



PA1001G
1-Channel 100W, 70V/100V
Commercial Power Amplifier

Ultra Compact Design with Integrated Video
Pole Mount Support System



1601 Jack McKay Blvd. • Ennis, Texas 75119 U.S.A.
Telephone: 800.876.3333 • Fax: 800.765.3435



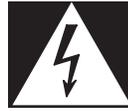
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Important Safety Instructions



The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. **WARNING:** To reduce the risk of fire or electric shock, this apparatus should not be exposed to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
16. To completely disconnect this equipment from the mains, disconnect the power supply cord plug from the receptacle.
17. The mains plug of the power supply cord shall remain readily operable.





WARNING When The Device Is In Use

- To prevent electric shock, do not remove the product cover as there are high voltage components inside. Refer all servicing to Atlas Sound.
- Should any of the following irregularities occur during use, immediately switch off the power, disconnect the power cord from the AC outlet and contact Atlas Sound. Do not attempt to continue operation with the product as this may cause fire or electric shock:
 - Smoke or strange smell coming from the unit.
 - If the product falls or the case is damaged.
 - If water or any metallic objects falls into the product.
 - If the power supply cord is damaged in any way.
 - If the unit is malfunctioning.
- Do not insert or drop metallic objects or flammable materials into the ventilation holes of the product's cover, as this may result in electric shock or fire.
- Do not place any containers with liquid or metallic objects on the top of the product. If any liquid spills into the unit, fire or electric shock may result.
- Never operate this product or touch the power supply cord during an electrical storm, electric shock may result.
- Never exceed the power rating on the product when connecting equipment. Fire and/or property damage may result.
- Operate the product only with the voltage specified on the unit. Fire and/or electric shock may result if a higher voltage is used.
- Do not modify, kink, or cut the power cord. Do not place the power cord in close proximity to heaters and do not place heavy objects on the power cord, including the product itself, doing so may result in fire or electrical shock.
- Ensure that the safety ground terminal is connected to a proper ground. Never connect the ground to a gas pipe as a catastrophic disaster may result.
- Be sure the installation of the product is stable, avoid slanted surfaces as the product may fall and cause injury or property damage.



CAUTION When Installing The Product

- Plugging in or unplugging the power cord with wet hands may result in electric shock.
- Never move the unit with the power cord plugged into the wall, as damage to the power cord may result.
- When unplugging the cord from the wall, grasp the plug, NOT the cord.
- Never install this product in humid or dusty locations, nor in direct sunlight, near sources of heat, or in areas where sooty smoke or steam are present. Fire and electric shock may result.
- Keep all sides of the unit at least 3½" away from objects that may obstruct air flow to prevent the unit's internal temperature rise.



CAUTION When The Product Is In Use

- Never place heavy objects on the product, causing it to fall and/or break, resulting in personal injury and property damage. In addition, the product itself may fall and cause injury and property damage.
- Contact Atlas Sound for instructions on cleaning the inside of the unit. Large accumulations of dust inside the unit may result in heat buildup and fire.
- Ensure that the power supply plug is securely plugged into the wall outlet. Never allow dust to accumulate on the power plug or inside the wall outlet.
- When cleaning the unit or the unit is not to be operated for an extended period, unplug the power cord from the wall.



Introduction

Thank for purchasing the Atlas Sound PA1001G amplifier. This new and innovative professional grade product has been designed from the ground up to include the important features that professional installation personnel require to meet or exceed their customer's expectations. Small and compact, and engineered for reliability, the Atlas Sound PA1001G will provide years of service and flexibility in today's conferencing, background music and paging applications.

Key Features

- 100W x 1, 70v/100v compact power amplifier
- 1RU tall by 1/2 rack wide
- Ultra efficient amplification technology, convection cooled
- Patent pending, through chassis mounting system for use with pole mounted projector systems
- Energy efficient, only 16 watts draw in sleep mode
- Current sense auto turn-on
- Audio sense auto turn-on
- Balanced inputs via Phoenix connector
- Unbalanced inputs via RCA connectors, with separate level controls
- Mix function for two source input
- Unbalanced parallel combine
- Screwdriver adjust level and tone controls
- Rack mountable, single unit or dual units
- VCA port for master level line out with pre or post VCA

Applications

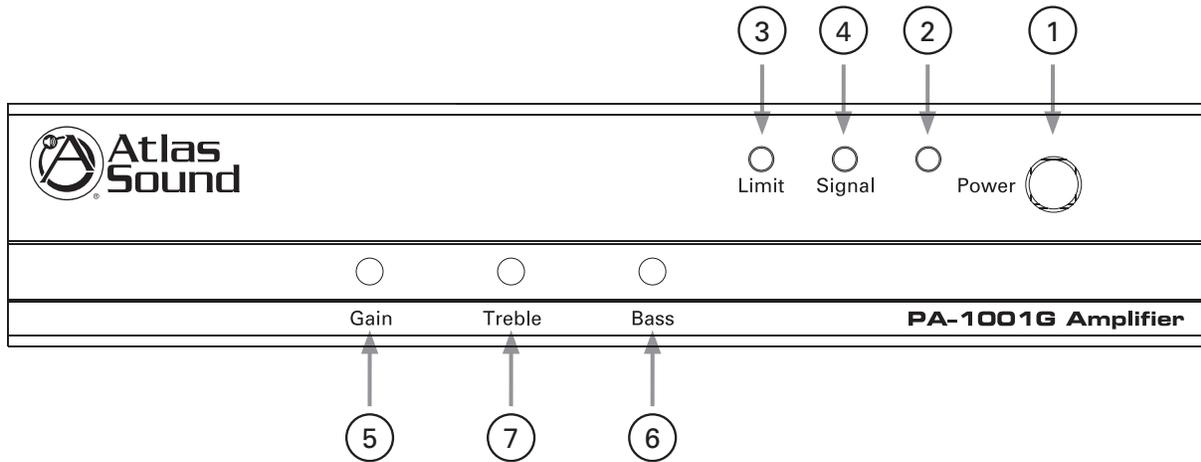
The Atlas Sound PA1001G amplifier can be used for a number of applications. This amplifier features an ultra compact design requiring only 1RU in height and 1/2 rack wide in space. The 100W into a 70v or 100v distributed system gives the power to meet most amplifier demands. The patent pending thru hole chassis design makes it convenient to use with ceiling mounted video projectors. One or two units can be rack mounted also allowing it to be used in more traditional applications. Remote turn on is easily accomplished by either audio or AC trigger sensors. If focused power is required a optional Hi-pass filter is incorporated. Master remote level control is easily done via an external 10k potentiometers and a line out makes easily to daisy chain amplifiers. The PA1001G can be used for many in many ways ranging from boardroom, restaurant, commercial paging and back ground music applications.



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Front Panel



1. Power Switch

This switch turns the AC Mains power to the amplifier on or off.

2. Power Indicator

This LED illuminates Red when the power switch is depressed. Red means the amplifier has AC mains power to the unit and is standby or sleep mode. When LED is Blue the unit is active and will pass audio.

3. Limit Indicator

This LED illuminates Red if either channel of the PA1001G reaches maximum output power or if a fault is detected with in the amplifier. The PA1001G features a true limiter circuit which help prevents the amplifier from hard clipping or from being over driven. An occasional flash of the LED is ok, if the LED is on continuously reduce the input level of the amp. After the reducing the input level and the Limit LED remains on, recheck the load connections to the amp.

4. Signal Indicator

This LED illuminates Green if there is audio signal present at the input of the amp.

5. Input Gain

The Left and Right rotary control varies the amplitude of the signal fed into the amplifier. Turn clockwise to increase and counterclockwise to decrease the signal level. **Note:** This post the RCA mix level control. See mix function below.

6. Bass Control

Normally set at the 12 o'clock position unity gain, rotating clockwise will increase (boost) bass frequencies to a maximum of +6dB at 100Hz. Rotating counterclockwise from the 12 o'clock position will decrease (cut) bass frequencies to a maximum of -6dB at 100Hz.

Note: This feature affects both the Left and Right channels the same.

7. Treble Control

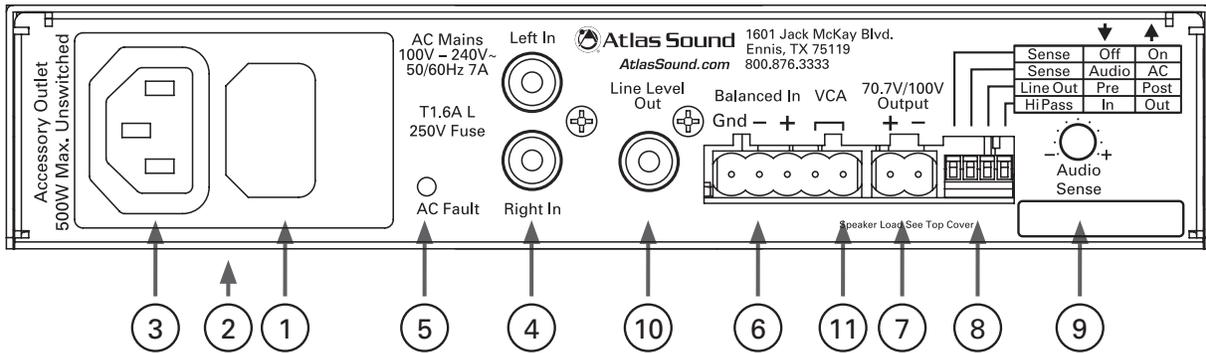
Normally set at the 12 o'clock position unity gain, rotating clockwise will increase (boost) treble frequencies to a maximum of +6dB at 10kHz. Rotating counterclockwise from the 12 o'clock position will decrease (cut) treble frequencies to a maximum of -6dB at 10kHz.

Note: This feature affects both the Left and Right channels the same.





Rear Panel



1. IEC AC Receptacle

Connect this grounded power cord to 100VAC - 240VAC 50/60Hz circuits only. Serious damage may result otherwise.

2. AC Mains Fuse

For 100v - 240v 50Hz - 60Hz operation use Slow Blow T1.6AL 250v, 5mm x 20mm. **Note:** Fuse is internal and should only be changed by a qualified technician.

3. Unswitched Outlet

The un-switched outlet provides power for other devices such as video projectors, CD players or laptop computers. This AC outlet is live all the time as long as the power cord is plugged into a live duplex outlet. Keep the total power draw below 500W. This outlet can also be used to remotely turn on the PA1001G. See AC Sense Trigger for more detailed information (page 9).

4. RCA Input

Unbalanced signals are accepted when using the Left and Right RCA connectors. These inputs are electrically summed into a mono signal.

5. AC Fault Indicator

This LED will illuminate Red if a fault has occurred with the AC spike suppression circuitry. Usually cause for this is a lightning strike, causing a voltage surge. The AC Unswitched outlet may still function but there may be no AC surge or Spike suppression protection for the product connected to the outlet. It is recommended to have the amplifier looked at by certified technician.

6. Balanced Input Connections

Left and Right balanced input signals can be accomplished by wiring the removable Phoenix type connector per the labeling on the rear of the amp. **Note:** The middle pin is the common ground connection for both Left and Right input ground. For unbalanced signals connect the (-) and (GND) pins together.

7. Speaker Connections

A removable Phoenix type connector is supplied to connect your speakers to the PA1001G. It is recommended to use 16-gauge wire or higher for connection to the speaker. **Note:** Do not overload the amp by connecting to many speakers to the amp. It is recommended to use class 3 rated, 16-gauge wire or higher for speaker wiring.



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Rear Panel

8. Four Position Dip Switch Setting

- **DP SW #1 - Sense On / Off** - This switch activates the PA1001G remote turn on sensing circuits via either Audio or AC trigger. When the switch is in the "DOWN" position, all trigger circuits are bypassed. The only way to turn the amp On or Off is via the mains AC Power Switch located on the front panel. When in the "UP" position either the Audio or AC Sense turn on Triggers is activated. See switch 2 for selection.
- **DP SW #2 - Sense AC / Audio** - When Switch 1 is in the "UP" position you may select the type of remote turn on trigger.
Note: The AC Mains Power Switch must also be in the "on" position.
AC Trigger - This switch function is used if you have an external device is plugged into the Unswitched AC outlet and you want that device to turn on or activate the amplifier. The "UP" position of Switch 2 is for AC trigger, meaning if a device such as a projector is plugged into the Unswitched AC outlet and is turned on the AC trigger circuitry will sense current draw and turn on the PA1001G. **Note:** To trigger the AC sense circuitry you need a minimum of a 100mA of current draw to activate the PA1001G.
Audio Trigger - This switch function is used if you have an external audio source plugged into either the RCA or Balanced inputs and you want that audio to turn on or activate the amplifier. If Switch 2 is in the "DOWN" position it is in Audio Sense mode. When audio is present at either the RCA or Balanced inputs, the trigger circuitry will turn on the PA1001G. See Audio Sense control below for sensitivity adjustments.
- **DP SW #3 - Line Out Pre - Post VCA** - This switch function works in conjunction with the Line Out Jack and the Remote Level Control feature. This switch determines if the Line Out signal is fixed (Pre) or works with the Remote Level Control (Post). The "Down" position is Pre Remote Level, meaning the Remote Level does not affect the signal of the Line output and the "UP" position is Post or after the Remote Level Control, meaning the level will change with the Remote Level Control.
- **DP SW #4 - High Pass Filter In / Out** - When this switch is in the "UP" position no input filter is applied. With the switch in the "Down" position a 100Hz 12db Hi-Pass filter is engaged at the input of each channel.

9. Audio Sense Trigger Adjustment

This potentiometer works when Dip Switch 1 is set to "Down" or "sense on" position and Dip Switch 2 is in the "UP" or "audio" position. By rotating the potentiometer clockwise (right) the trigger point becomes less sensitive to turn on, meaning it will take more audio signal at the input to turn on the amp. **Note:** Once the PA1001G has sensed audio signal and has triggered on, it will take 15 -20 min for it revert back into sleep mode even when there is no audio present. The PA1001G level controls have no affect on this feature.

10. Line Level Out

This unbalanced RCA output allows you to feed the audio signal from the PA1001G amplifier to another amplifier. You can select to have a fixed signal or you can assign it to work with the Remoter Level Control. See Line Out Function Switch for settings.

11. Remote Level Control VCA

Remote location of the level control can be accomplished via the VCA control port. Connect the two leads from the optional remote volume control to these terminals. Set the system's maximum levels using the amplifier level controls and then use the remote VCA potentiometer as an attenuator from the maximum levels set.

WIRING THE AAVCC-10K VCA POTENTIOMETER - Atlas part number, AAVCC-10K, consists of a single gang "Decora" style wall plate with a pre-mounted 10K potentiometer and knob. Use two conductor unshielded wire connecting the plot terminals marked "VCA" on the back of the amp.





Installations and Considerations

Cabling:

The PA1001G can be used with either balanced or unbalanced sources, and the outputs can be used with either balanced or unbalanced loads, provided the proper cabling is used. A balanced line is defined as two-conductor shielded cable with the two center conductors carrying the same signal but of opposite polarity when referenced to ground. An unbalanced line is generally a single-conductor shielded cable with the center conductor carrying the signal and the shield at ground potential.

Balanced Input - Use 2 conductor w/shield for low level signals of 20-22 gauge is best. Maintain the proper polarity, + to +, - to - and shield to ground. **Note:** The ground center pin of the Phoenix connector is common for both channels.

Unbalanced input - For the RCA inputs pre-made RCA cables can be purchased from vendors to simplify interconnection to external devices. For unbalanced signals using the Phoenix connector connect the (-) pin of the amplifier input to the GND center pin and the (+) pin to the positive of the source.

Speaker outputs - Use 2 conductor unshielded wire of the appropriate gage. If you are unsure about this, contact Atlas Sound Tech Support at 1-800-876-3333. Make sure you know how many speakers you need and what load value you intend to use. It is recommended to use class 3 rated, 16-gauge wire or higher for speaker wiring.

Audio Sense Control Adjustment (Rear Panel)

The PA1001G can be remotely turned on via the two stereo audio inputs. The PA1001G mains power switch must be on to activate or adjust Audio Sense trigger control. Prior to power on the AC Mains Power Switch of the PA1001G follow the instructions below. **Note:** Once the PA1001G has sensed audio signal and has triggered on, it will take 15 -20 min for it revert back into sleep mode even when there is no audio present. Also, the PA1001G level controls have no affect on this feature.

1. First select the proper Dip Switch setting to **"Sense ON"** and **"Audio ON"**.
2. Set the PA1001G front panel level controls to 12 o'clock position.
3. Then plug a audio component such as a computer, DVD player or CD player into the balanced or RCA unbalanced inputs of the PA1001G. **Note:** Prior to turning on the AC mains of the PA1001G make sure the source level is turned fully down or off (Mute).
4. By using the potentiometer adjustment labeled **"Audio Sense"**, rotate fully clockwise. The AC mains Power LED should be Red still.
5. Slowly apply audio signal from audio source until the AC Mains Power LED turns from Red to Blue. Whenever there is an audio signal present at the inputs, the PA1001G automatically switches itself into from standby or sleep mode to amplifying the audio the signal into the room loudspeakers If the PA1001G power LED does not turn from Red to Blue the amp is still in sleep mode. Slowly rotate the potentiometer counter clockwise with audio present until the LED changes from Red to Blue. If the adjustment is fully counter clockwise and the amp is still in sleep mode it may be necessary to increase the audio source output signal. **Note:** By rotating the potentiometer clockwise (right) the trigger point becomes less sensitive to turn on, meaning it will take more audio signal at the input to turn on the amp.
6. For proper audio triggering some experimentation may be necessary, but once it is set properly the PA1001G will not need readjusting. Check the operation by turning audio source on and off. **Note:** If the sensitivity is set too high, random switching may occur as the unit senses the residual noise level and may falsely trigger. If this happens slightly rotate the potentiometer clockwise.
7. Adjust the amplifier level controls and audio source to the desired listening level.



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PA1001G **Power Amplifier**

Owner's Manual

Placement and mounting of the PA1001G

Turn off all equipment before making connections. Mount amplifier in a standard-width 19" rack. It can be mounted above or below anything that does not generate excessive heat. Although the unit's chassis is shielded against radio frequency and electromagnetic interference, extremely high fields of RF and EMI should be avoided.

Ventilation

The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the PA1001G should not be situated on sealed cabinet or on a shelf with obstacles on it that may impede the flow of air through the ventilation openings. It is recommended that if the amp is not used in an open air pole mount that it be rack mounted into a commercial rack.

Heat

The PA1001G should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce excessive heat. Ambient temperatures should not exceed 113° F (45°C) when equipment is in use.

Video Pole Mount

The PA1001G is ideally suited to be used in board or class room video / audio applications. The PA1001G incorporates a 2" diameter hole through the center of the chassis to allow for sharing the same support pole that standard ceiling video projectors mount to. Enclosed with the PA1001G is the support bracket and hardware to mount the PA1001G to a pole. Follow the below instructions for proper installation.

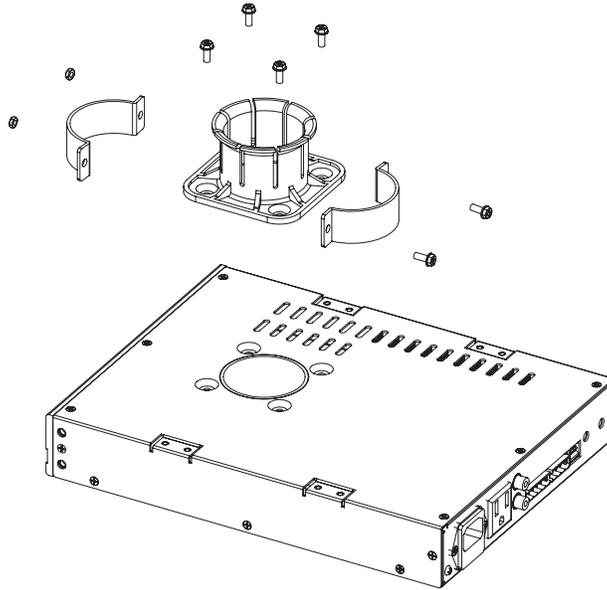
1. Make sure the pole you are mounting the amp to does not exceed 2" or 51mm. Common pipe to use for video projector mounting is 1.5 ID plumbing pipe. The OD for this pipe is 1.9" or 49mm.
2. Make sure the PA1001G is unplugged from the AC source.
3. Remove the top and bottom hole plugs.
4. Secure the pole support bracket using the four screws as shown in the diagram below. **Note:** the support bracket may be installed on the top or bottom of the amplifier.
5. Slide the amplifier up the pole. Do not force the amp onto the pole. Pay attention to orientation of the amp.
6. Secure clamp by tightening the two ½ clamps around the support bracket. Do not over tighten.
7. Once the PA1001G is secured to the pole do not mount any additional PA1001Gs to the same bracket. The support bracket is only designed to support one PA1001G.



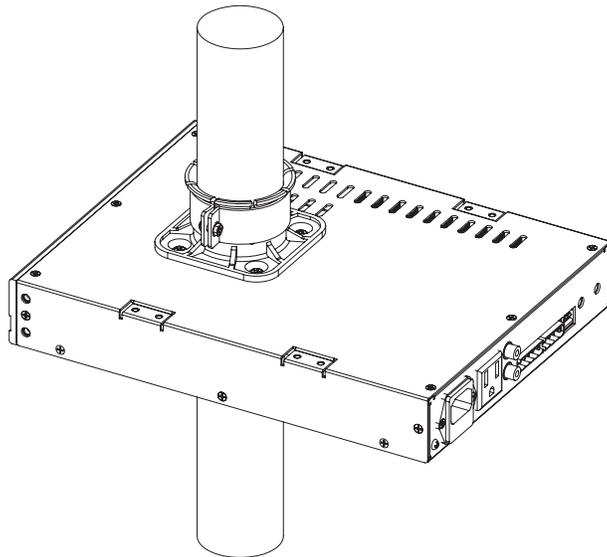
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Pole Mount Pre Assembly



Pole Mount Final Assembly





PA1001G Power Amplifier

Owner's Manual

PA1001G Specifications

Type Power Amplifier
Safety Listings TUV UL60065 Standard, CE, Class 3 Rated

Electrical Specifications

Power Output 100 Watts @ 70v into 50 Ω Load, 100 Watts @ 100v into 100 Ω Load RMS 1% THD

Front Panel

Power Switch Push Type
Indicators Limit, Signal, Power
Controls Gain, Treble, Bass

Technical Data

Frequency Response +/-3dB 30Hz - 20 KHz Hi-Pass Filter Not Engaged
+/-3dB 100Hz - 20KHz Hi-Pass Filter Engaged
Thd+N 0.2%
Input Sensitivity RCA Unbalanced Summed 50mV - 320mV
Adjustable Balanced 320mv
Input Impedance RCA Unbalanced 10k
RCA Balanced 20k
Signal To Noise Ratio -100dB below rated output (A-weighted)
Protection Circuits AC Fuse (T1.6A 250v 5mm x 20mm), Thermal, Short Circuit
Audio Turn On Trigger 1mv - 20mv
AC Turn On Trigger 100mA

Power Requirements

AC Mains 120V 60Hz
Power Consumption 10w Sleep Mode, 16w Active idle model, 165 full load 70v

Mechanical

Dimensions 8.5" x 1.75" x 13.5" (216mm x 45mm x 343mm)
Weight 4.9lbs (2.4Kg) Unit



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Limited Warranty

All products manufactured by Atlas Sound are warranted to the original dealer/installer, industrial or commercial purchaser to be free from defects in material and workmanship and to be in compliance with our published specifications, if any. This warranty shall extend from the date of purchase for a period of three years on all Atlas Sound products, including SOUNDOLIER brand, and ATLAS SOUND brand products except as follows: one year on electronics and control systems; one year on replacement parts; and one year on Musician Series stands and related accessories. Additionally, fuses and lamps carry no warranty. Atlas Sound will solely at its discretion, replace at no charge or repair free of charge defective parts or products when the product has been applied and used in accordance with our published operation and installation instructions. We will not be responsible for defects caused by improper storage, misuse (including failure to provide reasonable and necessary maintenance), accident, abnormal atmospheres, water immersion, lightning discharge, or malfunctions when products have been modified or operated in excess of rated power, altered, serviced or installed in other than a workman like manner. The original sales invoice should be retained as evidence of purchase under the terms of this warranty. All warranty returns must comply with our returns policy set forth below. When products returned to Atlas Sound do not qualify for repair or replacement under our warranty, repairs may be performed at prevailing costs for material and labor unless there is included with the returned product(s) a written request for an estimate of repair costs before any nonwarranty work is performed. In the event of replacement or upon completion of repairs, return shipment will be made with the transportation charges collect.

EXCEPT TO THE EXTENT THAT APPLICABLE LAW PREVENTS THE LIMITATION OF CONSEQUENTIAL DAMAGES FOR PERSONAL INJURY, ATLAS SOUND SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT, CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING OUT OF THE INSTALLATION, USE OR INABILITY TO USE THE PRODUCTS. THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Atlas Sound does not assume, or does it authorize any other person to assume or extend on its behalf, any other warranty, obligation, or liability. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Service

Should your PA1001G require service, please contact the Atlas Sound warranty department at 1-877-689-8055, ext. 277 or support.atlassound.com to obtain an RA number.

Atlas Sound Tech Support can be reached at 1-800-876-3333 or support.atlassound.com.

Visit our website at www.AtlasSound.com to see other Atlas products.

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