



## WARNING

### For your protection please read the following:

**Water and moisture:** This device should not be used near water ( as per example, near a bath-tub, 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.

**To Disconnect the Amplifier:** To safely disconnect the amplifier from the AC you must either remove the AC power cord from the amplifier, or switch the AC breaker OFF at the rear of the amplifier.

**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;

Multiple speakers: If multiple speakers are connected to the monoblocks, the total impedance the amplifiers sees should be 8 ohms or greater.

These amplifiers are classified as a professional products and as such the installation must be done by professionals. The speakers terminals are HAZARDOUS LIVE and any external wiring to these TERMINALS requires an INSTRUCTED PERSON or use ready made speaker cables. 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.

## READ ME FIRST

I fully realize that many, if not all, owners will rush to hook up the amplifier without reading this operating manual.

However, this amplifier is different in a number of ways, and if you only read these pages you will probably save us both some time and trouble.

**Heat and Ventilation** - The X.8 and XA.8 amplifiers consume quite a bit of power during operation and convert most of it into heat. Pick a location where the amplifier can get some fresh air to remove the heat. Do not enclose the amplifier in a closed cabinet. **Give it lots of space.**

### CAUTION!

*Before operating this amplifier, verify that the voltage label near the AC input connector on the amplifier indicates an operating voltage compatible with the voltage level of the electrical outlet you intend to use. In all instances the amplifier requires a 50hz- 60hz supplied electrical service.*

*Do not defeat the safety purpose of the polarized or grounding type power plug supplied with this product. A grounding type plug has two blades and a third grounding prong. The grounding prong is provided for your safety. If the provided power cord plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.*

*The mains power cord is intended to be the safety disconnect device for this apparatus and shall remain accessible and operable at all times.*

*Unplug this apparatus during lightening storms or when unused for long periods of time.*

On the rear panel is a master switch and additionally a fuse holder on the smaller amps. **The fuse should only be replaced with the same type and rating as listed on the rear panel.**

Please consult the Pass Laboratories factory if you have any question on these fuses or need replacements. The larger amps do not have any user serviceable fuses. On these larger amplifiers the rear panel switch is a thermal magnetic circuit breaker.

## Input Connection and Input Impedance

The amplifiers take either a single-ended (RCA) or balanced (XLR) input connection. The input impedance is 50 Kohms single-ended and 100 Kohms balanced, and the input capacitance is just a few picofarads so anything will drive it. If you are using RCA inputs, then you want to use the gold input jumper to short the (-) input (pin 3) of the XLR connector to ground (pin 1) as shown:



## Output Connection

You can hook this amplifier up to any normal loudspeaker without danger of damage. Note, however that both the (+) Red output connection and the (-) Black output connection are live. There is no ground reference at the speaker terminals. The black (-) speaker terminal must never be treated as ground.

This can be important when you are hooking up active sub-woofers to the output of the amp – if you need a signal ground connection then use the white ground terminal provided on the rear panel.

The white signal ground connection is not a safety ground. Safety ground is provided only by the detachable power cord. Never defeat the safety purpose of the power cord.

### NOTE

*The Audio outputs of this power amplifier are considered class 2 (CL2) circuits in North America. This means the wire connected between the amplifier and the speaker(s) shall be rated at minimum Class 2 (CL2) and shall be installed according to the U.S. National Electrical Code (NEC) Article 725 or Canadian Electrical Code (CEC) section 16.*

## The Meter

The meter is driven by an independent circuit that reflects the bias current through the output stage. Minor variances are normal. A meter reading full scale indicates an amp at or near maximum output.

Please note that the meter wand location is different between the X and XA amps. On the X amps, the wand sits at around 10 o'clock, whereas on the XA amps the wand sits at around 12 o'clock.

## Operation

After proper connection you can turn the amplifier on via the switch on the front panel or by placing a 12VDC voltage on the remote turn on terminals on the back panel; once the rear panel circuit breaker is on. The stand-by LED will light up, the meter will light up, and the meter will slowly move to near the center position of the dial. The amplifiers take a while to fully warm up, usually about an hour or so.

## Introduction

For many years there has been considerable faith that if we simply keep improving the measurements of components such as amplifiers then they will sound better. Initially this was truly the case – equipment was sufficiently flawed from an objective standpoint that better measurements matched up with subjective experience.

At some level of objective quality there started to be a disconnect, and some audiophiles began to lose the faith. One of the responses to this was to examine more exotic sources of distortion in the equipment while some others simply worked to continue to reduce the flaws that were already understood. There's no doubt that some real progress resulted from these efforts, and now you can purchase products at reasonable prices which measure far better than the old stuff.

But the disconnect between the customer's perceptions and the measurements persists, and there have been cases of state-of-the-art engineering resulting in economic failure, apparently because people didn't care for the sound.

Well, of course you are dealing with people, and that will complicate any endeavor. The customer wants what the customer wants. I have heard arguments that audiophiles are irrational, that decisions are based on appearance or cost or advertising. Certainly there is plenty of that, and there have been plenty of blind tests that have demonstrated that “audiophiles can't hear the difference”, *at least in the context of that test.*

But I don't think that's the whole story. My experience is that under the right conditions the customer can often hear the difference, and his observations are not to be ignored.

First, it has to be acknowledged that the science of cognitive perception is still in its infancy, and the ear is not really a microphone and the brain is not a tape recorder. The data we do have on this subject is a little like quantum mechanics – we have to change our view to make sense of the illusions and paradoxes that accompany the interpretation of sensory input.

With regard to amplifiers at least, I think we already have the measurement data in hand. The problem is in our failure to interpret it with respect to human perception.

This puts some emphasis back on listening tests - extensive long-term tests with

reliable listeners and familiar equipment and environments. This is not a cheap and easy procedure. Even assuming that the listener(s) really can hear, we still have the vagaries of individual taste, and not a large population of qualified listeners and systems.

In the end, even if we can design around the perceptions of a small qualified listening panel, we are still inevitably aiming at a minority audience in the real world. That's OK with me – One percent of this market is still a lot of amplifiers. The thing is, I don't think the audiophile wants technical perfection. He wants to be happy.

Look at it this way: In the market there are rows of bottled drinking water. Some are contaminated with natural mineral content and carbonated, some have sugar-based substances added, some have been harvested from glaciers. They all appear to be more expensive than gasoline. Where is the pure distilled water? Probably on the bottom shelf, possibly even elsewhere in the store. It seems to be the least popular, even if it is cheaper than gasoline.

Since the release of the X.5 series seven years ago we began working on what has now become the X.8 amplifiers. They embody everything we know.



## **Warranty:**

Please check with the factory authorized distributor in the country where you are purchasing this product for specific warranty information.

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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