

AL2450

Classroom Sound Reinforcement Amplifier/Receiver



Features

- Works in Conjunction with Secondary Systems to Provide Enhanced Classroom Security
- Provides Excellent Infrared Wireless Sound Reinforcement
- Easily Integrates Into Any Classroom
- 50-Watts Output at 8Ω, 25V, and 70.7V
- 6 Input Mixer with Priority Page Override
- Patent Pending Pole Mount Design

Applications

The Atlas IED AL2450 receiver / amplifier is an in-classroom sound reinforcement solution designed for use in K-12 and higher education facilities or where a room constrained public address system is required. This amplifier / receiver is designed to work with Atlas Learn wireless infrared microphones, AL-MAGPIE and AL-MYNA, to allow teachers and students to walk freely around the room with the infrared microphones / system control units and project their voices through installed speakers.

General Description

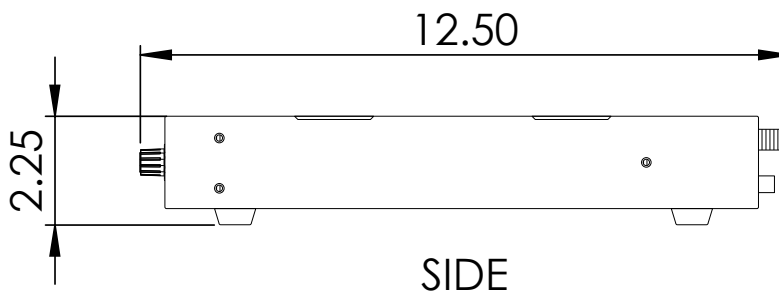
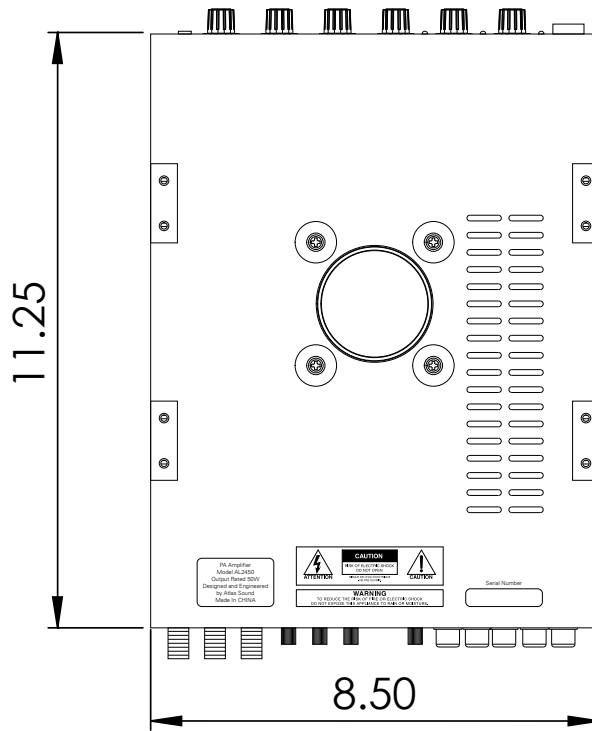
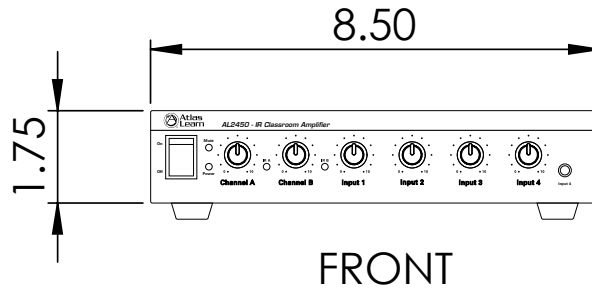
The AL2450 coordinates all of the functions of the Atlas Learn system and brings all of the features together for a single unit control center. The AL2450 is loaded with features that not only enhance the quality of audio generated by the system but that are also easy to use and understand. Physically the AL2450 is very compact making it easy to install on a desk or in a small rack. The unit features Atlas Sound's patent pending through chassis design which allows the unit to be mounted to a pole in conjunction with a projector or other equipment if security is a concern. The front of the unit features a main power switch as well as volume controls for two microphones (A and B), as well as four other external audio sources like Computer, TV, CD, or Auxiliary audio.

The rear panel of the AL2450 has all of the connections and adjustments needed to set up the Atlas Learn system to maximize its efficacy in any size classroom. The AL2450 can support up to three infrared (IR) domes that receive the signal from the wireless microphones and transmit that signal back to the amplifier for playing through the speakers in the classroom. Additionally the AL2450 has equalization adjustments for the microphones to optimize their sound quality, a priority page input that allows the local audio to be overridden when a page is initiated by the administration, and a line output for connection to an external amplifier, recording device, or hearing assistance system based on the classroom requirements. The versatility of the AL2450 receiver / amplifier is what sets it apart from other classroom amplification systems.

System	
Type	Power Amplifier
Power Supply Type	Switch Mode - Wide Range - PFC
Amp Topology	Class D
Number of Fixed Inputs	6
Accessory Inputs	0
DSP Internal	No
Network	No
Optional Card Slot	No
Output Power (Note 1)	
100V	1 x 50-Watts
70.7V	1 x 50-Watts
8Ω	1 x 50-Watts
Factory Default Settings (As Shipped)	
Amplifier Configuration	1 CH
Level Controls	Front Panel
Control Ports (Rear Panel)	No
Inputs	
Input Quantity	6 (Four RCA, 2 IR)
Input Type	Infrared / Balanced / Unbalanced
Input Connectors Type	F-Pin (IR) / Dual RCA (Inputs 1 - 4) / 3.5mm Aux (Front Panel Input 4)
Input Impedance	56kΩ Computer / 22kΩ Multimedia / 75Ω IR
Input Sensitivity	-10dB Multimedia / 14dB Priority Page
Maximum Input Level dBu & Vrms	NA
Accessory Slot	NA
Level Control	
Front Panel	Rotary Stepped Attenuators
Status Indicators	
Power	Blue
Mute	Red
IR A	Red
IR B	Red
GPIO Ports (Rear Panel)	
Number of Ports	1
Type of Connector	3-Pin Phoenix
Functions	Relay Output NO/NC (5A@36V)
Output Terminals (Speaker)	
Output Connectors Type	Removable Euro Block, 762mm Pitch, Locking
Output Connectors Number of Terminals	4 Position
Wire Size	6-18 Gauge (Class 2 Wire)

Electrical Specifications (General)		
Total Harmonic Distortion 1 kHz and 1 dB Below Rated Power	.033%	
Signal to Noise Ratio	NA	
Frequency Response	20Hz - 20kHz +/- 2dBV	
Gain	35dB	
Crosstalk CH1-2 & CH 2-1	NA	
Max Voltage Per Output 8Ω	20V	
Max Current per Output 8Ω	2.5A	
Protection	None	
AC Power Requirements		
Operating Voltage Auto Switch, 50/60Hz	100V - 240V	
Minimum Power-Up Voltage	48V	
Maximum Operating Voltage	256V	
Mains Connector	Barrel Connector	
Power Cord (Ships With)	In Line 30VDC / 3A	
Power Consumption & Current Draw @ 120V AC Mains		
	Amps	Watts
Standby Mode	NA	NA
Idle Active	170mA	9.4W
Average Power 8Ω, All CH Driven	610mA	43.8W
Average Power 70.7V, All CH Driven	490mA	34W
Max Power 8Ω, All CH Driven	790mA	58W
Max Power 70V, All CH Driven	790mA	58.6W
Cooling		
Cooling System	Convection	
Air Inlet Filter	None	
Cooling Air Flow Direction	NA	
Dimensions and Weight		
Rack Mount Requirements	1 RU, 8.5"	
Dimensions - Unit	8.5" W x 1.75" H x 11.25" D (216mm x 45mm x 286mm) 8.5" W x 2.25" H x 12.5" D (216mm x 57mm x 318mm) (Including Feet and Knobs)	
Dimensions - Shipping	10.96" x 5.7" x 13.9" (278mm x 145mm x 353mm)	
Weight - Unit	7 lbs (3.18 kg)	
Weight - Shipping	9 lbs (4.1 kg)	
Optional Accessories		
AL2430-RMK	Rack Mount Kit for AL2450	

Dimensional Drawings



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Architect and Engineer Specifications

The Amplified Learning System shall consist of an integrated mixer amplifier with a minimum of 50-watt output available as 8 Ω , 25V, and 70.7V outputs to local loudspeaker systems. The dimensions of the unit shall not exceed 1/2 rack width and 1RU tall. The CRS Metal enclosure shall be powder coated and be capable of rack mounting or mounting by way of a through chassis hole and included mounting bracket 3" x 3" (76.2mm x 76.2mm). The included adaptor bracket shall accommodate a standard projector ceiling mounting pole.

The audio input section of the Amplified Learning System shall have the ability to support 5 separate line level, audio only, input devices labeled Input 1, Input 2, Input 3, Input 4, and Priority Page. Each input shall be comprised of dual summed RCA inputs that feature an independent level control feeding a common bus. Input 4 shall be dual summed RCA connectors and also include a front panel mounted 3.5mm TRS input that bypasses the RCA inputs if used. A level control is included on Input 4 in order to set the level relative to the other sources. The ALS shall include a page priority override that shall be capable of muting all local audio inputs when a page is detected via a connection to the paging system and by converting the speaker level of 8 Ω , 25V, or 70.7V into an input on the integrated mixer amplifier to drive the local speakers connected to the ALS. The priority page input shall include a level control and a separate input trim control labeled from 300mV – 25V for proper matching to the distributed speaker line.

The ALS rear panel shall have 3 coaxial inputs marked "Infrared" for connection to Infrared Sensors (2 are included with the ALS) to energize two separate input channels (A & B) that provide the ability to deploy a teacher microphone and a second classroom microphone for student response (if required). Channels A & B each are configured with separate level controls and a common feedback suppression filter set with individually adjustable frequencies of 100Hz (LF), 3kHz(MF), and 10kHz (HF). The rear panel shall provide a Phoenix type plug in connector which is the access point to the internal relay output which shall be configured as normally open or normally closed switch contacts suitable for connection to an emergency or panic enunciator.

The integrated mixer amplifier will also be equipped with a line output to drive an optional slave amplifier. The ALS will be powered by an external 24VDC UL listed power supply.