

## XP-32 Owner's Manual

For your protection please read the following:

**Water and moisture:** Electrical devices 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:** An electrical device must be connected to a mains power source in strict accordance with the supplied product owner's 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.

**Grounding:** Adequate precautions should be taken so that the grounding provisions built into an electrical product are never defeated.

**Power Cords:** Pass Laboratories 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 Cord Protection:** 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.

**Power and Signal:** Cables should never be connected / disconnected with equipment powered up. Failure to heed this warning may damage or destroy equipment.

**Ventilation:** Power-amplifiers run hot, 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. Electronics should not be subjected to sources of excessive radiant heat. Excessive heat can shorten the life of the product and may cause the electronics to self-protect and shut down.

**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.

## Introduction:

Thank you for purchasing the Pass Labs XP-32 line stage, we trust it will entice you to re-discover your favorite recordings and explore new musical delights.

At Pass Laboratories we do not change products or offer a new model unless we believe the changes offer significant improvements over the previous version. As a result we typically experience products with a seven to eight year production run.

We are constantly working on and listening to new circuits and components, increasing our knowledge and seeking better sound and enhanced product reliability. Over time we find enhancements worthy of putting into production and significant enough to warrant a change in design. That time has come for the XP-32.

The new design uses double shielded low noise torroids in a true dual mono topology for the gain channels and another transformer, linear power supply dedicated to the control architecture. The use of three fully independent power-supplies in the control chassis results in dramatically lower radiated noise and far better THD+Noise figures in the gain stages. Residual circuit noise becomes paramount at low signal levels. By going to extreme lengths to lower noise we enjoy better resolution and dynamics in the music.

In the two gain chassis we continue to use our favorite NOS Toshiba's but with larger and higher biased output stages in a topology very similar to that used in the Pass Labs "Flagship" Xs Preamp

The larger output stages bring practicality to much longer and multiple cable runs, both balanced and single ended and gives us the advantage of simplifying our single ended output circuitry while simultaneously increasing performance.

The volume control is a single stage topology, it features greater range, 0.5dB volume steps while being quieter and more dynamic. Overall this makes for a quieter and more versatile control center for your music system. The XP-32 measures spectacularly well but more importantly it stands out sonically

## Setup:

Please read and understand the operational instructions and safety issues associated with this product. We go through great effort to make a soundly engineered and superbly performing product of lasting durability. If you have any questions we are anxious to assist in addressing them. Do not hesitate to contact either your dealer or the Pass Labs factory directly. We are here to support the product and you the end-user.

As with all things electrical, the power cord should be the last item attached to the pre-amp and the very first cable to be removed anytime you hook-up or remove any equipment from the signal chain.

The JAE umbilical cable should never be connected or removed without turning the XP-32 off from the rear panel power switch or by unplugging the AC Power cord. When installing the circular connector on the JAE umbilical, care must be exercised to fully seat the connector and bottom the ring nut. The connectors are keyed and can only go in one way. The larger tab goes to the top. The ring nut is provided with a conventional right hand thread that should never require any use of force or tools to connect or disconnect the cable from either chassis. Clockwise rotation of the ring nut to secure the connector, counter-clockwise rotation to remove.

The gain channels may be placed in proximity of the power supply control unit (either on top of or underneath) with negligible loss of performance due to the extensive shielding afforded the power supply. Some separation of the chassis is however encouraged. The umbilical cables as supplied are 1.5m (5ft) in length to allow for convenient component placement.

The XP-32 draws roughly 70W of power in operation. The pre-amplifier's actual voltage and current rating are indicated on an affixed tag on the rear of the pre-amplifier. Please verify that the indicated voltage requirements of this product are consistent with the supplied power at your intended point of use.

We have provided a standard IEC AC power cord that fits into the IEC 320 line receptacle / switched inlet module at the rear of the amplifier. In addition to providing for power cord attachment this inlet module additionally incorporates a power switch and fuse holder. The fuse in all cases will be a 5mm x 20mm non re-settable time delay glass fuse. Proper fuse value is indicated on the back of the amp.

The IEC inlet provides for a safety ground via the AC mains power cord. In addition to safety this ground is necessary for proper noise rejection. Do not defeat this ground connection.

NOTE: the "Overload" and "Time Delay" characteristics of UL and CE rated fuses are not identical. Additionally these characteristics will differ slightly (due to the difference in

metallurgy of the fuse elements) between commercial grade and audiophile grade fuses. We cannot guarantee that your audiophile grade rated fuse will blow at the proper in-rush current, and in doing so provide adequate protection to yourself or this unit.

Use of other than the approved / indicated fuses may invalidate your product warranty, result in product damage and potential risk to life and property. Should you desire or have need to change the fuse, please contact your dealer or the factory.

On each gain channel there are 5 numbered inputs, one dedicated home theater input and a tape loop (total of 7 useable inputs) Each of the 7 inputs accept either single-ended (RCA) or balanced XLR cables.

On each gain channel there are two pairs of outputs associated with volume controls. One main output and one slave output (either RCA or XLR). The "slave" output may be set equal to or less than the "main" output by use of the "small volume control knob on the gain channels.

Once set both "main" and "slave" outputs track each other through the main volume control on the control chassis. Having two available and relatively independent outputs with a single volume control allows for bi-amping using amplifiers of different gain or drivers of different sensitivity.

The output of the "Tape-loop" is at 0dB (unity gain) output which allows for convenient recording (independent of and bypassing the volume control).

Balanced inputs and outputs are via XLR connectors. Single-ended input and outputs are via RCA connections. The XLR connections in all instances conform to AES/EBU standards, where Pin 1 is grounded, Pin 2 is positive signal and Pin 3 is inverted signal.

The single-ended ground (RCA Shell) is in parallel with the Balanced ground (Pin 1 of the XLR) on the inputs.

The input from the RCA feeds a summing junction that maximized the patented supersymmetry (X circuit) and preserves the balanced character of the XP-32 from input to output when fed from a single-ended source.

## Operation:

The XP-32's front panel controls and display are straight forward and intuitive. We encourage you to become familiar with their operation prior to use.

After all the input and outputs are connected and double checked, you can now attach the AC power cord and turn the unit on from the rear panel switch located next to the AC inlet on the rear of the power-supply / control unit.

On the front panel the left-most "MUTE" switch when on silences the output of the pre-amp, illuminates the associated LED and blanks the volume step numbers in the alpha-numeric front panel display. Pressing the mute a second time re-establishes output, extinguishes the associated LED and re-instates the volume step numbers in the display

The front panel "MODE" switch cycles the front panel display through three different levels (Bright-Dim-Off) Using any control function of the XP-32 with the display "off" will momentarily bring the display back up to the dim setting.

The two input selector switches (designated by left and right pointing arrows) then alter the displayed active input, 1 through 5. The two additional inputs (home theater and tape) are selectable only from the hand remote.

Before selecting the home theater pass through (pass thru on the hand remote), for the first time, it is imperative that the input device on the HT input have it's gain set to zero Failure to follow this precaution could result in a volume level intolerable to both ears and speakers. Selecting home theater bypass, sets the gain of the pre-amplifier to 0dB (gain of 1x)

When the Pass Thru function is selected volume control of the system is under control of the device connected to "Pass-Thru" and the XP-32 is essentially invisible. When Pass-Thru is selected the display will show "PASS THRU" and the volume will quickly ramp from 000 to 179 in both right and left channels (each step representing 1/2 dB) Volume step 179 represents the afore mentioned 0dB gain for use with components such as a home theater processor that best function with their own internal volume controls. (NOTE: you may set any numbered input to "Unity" (0dB by manually selecting an indicated level of 179 on the XP-32 display

The electronic volume control of the XP-32 allows for 100 dB range in 0.5dB steps and is driven by a micro controller, reading an optical encoder serving as the front panel volume control. assuring precise level steps with an absolute increment of 0.5 dB. This allows for accuracy and channel to channel tracking that is not available in more traditional volume controls and preserves high common mode rejection of signal in a true balanced circuit.

The hand remote uses a multi-button direct access architecture. This remote is designed to function with and operate several pieces of Pass Laboratories electronics. Not all functions available on this hand remote will be applicable to your Pass Laboratories, XP-32. The Remote operation is or should be very intuitive in operation; we have attempted to its operation as familiar as possible. Where applicable the remote mirrors the front panel control of the XP-32.

## HAND REMOTE

**POWER:** Power button is not used with the XP-32.

**MUTE:** Pressing mute once will quiet the pre-amp outputs; pressing mute a second time returns the XP-32 to the previous volume control settings

**INPUT SELECTION:** Pressing 1,2,3,4,5 will immediately move the input to that inputselectionandthevolumeandbalancesettingsremainastheywere,un-altered.

**TAPE:** Pressing the tape button selects the tape loop and displays INPUT TAPE t with volume at 000.

**BALANCE:** Pressing balance left (<) or balance right (>) will increase the level in the right or left speaker depending upon button is pushed

**VOLUME:** Pressing the increase (^) button or the decrease (v) button will shift the volume setting in both channels equally in 0.5 steps. Holding either button down will increase or decrease the level, until such time as you either release the button or reach the limits of the volume control.

**PASS THRU:** Pressing this button once selects the Pass-Thru input and displays "PASS THRU" and swiftly ramps the volume from step 0 to step 179. As a precaution pressing any command during this ramp up sequences, aborts the ramp up and sets the level to 000 in both channels immediately. At this point commands are locked and un-responsive. This locking of commands is intentional and included to help avoid excessive and potentially dangerous play back levels. Pressing "Pass Thru" a second time exits "pass-thru" and un-locks other command functions..

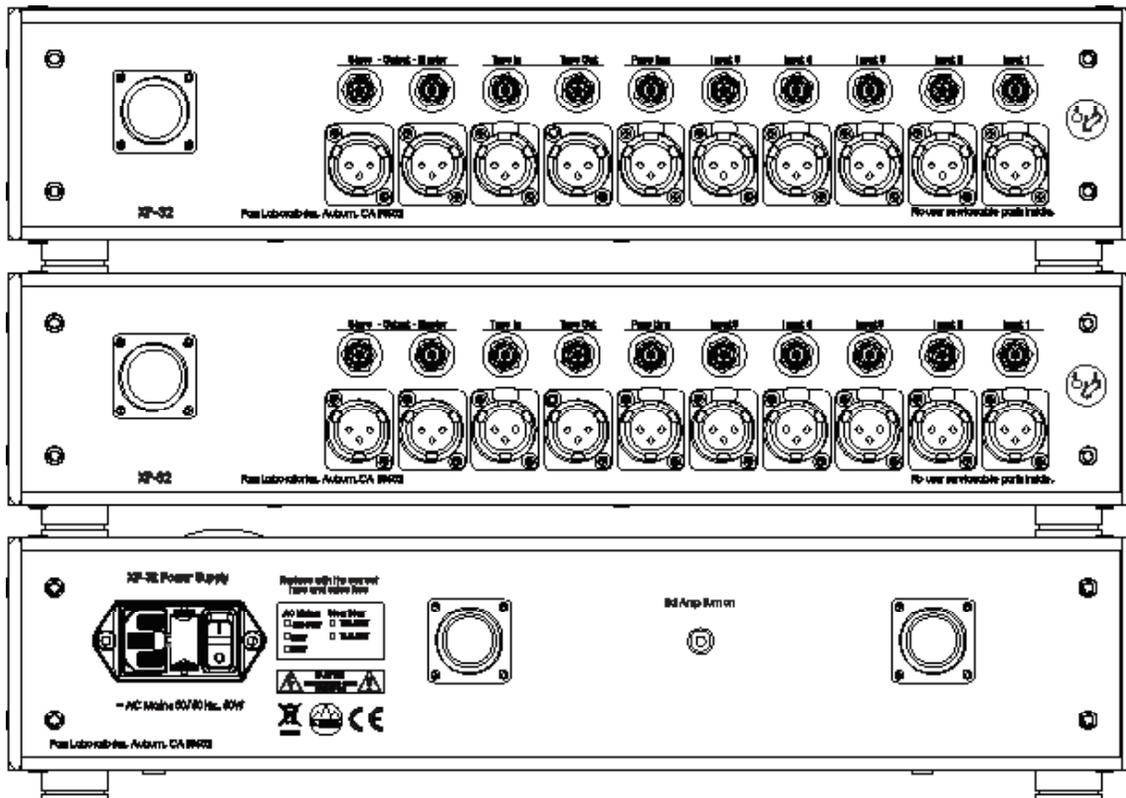
**DISPLAY:** There are three brightness settings on the display selectable from either the hand remote or the front panel of the Control unit: Bright, Dim and Off. The default setting for the display is "bright". Pressing the display button on the hand remote or the "mode" button on the front panel steps through the 3 possible settings.

When "off" is selected any other control function will cause the display function to illuminate and show the products operational status for approximately 7 seconds.

After 7 seconds of the display being illuminated, it will once again go blank and remain off as long as there are no command inputs. Pressing the button a third time cycles back to a “bright display”

EXT AMP ON; Selection of “Ext Amp On” applies 12Vdc to a two conductor 3.5mm TS (tip-sleeve) connector on the rear of the XP-32 control chassis. This is intended to supply a trigger voltage that will turn on associated equipment such as power amps. As per convention + voltage is applied to the tip contact and - voltage is applied to the sleeve contact. Check the owners manual of your pre-amp to see if this function in compatible.

The hand remote is powered by 2 each AAA batteries that are housed under the rear cover of the hand remote. Batteries should be changed annually or anytime the remote ceases normal function.



## Warranty Information

We go through great effort to make as 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 apply 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 its 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.

For more information please contact: Pass Laboratories Inc.

XP-32 Specs:

Power consumption	70 watts
Gain	9.6 dB Balanced
Output Impedance:	25 Ohms RCA, 50 Ohms XLR
Input Impedance:	22K Ohms
Frequency response:	+/- 0.05 dB 20Hz to 20KHz -2dB @ 150KHz
Crosstalk	> 110dB
THD	< 0.001 @ 1V 1Khz
Max out	23V RMS 0.1%
Residual Noise	500nV RMS, SN -150dB ref max out
Dimensions:	17"w x 12.5"d x 4"h times three
Weight:	62.5 lbs
Shipping weight:	78 lbs

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