



# AA50PHD

## 50W Mixer Amplifier



AA50PHD

### Features

- 50W Into 25V/70.7V and 4Ω Loads
- Automated Diagnostic System Test (Push Here Diagnostic)
- Balanced Mic/Line/Tel Input w/ Phantom Power
- Three Unbalanced, Summing Line Level Inputs
- Input Assignable Zone 2 Output
- Remote Level Control
- Remote Input Select (RIS)
- Line Output
- Preamp In for External Processors
- Variable Mute Sensitivity Control for Input 1
- Contact Closure Mute Terminals
- Rear Mounted DIP Switch Allows Mute Receive for Inputs 2 and 3

### Application

The Atlas Sound AA50PHD is the perfect choice for distributed business paging and background music (BGM) systems, small to medium speech privacy systems, and in applications where music on hold (MOH) plus paging is required.

### General Description

The AA50PHD is a four input channel mixer amplifier designed for distributed business paging and background music (BGM) systems, small to medium speech privacy systems, and in applications where music on hold (MOH) plus paging is required.

With one microphone/line input and three stereo line inputs, the AA50PHD will accommodate a variety of input sources including paging microphones, media players, and digital music receivers. The AA50PHD includes a patent pending automatic system test, the Push Here Diagnostic (PHD). The PHD button is designed to check the connected speaker lines for wiring and impedance errors. This test can be activated once all speakers are connected and the circuit automatically verifies that the attached speakers' tap settings do not exceed the amplifier's rated power, no speakers are mistakenly tapped at 8Ω, and the speaker wire is free from shorts. The unit also incorporates a Remote Input Selection and Remote Level Control feature that allows the integrator to use a remote wall plate (Atlas Sound model WPD-RISRL) and allow the user to select the input and adjust the volume from that wall plate up to 200 feet from the amplifier.

The AA50PHD provides 50-watts output power into 25V, 70.7V, or 4Ω speaker systems. Rear panel DIP switch allows for creation of Zone 2 output using either Input 1, 2, 3 or 4. Unit can also be set-up to mute Inputs 2, 3, and 4 based on signal from Input 1 for paging applications where other input sources need to be muted during a page. Input 1 is either Mic or Line input selectable and Phantom Power is an option when using Input 1 Mic input.

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## Specifications

Type Mixer Amplifier  
 RoHS Compliant Yes  
 Safety Listings ETL (UL 60065 Standard)

### Electrical Specifications

Power Output Max. Average Power @ 50Hz-15kHz with .5% THD, 4Ω 50W RMS

Transformer Outputs  
 25V 50W RMS  
 70.7V 50W RMS  
 4Ω 50W RMS

### Front Panel

Power Switch Push Type  
 Indicators Signal, Peak, Limit, Power  
 PHD Test Circuit Push Momentary  
 Level Controls Master, Inputs 1 - 3

### Rear Panel

Inputs Mic / Line Balanced Qty 1, 3 Position PHX Type. 3.5mm Pitch  
 Auxiliary Unbalanced Qty 2, RCA  
 Auxiliary Unbalanced Qty 1, 3.5mm  
 Amp In: Unbalanced RCA 600Ω

Tone Controls Bass ±6dB @ 100Hz  
 Treble ±6dB @ 10kHz

Mute VOX Sensitivity: Pot Rotary, Range (-) 500uV +/-200uV  
 Remote Mute: Contact Closure, 2 Position Phoenix, 3.5mm Pitch

### Remote Level

Type 10V DCV Return  
 Connector 4 Position Phoenix 3.5mm Pitch  
 Control Port Input 2, 3, 4 or Master  
 Supply Port 10VDC Send  
 Ground Port Ground

### Remote Input Select (RIS)

Type Ground Activated  
 Connector 4 Position Phoenix 3.5mm Pitch  
 Inputs Controlled 2, 3, 4

### Control Switch Functions

Zone 2 Assign Inputs 1, 2, 3, 4  
 Mute Receive Inputs 2, 3, 4  
 Phantom Power Inputs 1, 2

Mic/Line Select Inputs 1, 2

### Outputs

Main Transformer Coupled, Balanced, 4Ω, 25V, and 70.7V. Class 2 Rated, Removable 4 Position PHX 5.08mm Pitch, Accepts up to 12 - 24 Gauge Wire, 12A Rating

Zone 2 Unbalanced 600Ω / 10kΩ, Max 1.0V Out, Removable 2 Position PHX 3.5mm Pitch, Accepts up to 18 - 26 Gauge Wire, 8A Rating

Pre Out RCA, Unbalanced 150Ω

### Technical Data

Inputs Total Qty 4  
 Frequency Response 50Hz - 15kHz +/- 3dB  
 Thd+N 0.5% or Less, at 1kHz, Rated Output  
 Input Sensitivity / Impedance  
 Input 1 - Mic Mode 5mv, No Trim, 1200Ω  
 Input 1 - Line Mode 316mV (-10dBV) 1200Ω  
 Input 2, 3, 4 - 316mV (-10dBV) 10kΩ  
 Input 4 - 3.5mm Summed, 316mV (-10dBV) 10kΩ

Signal To Noise Ratio  
 Mic >55dB  
 Line >55dB  
 Telephone >55dB  
 Input 3/4 >75dB

Phantom Power 24VDC

### Power Requirements

AC Mains 120V 60Hz  
 AC Cord 2M, 18 Gauge, NEMA 5-20P  
 Idle Power .07A, 6W, 39 BTU  
 Average Power .28A, 30W, 101 BTU  
 Max Power .86A, 89W, 303 BTU

### Mechanical

Chassis Steel  
 Finish Black Paint on Front and Top  
 Height 3.66" (93mm)  
 Width 8.27" (210mm)  
 Depth 10.87" (276mm)



## Architect and Engineer Specifications

The mixer/amplifier shall control and mix up to four input signals and deliver an audio output of 50 Watts into 4 $\Omega$ , 25V, and 70.7V. The amplifier output shall be transformer isolated with a frequency response 50Hz – 15kHz (-3dB) with less than 0.5% THD at rated output. It shall be capable of operation at 120VAC 60Hz line. The mixer/amplifier shall be convection cooled. The amplifier shall have thermal and short circuit protection.

The mixer/amplifier shall have a switch-selectable MIC/TEL balanced input to accept either low impedance microphone or Tel/Line Level signals with -60/-10dBV sensitivity. The MIC/TEL input shall include a Phoenix (Euro Block) type connector. The MIC/TEL input impedance shall be 600 $\Omega$ . The MIC/TEL input shall include an auto mute (VOX Mute) sensitivity control for Input 1. The MUTE SENSE control will allow threshold adjustment of mute activation. The mixer/amplifier shall include two stereo summing auxiliary inputs, unbalanced, -10dBv, with dual-RCA jacks. The auxiliary input impedance shall each be 10k $\Omega$ . The mixer/amplifier shall also include a summed stereo 3.5mm input. The level for this device shall be controlled at the device and the level shall only be affected by the Master Level control. The mixer/amplifier shall include one Zone 2 output, a transformer isolated 600 $\Omega$  output with a maximum level of 1.0VRMS. The mixer/amplifier Zone 2 output shall be assignable from Input 2 or Input 3 via the rear panel dipswitch. The Zone 2 output shall have one rear panel mounted rotary level control. The mixer/amplifier shall incorporate rear panel terminals via Phoenix connector for the REMOTE MUTE function, controlled by an external switch closure. A rear panel dipswitch shall allow assignment of Input 2, Input 3, and/or Input 4 to respond to the mute function activation. The Mute assignment shall not affect the Zone 2 output.

The mixer/amplifier shall have a Pre-Out RCA unbalanced output. The mixer/amplifier shall have a Power Amp input for use with an external signal processor. The mixer/amplifier shall include the Push Here Diagnostic system test circuitry. This test will allow for automatic testing of the connected speaker lines for wiring and impedance errors. The mixer/amplifier shall include Phoenix connectors for both Remote Level Control and Remote Input Selection which can be activated using the rear panel DIP switches. The Remote Input Selection circuitry shall work with Atlas Sound wall plate WPD-RISRL and allow Inputs 2, 3, and 4 to be remotely connected, selected, and adjusted from the wall plate. The AA50PHD front panel shall include Inputs 1, 2, and 3 level controls as well as a Master Level control adjustment. System Signal, Peak, Limit, and Power LEDs shall also be incorporated. The mixer/amplifier rear panel shall also include bass and treble tone controls (100Hz and 10kHz,  $\pm$ 10dB). The tone controls shall not affect the Zone 2 output. The mixer/amplifier front panel shall include an AC Mains power switch.

Dimensions (W x H x D) shall be 8.27" x 3.66" x 10.87" (210mm x 276mm x 93mm) with feet or 3.48" (88.4mm) H without feet. Front panel finish and material shall be black ABS resin and case finish (and material) shall be black painted sheet steel.