



The Pass Labs X0.2, X1, X2.5, and X2.2 are Class A audio preamplifiers of exceptional build quality sharing a similar circuit topology and design philosophy. All four models spring from extensive listening and thoughtful engineering centered on a completely new and unique design, which we have named “Supersymmetry”. The “Supersymmetric” circuit topology is covered by US Patent #5,376,899 issued to Nelson Pass. In a very tangible sense “Supersymmetry” allows a palpable reduction in noise and distortion while significantly extending the boundaries of useable dynamic range and available headroom in audio amplification electronics.

All four preamplifiers will accept either balanced or unbalanced inputs and provide for both single-ended and true balanced outputs. A fully balanced output is derived from a single ended input with no additional circuitry. Single-ended and balanced outputs may be freely intermixed at the same time with no sonic penalty or degradation in performance.

All the represented models are derived from the same “Supersymmetric” circuit topology. This patented circuitry utilizes completely balanced circuitry throughout the signal path as a means of suppressing unwanted electrical noise



and distortion. Supersymmetry then improves these circuits by precisely matching the characteristics of the two balanced halves of a sophisticated yet simple Class A circuit topology.

Ordinary matching techniques may achieve improvements in balanced signal purity by a factor of 10 under ideal conditions. The Pass Labs patented “Supersymmetric” circuit lowers noise and distortion by an additional factor of 10 over that achieved by the ideal balanced signal system. From the listener's perspective this is sonically conveyed through increased dynamic ability and a quieter noise floor.

All four preamplifier models employ a new type of volume control developed by Pass Labs. (Patent Pending) This volume control allows about 10 times the voltage swing at 1/10<sup>th</sup> the distortion and noise when compared to any other type of electronic volume control. This volume control coupled with the “Supersymmetric” circuit topology greatly contributes to the outstanding sonic performance of these preamplifiers.



All four X series preamplifiers incorporate the same innovative, patented technology. The differences between these models are both a matter of features and the degree to which this technology can be realized given the market considerations of cost, value and degree of executed sophistication required by a wide range of audiophiles. Despite the differences, these preamplifiers all share a basic underlying design philosophy which is axiomatic at Pass Labs: Less is more. The simpler the approach, the more profound the idea. The straightforward, no frills design concept of these preamplifiers translates into a natural sound which we feel is as close to the original source as we can currently achieve. The entire natural color and dynamics; from the thunder of a Bosendorfer piano to the subtle whisperings of a Stradivarius are delivered with startling precision. The air, space and emotional content of the recording come to life. The actual air and physical presence of the performing artists are thus recreated with uncanny palpable realism.



The “more is less” classical approach of our concept opens a window back to the original musical event and delivers the thrilling realism of vibrating instruments and vocal chords.



This natural warmth and timbre of actual instruments and voices comes through without a trace of unmusical artifacts. This is a sound that never loses its musical coherence and natural balance, no matter how complex or dynamic the music becomes. These preamplifiers have the ability to unravel musical complexities with a simple, clearly stated eloquence which provides an infinite transparency and “rightness” - just like a great conductor or musical performer who homes in on the composer's essential line or message.

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The X0.2 is the ultimate expression of our state of the art preamplifier offerings, and as such is a stunning example of joining art, engineering and performance. The X0.2 is housed in three separate machined chassis, for enhanced performance through “true dual-mono” operation. Two identical chassis are devoted to the analog stages, and the third chassis isolates the power supply and digital control circuitry from the two chassis containing the analog signal path. These physical and electrical separations further contributing to noise reduction and sonic excellence. The two analog chassis connect to the power supply control chassis through custom shielded cable of high quality, using multiple contacts in parallel for each signal path. The ultimate gain of each analog channel is internally selectable by jumpers.



The volume control has 72 discrete steps, each representing approximately 1dB of change. There are a total of 5 inputs, which may be used single-ended inputs or balanced. The tape loop accommodates both single-ended and balanced inputs and outputs. Two sets of single ended and balanced outputs are offered. Both single-ended and balanced outputs may be used at the same time with no degradation in performance.

The X1 continues the Pass Labs “Supersymmetric” tradition of the X0.2 by creating a superlative preamplifier with minimal parts in the signal path. Like it’s more sonically sophisticated sibling the X0.2; the X1 will also transparently convert un-balanced to a balanced signal, allowing either to be used simultaneously. The X1 is comprised of two machined metal chassis. One chassis encloses both analog stages, while the second contains the highly regulated linear power supply. The X1 main chassis and power chassis are interconnected via a high quality custom-made DIN cable.



The X1 shares the same intuitive four-button remote control and front panel display as the X0.2 and X2.5.

The X2.5 minimizes space requirements by reducing all components to a single machined chassis, bringing the analog section, power supply and menu display into one attractive package.



The X0.2, X1, and X2.5 share the same simple front panel controls and attractive display. There are four push buttons, which control the operational functions of these preamplifiers and provide the means for setting the various menu options. There is in addition, a manual master volume control, which is always active and totally independent of any menu settings.

These three preamplifier models incorporate a “unity gain” setting facilitating their seamless integration into home theatre surround sound systems, by allowing the surround processor total system volume control, when required. The “unity gain” control function allows audiophiles to possess a dedicated two-channel audio system that co-exists with and enhances the capabilities of their home theatre and surround sound





experience. All three preamplifiers have a remote trigger capable of controlling additional Pass Labs electronics.

The X2.2 is a single chassis non-remote control, line stage preamplifier. The main circuit board, power supply, chassis, and rear panel are identical to those in the X2.5. The front panel controls are simple, intuitive and very convenient to use. The X2.2 has all the functions of the X2.5 except for the fluorescent display, balance control and mono switching. The sonic qualities of the X2.2 are exactly the same as the X2.5. The X2.2 may be upgraded to a X2.5 adding additional functionality and convenience to this preamplifier.

The X1, X2.5, and X2.2 share the same input and output complement. All three models have two combination inputs that can be used balanced or single ended, two single-ended (RCA) only inputs, and a tape loop that accepts single-ended or balanced inputs and outputs. Each of these preamplifiers has one set of single-ended and one set of balanced outputs. Both sets of outputs may be used at the same time.

Within the X0.2, X1, X2.5 and X2.2 there is a model suited to a wide range of budget, space and functionality needs. All four preamplifiers share the same innovative technology and deliver unprecedented musicality. The X series preamplifiers transport listeners out of the listening environment and back to the original performance with thrilling realism and emotional impact; true to the original source.

	X0.2	X1	X2.5/2.2
Gain	14dB or 20dB	4dB or 14dB	4dB or 14dB
Gain adjustment how	Internal	menu setting	menu setting
Number of volume control steps	72	32	32
Freq. Response	-3dB @ 2Hz -3dB @ 100 kHz	-3dB @ 2Hz -3dB @ 100 kHz	-3dB @ 2Hz -3dB @ 100 kHz
Distortion	<.1% THD typ .003% @ 2V	<.1% THD typ .003% @ 2V	<.1% THD typ .003% @ 2V
Single-ended - volts out	7	7	7
Balanced - volts out	20	10	10
Single end Output impedance	150 ohms	150 ohms	150 ohms
Balanced output impedance	750 ohms	360 ohms	360 ohms
Number of gain paths.	4	4	4
Input impedance - single-ended	10K ohms	33K ohms	33K ohms
Input impedance - balanced	20K ohms	66K ohms	66K ohms
Separate analog channels	Yes	No	No
Remote control	Yes	Yes	Yes/No (X2.2)
Input voltage before overload	11 volts	10 volts	10 volts
CMRR	-80dB 20 - 20kHz	-55dB 1kHz	-55dB 1kHz
Output noise floor	-110dBV ref to 20V output	-125dBV ref to 10V output	-125dBV ref to 10V output
Crosstalk	typ -90dB 20 - 20kHz	<95dB 1kHz, <75dB 20kHz	typ -85dB 1kHz
External amp turn on	yes	yes	yes
Power Supply - Internal-External	External	External	Internal
Power consumption	30 watts	25 watts	25 watts
Number of chassis	3	2	1
Chassis dimensions	3 @ 17" x 11.5" x 3.5"	2 @ 17" x 11.5" x 3.5"	17" x 11.5" x 3.5"
Shipping weight	75 lbs	46 lbs	30 lbs
Single-ended only inputs	5	2	2
Balanced/single ended inputs	6	3	3
mono operation setting	Yes	Yes	Yes/No (X2.2)
Unity gain setting.	Yes	Yes	Yes