



# HPA-1 Owner's Manual

## WARNING

**Water and moisture:** This device should not be used near water ( as per example, near a bathtub, washbasin, kitchen sink, laundry tub, wet basement or swimming pool ). Care should be taken such that objects do not have the opportunity to fall, and that liquid is never spilled onto or into the device enclosure through openings.

**Power Sources:** This device must be connected to a mains power source in strict accordance with the supplied product owners manual. Please verify that the AC mains voltage specified in the product manual matches those requirements indicated on the unit and the AC voltage provided to your location by the power company. The product **MUST** be connected to a MAINS socket outlet with a protective earthing connection.

**Power Cords:** Pass Labs provides a power supply cord that meets all legislated requirements for the market in which the product was originally sold. If you choose to substitute an after-market product we urge you to choose one that is fully safety rated by the necessary local authority.

Power supply cords should be routed so that they are not likely to be walked on, abraded, or pinched by items placed on or against them, paying particular attention to cords where they enter plugs or exit from a device. Never under any circumstance insert a cut or damaged power cord into a mains power socket. Cables should never be connected / disconnected with equipment powered up. Failure to heed this warning may damage or destroy equipment.

**Ventilation:** Power-amplifiers run warm, but you should be able to place your hands on them without discomfort. You must allow for this heat in installation, by providing for free air circulation around the product. Leave a minimum of 6" of space around the amplifier. The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc.

### Other Warnings:

No naked flame sources, such as lighted candles, should be placed on the apparatus; This amplifier is suitable for tropical climates under 2000m and ambient temperatures of 40 degrees C or less.

**Servicing:** To reduce the risk of fire, electrical shock or other injuries, the user should not attempt to service the device beyond that which is described in the operating instructions. All other servicing must be referred to qualified service personnel.

**For Units With Externally Accessible Fuse Receptacle:** Unplug the device from all sources of power before changing or inspecting any fuse. Replace fuse with one of same physical size, type and rating as that specified by the manufacturer for that product.

### Country Specific Warnings:

China: For use at altitude 2000m or lower.

Norway: Apparatet må tilkoples jordet stikkontakt.

Sweden: Apparaten skall anslutas till jordat uttag.

Finland: Laitte on liitettävä suojakoskettimilla varustettuun pistorasiaan.

Denmark: Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.

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## **Introduction:**

Pass Labs' HPA-1 is capable of delivering full-range dynamics across the entire frequency range, even when driving headphones that present difficult loads in terms of impedance or power consumption or both.

Pass Labs' designers knew that in order to stand out from the crowd, and satisfy their demanding customer base, the HPA-1 had to establish higher standards for audio performance. That has been accomplished first, by the conceptual approach of designing the HPA-1 as a real Class-A power amplifier, and not as an accessory offering only incremental performance gains. Second, by cutting no corners in circuit design, while omitting unnecessary frills. Thirdly, by sparing no necessary expense in execution.

The foundation of the HPA-1's engineering is a custom, low-noise shielded toroidal power transformer with a Faraday shield between windings as well as a mu-metal shield around the circumference, feeding a discreet low noise regulated power supply for the audio circuits. The importance of the power supply is often overlooked and plays a large part in overall performance of the amplifier. The HPA-1's amplifier circuits are low-feedback, wide-bandwidth discreet designs employing a J-Fet input stage and a Mosfet output stage biased into Class A-biased direct-coupled output stage. The HPA-1 easily drives headphones presenting loads from 15 to 600 Ohms, particularly excelling on planar headphone designs. The sound is rich and detailed.

The HPA-1 has a single high-quality "locking" headphone jack on its front panel, two sets of single-ended analog inputs via RCA jacks on the rear panel, and also a set of switchable "Preamp" line-level output jacks on the rear panel. There are no compromises with the HPA-1 used as a preamp and it will compete against contemporary preamps. The rear panel holds the power switch and fuse. Volume control is via a hefty rotary knob connected to an ALPS Potentiometer or circuit. The other front-panel controls are three pushbuttons, to select inputs or to engage the Preamp output.

The substantial casework is the customary and well-recognized brushed aluminum shared with other Pass Laboratories products.

Thank you for purchasing this "product". It is my sincere hope that you will enjoy its sound as much as we do.

*Pass Labs*

## Basic Operation:

The unit is designed to stay on at all times. The power switch is located in the rear. When the power is turned on the unit goes into a mute state for twenty seconds, this is to allow the circuitry to stabilize. During this period no functions are available. During the mute period the power led will flash. When the unit goes out of mute into operate mode the power led will stop flashing and stay on.

The unit has two inputs that can be selected from the front panel. The unit also has a preamp function, which is selected from the button on the front panel. When the preamp function is engaged the headphone output is disconnected, only one output either headphone or preamp is available at any one time.

The unit gets to optimum performance after about one hour after turn on. In the event of a power loss the unit shuts off and upon restoration of power the unit will go through the mute cycle and return to the state it was in prior to the loss of power. It will



remember the last input and function and will return to that setting before the loss of power. This is also true when the unit is switched off with the power switch.

It is recommended that the unit stay on at all times, if you are away for an extended period of time you could shut the unit off.

## Features:

Works with headphones with impedances of 15 ohms to 600 ohms

Designed as a power amplifier rather than a typical headphone amplifier to be able to drive low impedance planar headphones.

Low feedback wide bandwidth discrete design.

Class A direct coupled Mosfet output stage

Custom low noise Toroidal power transformer with a Faraday shield.

Discrete regulated power supply for audio circuits.

Locking Headphone jack.

## **Locking Headphone Connector:**

The Neutrik locking headphone connector has become the de-facto standard in the broadcast world because of its rugged reliability. But beyond that it has special attributes, worthy of note which make it ideal for our purposes and your listening pleasure. First and foremost the Neutrik locking connector provides an isolated signal ground connection for greater signal purity.

The high contact pressure and positive locking mechanism of this piece work in conjunction to maintain the best possible signal integrity between the headphone amp circuit and the headphones. The silver contacts are rated to reliably carry 10A of current without overheating and are largely self cleaning. If there is a better sounding and more trouble-free 1/4" audio jack, we've yet to experience it!

In use the locking mechanism is automatic in action and requires little or no additional insertion force. To disconnect the red button on the front of the connector must be pushed in and held at the same time as the plug is removed from the connector. It is most convenient to depress the button with the thumb while holding the plug with thumb and forefinger of the same hand. In use this action becomes automatic.

## Maintenance:

**Leave it on or turn it off:** The product is designed to be left on all the time. The exception to this might be a case where the preamp will not be used for an extended time - in that case it can be turned off.

**Cleaning:** The finish can be damaged by harsh cleaners and abrasive cloths. We find a damp soft cloth works best.

**Replacing the fuse:** The fuse should only be replaced with the same type and size as indicated on the rear. Audio Specialty FUSE: NOTE: The "Overload" and "Time Delay characteristics" will differ slightly (due to the different metallurgy of the fuse elements) between commercial grade and audio grade fuses. We can't guarantee that your audiophile grade fuse, won't blow at a different in-rush current threshold, than your stock commercial fuse. Use of other than approved fuses, may invalidate your product warranty and result in product damage.

How to replace the fuse:



## HPA-1 Specs:

Gain:	8 dB
Frequency Response:	10hz – 100k -1 dB
Output Power:	200 mW (into 300 ohms)
Output Power:	3500 mW (into 20 ohms)
THD + Noise:	< 0.005 at 1V out
Input Impedance:	50K Ohm
Output Impedance:	< 2 ohms
Power Consumption:	23 Watts
Unit Dimension:	11 w x 13.5 d x 4 h inches
Unit Weight:	14 Lbs

## Warranty Information

We go through great effort to make a soundly engineered, and superbly performing product of lasting durability. But we also understand that things infrequently go wrong, if you have any questions or problems please contact either your dealer or the factory, we are here to support the product and you, the user.

All Pass Laboratories products purchased new from an authorized Pass Laboratories dealer in North America are covered by a transferable, limited 3-year warranty. This warranty includes all parts and labor charges incurred at the factory or factory specified repair facility, exclusive of any subsequent or consequential damages. Damage due to physical abuse is specifically excluded under this warranty.

For this warranty to apply the customer is responsible for returning the product unmodified to the factory within the specified warranty period. The customer assumes all responsibility for shipping and insurance to and from the factory or a factory specified repair facility. The conditions and stipulations of this Pass Laboratories warranty only applies to units originally sold new through an authorized dealer. Warranty on factory repair is 60 days and covers only the scope of the original repair.

Non-North America customers should consult with their original Pass Labs dealer or distributor for warranty repair instruction prior to contacting the factory or shipping product to the factory for repair.

Non-North American product must be returned to the country of origin for warranty service. Foreign distributors are only required to offer warranty service on Pass Laboratories product that they have imported, verifiable by serial number.

Please note: Conditions of warranty service and customer rights for product purchased outside the United States may vary depending upon the distributor and local laws. Please check with your local distributor for specific rights and details.

Any modifications to Pass Laboratories products that have not received written factory approval nullify all claims and void all provisions of the warranty and liability by the maker or authorized distributor. Should a modified product be returned to the factory for repair the owner will be required to pay all necessary charges for the repair in addition to those charges required to return the product to it's original configuration.

In the case of safety issues, no product shall be returned to the customer without those safety issues being corrected to the most recent accepted standards.

Removal or alteration of original Pass Labs serial numbers voids the factory warranty. Product with altered or missing serial numbers will be suspect as counterfeit or stolen product.

Pass Laboratories will not repair or in any way indemnify any counterfeit or cloned product. Pass Laboratories does not offer products in voltages intended for international markets either to authorized Pass Labs dealers or to third parties located in the United States or Canada.

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