



CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER

TECHNICAL DATA SHEET

PRODUCT SUMMARY

The AtlasIED CLA402 is a two-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 CLA402 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

- 2 Amplifier Channels
- Load Configurations - Each Channel Configured Individually 2Ω, 4Ω, 8Ω, 25V, 70.7V, & 100V
- Power Share Configurations
 - 2 x 200W
 - 1 x 350W / 50W
 - 1 x 300W / 100W
 - 1 x 250W / 150W
- 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 CLA402 two-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.

CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

AUDIO SPECIFICATIONS / PERFORMANCE

System	
Model	CLA402
Type	Power Amplifier, 2 Channel
Power Supply Type	Switch Mode - Wide Range 90-132V / 208-264V
Amp Topology	Class D
Number of Fixed Inputs	2
DSP Internal	No
Network	No
Optional Card Slot	No

Output Power (Note 1) Total Power Available 400W CLA402				
Power Share Configuration	200W / 200W X 1	350W / 50W x 1	300W / 100W x 1	250W / 150W x 1
4Ω, 8Ω, 70.7V, 100V	200W / 200W X 1	350W / 50W x 1	300W / 100W x 1	250W / 150W x 1
25V x 2 CH (Note 7)	150W x 150W X 1	150W / 50W x 1	150W / 100W x 1	125W / 75W x 1
2Ω x 2 CH (Note 8)	100W x 100 W X 1	175W / 25W x 1	150W / 50W x 1	125W / 75W x 1

Factory Default Settings (As Shipped)	
Amplifier Configuration	2 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	2
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

(CONTINUES ON NEXT PAGE)

CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

AUDIO SPECIFICATIONS / PERFORMANCE

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	5
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	2
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	29dB 4-ohms, 32dB 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	9.3A 350W 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

(CONTINUES ON NEXT PAGE)

CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

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

CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

AUDIO SPECIFICATIONS / PERFORMANCE

Power Consumption & Current Draw @ 120V AC Mains, Power Share Settings 200W x 2	CLA402		
	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	0.2A	11.7W	39 BTU
Average Power 2Ω, All CH Driven, Note 2, 8	0.5A	37W	126 BTU
Average Power 4Ω, All CH Driven, Note 2	0.8A	68W	232 BTU
Average Power 8Ω, All CH Driven, Note 2	0.8A	65W	221 BTU
Average Power 25V, All CH Driven, Note 2,7	0.7A	62W	211 BTU
Average Power 70V, All CH Driven, Note 2	0.7A	57W	194 BTU
Pink Noise Power 2Ω, All CH Driven, Note 3, 8	2.1A	189W	644 BTU
Pink Noise Power 4Ω, All CH Driven, Note 3	3.1A	251W	856 BTU
Pink Noise Power 8Ω, All CH Driven, Note 3	3.1A	248W	846 BTU
Pink Noise Power 25V, All CH Driven, Note 3, 8	2.9A	233W	795 BTU
Pink Noise Power 70V, All CH Driven, Note 3	3.0A	243W	829 BTU
Burst Power 2Ω, All CH Driven, Note 4, 8	1.0A	125W	426 BTU
Burst Power 4Ω, All CH Driven, Note 4	1.4A	172W	586 BTU
Burst Power 8Ω, All CH Driven, Note 4	1.2A	139W	474 BTU
Burst Power 25V, All CH Driven, Note 4, 7	1.4A	170W	580 BTU
Burst Power 70V, All CH Driven, Note 4	1.1A	133W	453 BTU
Music Power 2Ω, All CH Driven, Note 5, 8	3.5A	295W	1006 BTU
Music Power 4Ω, All CH Driven, Note 5	4.4A	368W	1255 BTU
Music Power 8Ω, All CH Driven, Note 5	4.3A	360W	1236 BTU
Music Power 25V, All CH Driven, Note 6, 8	4.2A	346W	1180 BTU
Music Power 70V, All CH Driven, Note 5	4.2A	355W	1211 BTU
Sine Wave Power 2Ω All CH Driven, Note 6, 8	4.5A	362W	1235 BTU
Sine Wave Power 4Ω, All CH Driven, Note 6	5.5A	457W	1559 BTU
Sine Wave Power 8Ω, All CH Driven, Note 6	5.5A	442W	1508 BTU
Sine Wave Power 25V, All CH Driven, Note 6, 7	5.2A	428W	1460 BTU
Sine Wave Power 70V, All CH Driven, Note 6	4.9A	405W	1381 BTU

CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

AUDIO SPECIFICATIONS / PERFORMANCE

Power Consumption & Current Draw @ 230V AC Mains, Power Share Settings 200W x 2	CLA402		
	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	0.1A	18W	61 BTU
Average Power 2Ω, All CH Driven, Note 2, 8	0.4A	45W	153 BTU
Average Power 4Ω, All CH Driven, Note 2	0.5A	58W	197 BTU
Average Power 8Ω, All CH Driven, Note 2	0.5A	56W	191 BTU
Average Power 100V, All CH Driven, Note 2	0.4A	48W	163 BTU
Pink Noise Power 2Ω, All CH Driven, Note 3, 8	1.0A	133W	453 BTU
Pink Noise Power 4Ω, All CH Driven, Note 3	1.7A	247W	842 BTU
Pink Noise Power 8Ω, All CH Driven, Note 3	1.6A	238W	812 BTU
Pink Noise Power 100V, All CH Driven, Note 3	1.5A	231W	788 BTU
Burst Power 2Ω, All CH Driven, Note 4, 8	0.9A	156W	532 BTU
Burst Power 4Ω, All CH Driven, Note 4	1.1A	185W	631 BTU
Burst Power 8Ω, All CH Driven, Note 4	1.1A	182W	621 BTU
Burst Power 100V, All CH Driven, Note 4	0.9A	141W	481 BTU
Music Power 2Ω, All CH Driven, Note 5, 8	2.0A	298W	1016 BTU
Music Power 4Ω, All CH Driven, Note 5	2.2A	332W	1132 BTU
Music Power 8Ω, All CH Driven, Note 5	2.15A	327W	1098 BTU
Music Power 100V, All CH Driven, Note 5	2.1A	318W	1085 BTU
Sine Wave Power 2Ω, All CH Driven, Note 6, 8	2.3A	362W	1235 BTU
Sine Wave Power 4Ω, All CH Driven, Note 6	2.9A	451W	1538 BTU
Sine Wave Power 8Ω, All CH Driven, Note 6	2.8A	445W	1518 BTU
Sine Wave Power 100V, All CH Driven, Note 6	2.5A	391W	1334 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.

CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

AUDIO SPECIFICATIONS / PERFORMANCE

Package Contents	
CLA Model	CLA402
Power Cord IEC C13 Plug / 18AWG 1.8m Cord / NEMA 5-15 Plug	Qty 1
Input Connector, 3 Position, 3.5MM Pitch	Qty 2
GIP Connector, 3 Position, 3.5MM Pitch	Qty 1
Remote Level Connector, 5 Position, 3.5MM Pitch	Qty 1
Speaker Connector, 2 Position, 5.08 MM Pitch	Qty 2
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 CLA402	5.9 lbs. (2.54kg)
Weight - Shipping, CLA402	8.11 lbs. (3.96kg)

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)

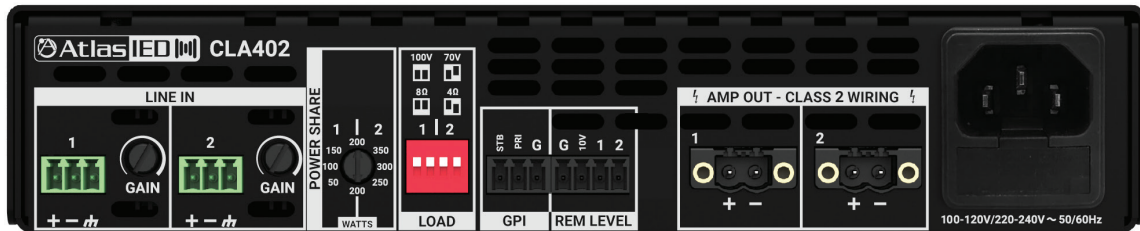
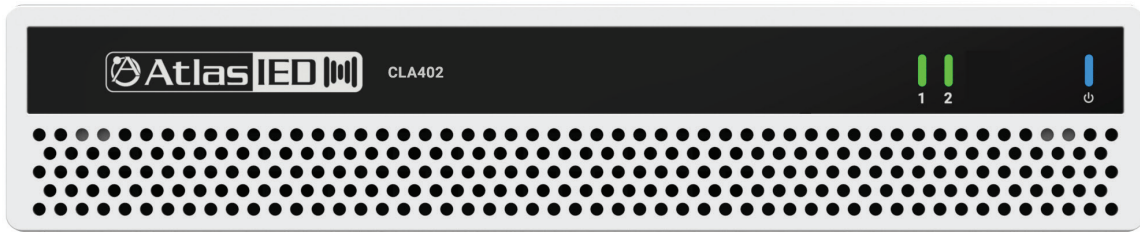
CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

PRODUCT IMAGES



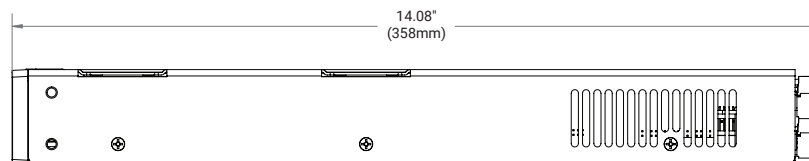
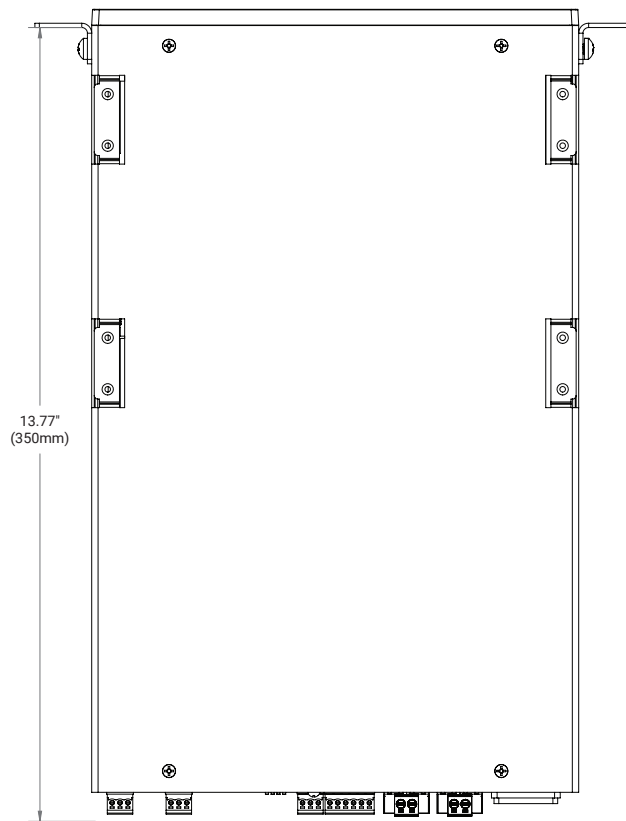
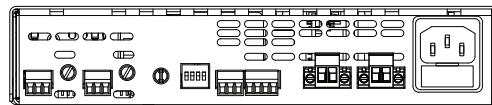
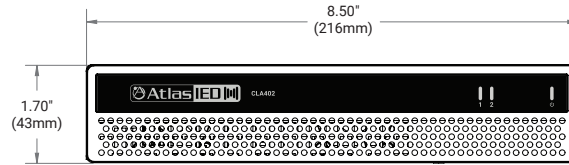
CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

DIMENSIONAL DRAWINGS



CLA402

TWO CHANNEL MULTI IMPEDANCE POWER SHARE AMPLIFIER



TECHNICAL DATA SHEET

ARCHITECT AND ENGINEER SPECS

The AtlasIED CLA402 amplifier shall be ready to use out of the box, configured as two-by 200W per channel in 70.7V mode, with no configuration or network connectivity required. The CLA402 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 CLA402 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: 2 x 200W, 1 X 350W / 50W, 1 x 300W / 100W, 1 x 250W / 150W; 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) = 405W, 1391BTU.

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 CLA402 amplifier shall be ready to use out of the box, configured as a two-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 CLA402 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 5.9 lbs. (2.54kg). The amplifier shall be an AtlasIED CLA402.

©2024 Atlas Sound LP. The Atlas, "Circle A", Soundolier, and Atlas Sound are trademarks of Atlas Sound LP. IED is a Registered Trademark of Innovative Electronic Designs LLC. All rights reserved. All other Trademarks are property of their respective owners. No endorsement is implied. Due to continual product development, specifications are subject to change without notice. ATS007745 RevB 10/24