker load is fast and simplistic with the CLA amplifier. Simply select the desired power level and load type via the switches located on the rear panel.

Other key features of the CLA Series include a unique output stage with a low-resistance, direct-coupled thermal transfer design, effectively maintaining optimal temperature across all loads and output levels. Additionally, the CLA Series amplifiers are energy-efficient, meeting Energy Star standards consuming less than 1W of power in standby mode. The CLA Series amplifiers are so efficient, generating little heat, most of the time they operate in a convection cooled state. If additional cooling is required, the variable speed whisper quiet fans will engage.

Whether your application involves a large distributed constant voltage sound system, a high SPL sound reinforcement system, or both, the AtlasIED CLA Series is the solution for a multi-functional, high-power, and cost-effective amplifier.

KEY FEATURES

- 4 Amplifier Channels
- Load Configurations - Each Channel Configured Individually 2Ω, 4Ω, 8Ω, 25V, 70.7V, & 100V
- Power Share Configurations
 - 4 x 100W
 - 2 x 175W / 25W
 - 2 x 150W / 50W
 - 2 x 125W / 75W
- Energy Efficient 1W Standby GPI
- Convection Cooling, Fan Assist On Demand
- Priority Mute GPI
- Rear Attenuators
- Remote Level Control
- Compact 1RU, Half Rack
- Patent Pending

APPLICATIONS

The AtlasIED CLA404 four-channel amplifier is a high-power, multi-impedance amplifier designed for versatility in both commercial distributed systems and sound reinforcement low impedance applications. The CLA Series incorporates patent-pending Power Share technology, allowing for accurate power levels to be directed to a zone regardless of the load applied. This makes the CLA series ideal for use in restaurants, presentation rooms, classrooms, conference rooms, and retail background/foreground music applications.

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AUDIO SPECIFICATIONS / PERFORMANCE

| System | |
|------------------------|---|
| Model | CLA404 |
| Type | Power Amplifier, 4 Channel |
| Power Supply Type | Switch Mode - Wide Range 90-132V / 208-264V |
| Amp Topology | Class D |
| Number of Fixed Inputs | 4 |
| DSP Internal | No |
| Network | No |
| Optional Card Slot | No |

| Output Power (Note 1) Total Power Available 400W CLA404 | | | | |
|---|-----------------|----------------|----------------|----------------|
| Power Share Configuration | 100W / 100W X 2 | 175W / 25W x 2 | 150W / 50W x 2 | 125W / 75W x 2 |
| 4Ω, 8Ω, 70.7V, 100V | 100W / 100W X 2 | 175W / 25W x 2 | 150W / 50W x 2 | 125W / 75W x 2 |
| 25V x 4 CH (Note 7) | 4 x 100W | 150W / 50W x 2 | 150W / 50W x 2 | 125W / 75W x 2 |
| 2Ω x 4 CH (Note 8) | 4 x 50 W | 90W / 12W x 2 | 75W / 25W x 2 | 65W / 38W x 2 |

| Factory Default Settings (As Shipped) | |
|---------------------------------------|--------------------------------|
| Amplifier Configuration | 4 CH |
| Level Controls | Rear Panel |
| Control Ports (Rear Panel) | Standby OFF, Priority Mute OFF |
| Load Configuration | 70V |
| Power Share Configuration | 200W x 200W |

| Inputs | |
|--------------------------------|-----------------------------------|
| Input Quantity | 4 |
| Input Type | Balanced Line |
| Input Connectors Type | 3.5mm Euro Block |
| Input Impedance | 20KΩ (Balanced) 10KΩ (Unbalanced) |
| Input Sensitivity | 1V Fixed |
| Maximum Input Level dBu & Vrms | 20dBu |

| Level Control | |
|---------------|--------------------------------------|
| Rear Panel | Recessed Rotary Detented Attenuators |

| Status Indicators Front Panel | |
|---|-------------------|
| AC Mains / Power Supply Status Indicator, Multi Color | |
| Power | Blue |
| Standby | Yellow |
| AC Mains Out of Safe Operating Range | Red (Flashing) |
| Temp | Yellow (Flashing) |
| Protect / Fault | Red |

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| Channel Status Indicator, Qty 1 Per Channel, Multi Color | |
|--|-----------------|
| Signal | Green |
| Output Limit | Yellow |
| Output Protect | Red (Steady) |
| Over Current / Fault | Red |
| Temp Condition | Yellow (Steady) |

| GPI Ports (Rear Panel) | |
|------------------------|--|
| Number of Ports | 7 |
| Type of Connector | Euro Block 3.5mm |
| Functions | Standby (Energy Save Mode) , Contact Closure Enables Standby |
| Functions | Priority Mute, Contact Clouser Enables All Channel Mute |
| Remote Level | Each Channel Has Remote Mute Port |

| Configuration Settings (Rear Panel) | |
|-------------------------------------|---------------|
| Gain (Level) | Rotary pot |
| Power Share | Rotary Switch |

| Output Terminals (Speaker) | |
|---------------------------------------|---|
| Output Connectors Type | Removable Euro Block, 5.08mm Pitch, Locking |
| Output Connectors Number of Terminals | 4 |
| Wire Size | 30-12 Gauge (Class 2 Wire) |
| Current Rating | 15A RMS per Terminal |

| Electrical Specifications (General) | |
|--|--|
| Total Harmonic Distortion 1 kHz and 1 dB Below Rated Power | ≤0.15% |
| Signal to Noise Ratio 8 Ohm | >93dBA Below Rated Output (A-Weighted), |
| Frequency Response | 20Hz - 20kHz (+0/-1.5dB) 2,4, 8-Ohm, 25V Mode, 50Hz - 20kHz (+0/-1.5dB) 70V & 100V Mode |
| Input Impedance Balanced (Nominal) | 20KΩ (Balanced) 10KΩ (Unbalanced) |
| Input Sensitivity | 1V |
| Slew Rate | >18V/μs |
| Damping Factor (20Hz to 400Hz) | >250 |
| Gain | 26dB 4-ohms, 29dB 8-ohms, 37dB 70V, 40dB 100V. |
| Crosstalk CH1-2 & CH 2-1 | >70dB |
| Max Voltage Per Output 100V Setting | 101V |
| Max Current per Output 4Ω Setting | 6.6A 175W Setting |
| Protection | Soft Start, Input RF, DC, Short Circuit, Current Overload, Clip Limit, AC Mains Under / Over Voltage Shut Off, Peak Current Limit, Over Temp |

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AUDIO SPECIFICATIONS / PERFORMANCE

| Cooling | |
|----------------------------|--|
| Cooling System | Idle Mode is Convection, Audio Signal Sense (Fan, Variable with Temperature) |
| Cooling Air Flow Direction | Rear to Front, no filters |
| Fan Noise Idle 1M | 0dBu |
| Fan Noise Max 1M | 42dBu |

| Environmental | |
|-----------------------|-----------------------|
| Operating Temperature | 10-104°F (-12-40°C) |
| Relative Humidity | 0-95%, non condensing |

| AC Power Requirements, All CLA Models | |
|--|---|
| Operating Voltage Auto Switch, 50/60Hz | 100V-132V / 208-264V |
| Minimum Power-Up Voltage | 90V |
| Maximum Operating Voltage | 264V |
| Mains Connector | IEC C14 |
| Power Cord (Ships With) | IEC C13 Plug / 18AWG 1.8m Cord / NEMA 5-15 Plug |

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AUDIO SPECIFICATIONS / PERFORMANCE

| Power Consumption & Current Draw @ 120V AC Mains, Power Share Settings 100W x 4 | CLA404 | | |
|--|--------|-------|-------------------|
| | Amps | Watts | BTU / hr (Note 4) |
| Standby Mode, Meets Energy Star Standards | 0.02A | 0.4W | 1.36 BTU |
| Low Power Mode - Note: 9 | 0.1A | 10W | 34 BTU |
| Idle Active | 0.4A | 21W | 71 BTU |
| Average Power 2Ω, All CH Driven, Note 2, 8 | 1.1A | 82W | 279 BTU |
| Average Power 4Ω, All CH Driven, Note 2 | 1.1A | 85W | 290 BTU |
| Average Power 8Ω, All CH Driven, Note 2 | 1.1A | 83W | 283 BTU |
| Average Power 25V, All CH Driven, Note 2,7 | 1.1A | 82W | 279 BTU |
| Average Power 70V, All CH Driven, Note 2 | 1.0A | 78W | 266 BTU |
| Pink Noise Power 2Ω, All CH Driven, Note 3, 8 | 3.2A | 293W | 999 BTU |
| Pink Noise Power 4Ω, All CH Driven, Note 3 | 3.9A | 336W | 1146 BTU |
| Pink Noise Power 8Ω, All CH Driven, Note 3 | 3.9A | 325W | 1108 BTU |
| Pink Noise Power 25V, All CH Driven, Note 3, 8 | 3.9A | 330W | 1126 BTU |
| Pink Noise Power 70V, All CH Driven, Note 3 | 3.8A | 323W | 1102 BTU |
| Burst Power 2Ω, All CH Driven, Note 4, 8 | 1.3A | 137W | 467 BTU |
| Burst Power 4Ω, All CH Driven, Note 4 | 1.5A | 155W | 528 BTU |
| Burst Power 8Ω, All CH Driven, Note 4 | 1.5A | 148W | 504 BTU |
| Burst Power 25V, All CH Driven, Note 4, 7 | 1.5A | 150W | 511 BTU |
| Burst Power 70V, All CH Driven, Note 4 | 1.4A | 141W | 481 BTU |
| Burst Power 100V, All CH Driven, Note 4 | 1.4A | 139W | 474 BTU |
| Music Power 2Ω, All CH Driven, Note 5, 8 | 4.1A | 338W | 1153 BTU |
| Music Power 4Ω, All CH Driven, Note 5 | 4.2A | 347W | 1184 BTU |
| Music Power 8Ω, All CH Driven, Note 5 | 4.15A | 342W | 1175 BTU |
| Music Power 25V, All CH Driven, Note 6, 8 | 4.0A | 322W | 1098 BTU |
| Music Power 70V, All CH Driven, Note 5 | 4.1A | 339W | 1156 BTU |
| Sine Wave Power 2Ω All CH Driven, Note 6, 8 | 5.4A | 468W | 1596 BTU |
| Sine Wave Power 4Ω, All CH Driven, Note 6 | 5.9A | 483W | 1579 BTU |
| Sine Wave Power 8Ω, All CH Driven, Note 6 | 5.8A | 475W | 1620 BTU |
| Sine Wave Power 25V, All CH Driven, Note 6, 7 | 5.8A | 470W | 1603 BTU |
| Sine Wave Power 70V, All CH Driven, Note 6 | 5.1A | 411W | 1402 BTU |

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AUDIO SPECIFICATIONS / PERFORMANCE

| Power Consumption & Current Draw @ 230V AC Mains, Power Share Settings 100W x 4 | CLA404 | | |
|--|--------|-------|-------------------|
| | Amps | Watts | BTU / hr (Note 4) |
| Standby Mode | 0.03A | 0.5W | 1.7 BTU |
| Low Power Mode - Note: 9 | 0.1A | 9W | 30 BTU |
| Idle Active | 0.2A | 18W | 61 BTU |
| Average Power 2Ω All CH Driven, Note 2, 8 | 0.6A | 85W | 290 BTU |
| Average Power 4Ω, All CH Driven, Note 2 | 0.6A | 84W | 286 BTU |
| Average Power 8Ω, All CH Driven, Note 2 | 0.6A | 82W | 279 BTU |
| Average Power 100V, All CH Driven, Note 2 | 0.5A | 71W | 242 BTU |
| Pink Noise Power 2Ω, All CH Driven, Note 3, 8 | 2.0A | 286W | 975 BTU |
| Pink Noise Power 4Ω, All CH Driven, Note 3 | 2.1A | 298W | 1016 BTU |
| Pink Noise Power 8Ω, All CH Driven, Note 3 | 2.1A | 295W | 1006 BTU |
| Pink Noise Power 100V, All CH Driven, Note 3 | 1.9A | 274W | 934 BTU |
| Burst Power 2Ω, All CH Driven, Note 4, 8 | 1.1A | 128W | 436 BTU |
| Burst Power 4Ω, All CH Driven, Note 4 | 1.2A | 142W | 484 BTU |
| Burst Power 8Ω, All CH Driven, Note 4 | 1.2A | 136W | 464 BTU |
| Burst Power 100V, All CH Driven, Note 4 | 1.0A | 113W | 385 BTU |
| Music Power 2Ω, All CH Driven, Note 5, 8 | 1.2A | 140W | 477 BTU |
| Music Power 4Ω, All CH Driven, Note 5 | 2.8A | 387W | 1320 BTU |
| Music Power 8Ω, All CH Driven, Note 5 | 2.6A | 362W | 1244 BTU |
| Music Power 100V, All CH Driven, Note 5 | 2.4A | 335W | 1143 BTU |
| Sine Wave Power 2Ω, All CH Driven, Note 6, 8 | 3.4A | 528W | 1801 BTU |
| Sine Wave Power 4Ω, All CH Driven, Note 6 | 3.2A | 469W | 1600 BTU |
| Sine Wave Power 8Ω, All CH Driven, Note 6 | 3.1A | 462W | 1576 BTU |
| Sine Wave Power 100V, All CH Driven, Note 6 | 2.8A | 414W | 1412 BTU |

- Notes:**
1. Power Level - Test 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 available upon request. All power tests are done at 120V.
 2. Average power draw is defined as pink noise input signal applied to achieve 1/4 of the 4Ω or 70.7V power rating. Amplifier power data is the same for 100V and 230V as 120V.
 3. Max pink noise power current draw is defined as pink noise applied as the signal source to the amplifier to achieve 100% of the 4Ω or 70.7V power rating. Using pink noise for testing amplifiers is a strenuous test that provides a consistent signal across the entire audio spectrum. Pink noise also provides a 6db Crest factor signal that injects a balance of RMS and peak signals providing realistic amp draw data for audio application.
 4. Max burst power draw is defined as follows: 1 kHz sine wave signal burst of 20 cycles (40ms) at 100% of the 4Ω or 70.7V power rating., followed by 480 cycles of a 1 kHz sine wave at 10% of the max power repeated. Note: The amp draw /watt data is the peak power consumed and not steady state amp draw. This complies the UL 62368-1 standard and testing for maximum peak amp draw for a 120v 15A AC mains.
 5. Music power draw is defined as dynamic input signal applied to achieve the maximum rated power into a 4Ω or 70.7V load. This test also represents realistic current draw data for audio applications. The current draw data is the maximum peak amp / watt and not steady state amp draw. This complies the UL 62368-1 standard and testing for maximum peak amp draw for a 120V 15A AC mains. Note When specifying this amp for power consumption, we recommend using the Max Music Power Amps / Watt rating data.
 6. Sine wave power draw is defined as 1 KHz input signal applied to achieve the maximum power output before clip into a 4Ω or 70.7V load. This data should be used as a reference of the maximum the current the amplifier can draw. The amount of time used to test was subject to exceeding the units circuit breaker provides this data thermal trip point.
Note: The CLA Series is designed and to be specified for paging and music program application. Steady state sine wave signals over 3 seconds should not be applied and may drip a 15A 120V AC Mains breaker.
 7. 25V System use 4Ω Load Selection Settings, CLA402 & CLA804 Power Share 200W Setting Equal 150W, CLA202 & CLA404 Power Share Setting 100W Equal 100W
 8. 2Ω loads use 4Ω Load Selection Settings, CLA402 & CLA804 Power Share 200W Setting Equal 100W, CLA202 & CLA404 Power Share 100W Setting Equal 50W
 9. Low Power Mode: The Front panel AC Mains indicator will blink Blue slowly. Fans are off and the power rails are lowered reducing power consumption. Signal flow is not interrupted or delayed.

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AUDIO SPECIFICATIONS / PERFORMANCE

| Package Contents | |
|--|--------|
| CLA Model | CLA404 |
| Power Cord IEC C13 Plug / 18AWG 1.8m Cord / NEMA 5-15 Plug | Qty 1 |
| Input Connector, 3 Position, 3.5MM Pitch | Qty 4 |
| GIP Connector, 3 Position, 3.5MM Pitch | Qty 1 |
| Remote Level Connector, 7 Position, 3.5MM Pitch | Qty 1 |
| Speaker Connector, 2 Position, 5.08 MM Pitch | Qty 4 |
| Rack Kit for Single & Dual mounting | Qty 1 |
| Install Sheet with QR Code | Qty 1 |

| Dimensions and Weight | |
|---------------------------------------|--|
| Rack Mount Requirements | 1 RU, 8.5" |
| Dimensions - Unit, All CLA Models | 8.5" W x 1.75" H x 13.77" D (216mm x 44mm x 350mm) |
| Dimensions - Shipping, All CLA Models | 17.25" W x 4.5" H x 11.75" D (438mm x 114mm x 298mm) |
| Weight - Unit CLA404 | 7.7 lbs. (3.38kg) |
| Weight - Shipping, CLA404 | 10.9 lbs. (4.8kg) |

| Agency Approvals | |
|--|----------------------------|
| North America Agency | TUV |
| Testing Standard North America | 62368-1 |
| FCC Class A (Conducted & Radiated Emissions) | Part 15 B of the FCC Rules |
| CE | Yes (Includes RoHS & WEEE) |

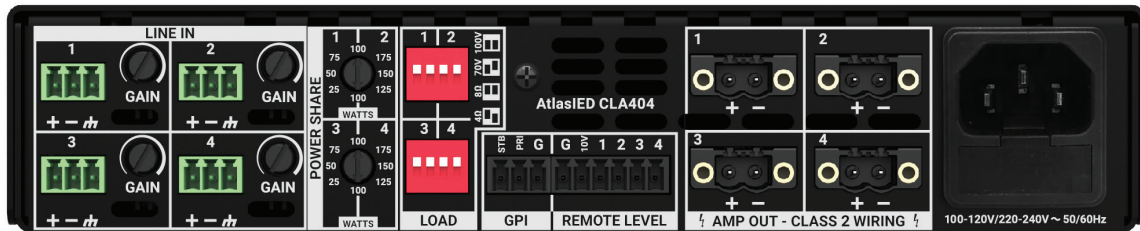
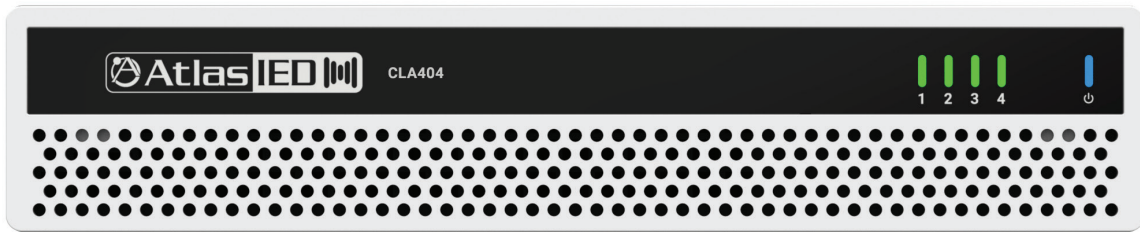
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TECHNICAL DATA SHEET

PRODUCT IMAGES



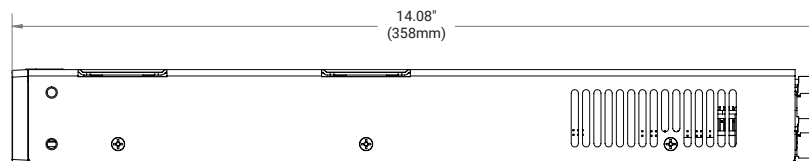
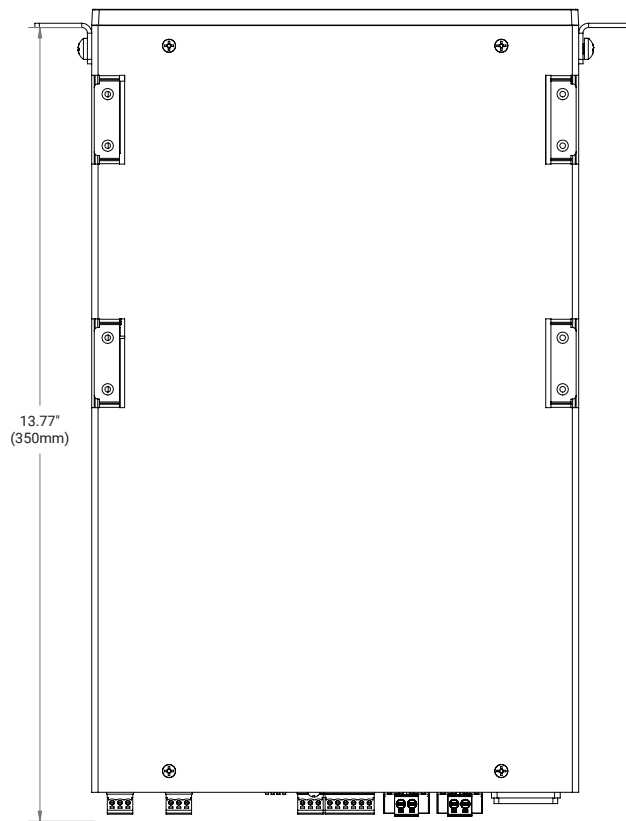
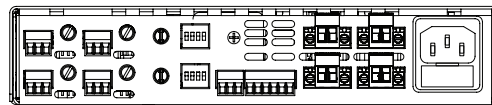
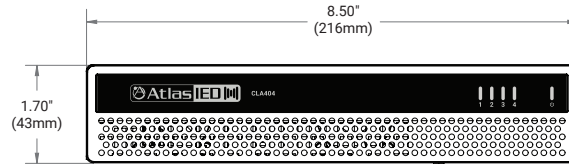
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DIMENSIONAL DRAWINGS



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ARCHITECT AND ENGINEER SPECS

The AtlasIED CLA404 amplifier shall be ready to use out of the box, configured as four-by 100W per channel in 70.7V mode, with no configuration or network connectivity required. The CLA404 shall be configurable for both commercial 25V/70.7V/100V distributed systems and professional applications requiring amplification for low impedance loads like 2, 4, or 8 ohms. Configuration of the CLA shall be done via rear panel switches. The CLA404 amplifier shall provide 400W of total power with the ability to accurately power steer the amount of power needed per output channel regardless of the speaker load impedance.

The performance specifications shall match or exceed the following:
Load Configurations - Each Channel load selection shall be Configured Individually 2Ω, 4Ω, 8Ω, 25V, 70.7V, & 100V. Each pair of channels Power Share Configurations shall be: 4 x 100W, 2 X 175W / 25W, 2 x 150W / 50W, 2 x 125W / 75W; Input Sensitivity 1V Balanced, 0dBu; Input Impedance Balanced 20K Ohms; Max Input Level, +24dBu, THD 1% at rated output, Frequency Response -3dB 20Hz @ 20kHz Lo Z; Signal to Noise Ratio -100dB Below Rated Output A Weighted; Crosstalk >70dB @1kHz.

Protection circuits =Thermal, Short, Signal Limiter; Standby mode .4W, 1.36BTU; Max Power All CH driven 70.7V (default mode) = 411W, 1402BTU.

The CLA power amplifier shall feature an AC Mains status RGB LED indicator for the following operating modes: Active Mode, Low Power Mode, Standby Mode, and AC power line warning status for low and high AC Line conditions. Additionally, the front panel shall have individual channel indicators that consist of three-color status RGB LED indicators for Signal/Limit/Protect/Mute.

The amplifier shall include convection cooling with whisper fan assist for extreme conditions. If the unit is not being used or in low power mode, the fan shall remain off until the unit is in heavy use. The amplifier's airflow direction shall be from front to rear and requires no air filters.

The amplifier shall feature a three-pin rear-mounted GPI Control Ports for activating Standby mode and Priority mute mode, to be activated by external contact closure relay. Additionally, each amplifier channel shall have a separate Remote Level control port. The Remote Level Control Ports shall provide +10V and GND connections, as well as a return voltage port for each channel. The Remote Level return voltage shall come from a 10kΩ Linear Taper pot or remote-control system with a variable 0-10V output.

The CLA404 amplifier shall be ready to use out of the box, configured as a four-channel, 70.7V mode, requiring no configuration or network connectivity.

Additionally, the CLA Series shall come with a rack mount kit for mounting one or two AtlasIED half-rack devices.

The CLA404 shall be a 1RU half-rack device with the following dimensions: 8.5 inches (216mm) wide, 1.75 inches (44mm) high, and 13.77 inches (350mm) deep. It shall weigh 7.7 lbs. (3.38kg). The amplifier shall be an AtlasIED CLA404.

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