

Pass Labs Xs 150 Monoblock Amplifiers Review

By: Fred Crowder | November 2013



Introduction

On a recent Friday afternoon, a brown UPS truck rolled up to my door with a delivery. While this in itself is not an unusual event at my house, things began to get a bit surreal when the driver asked where the loading dock was located. Soon thereafter, I walked out to the truck to find a pallet containing four boxes of the Pass Labs Xs 150 amplification system with a combined weight of 600 lbs. The truck, fortunately, had a hydraulic lift gate and was equipped with a pallet jack so the driver and I were able to get the pallet into my garage; however, it required a visit by my son, an ex-marine, to get the amps unpacked and installed in my system. At that point, I began to realize that I was perhaps dealing with something that was likely to challenge many of my preconceptions about the differences between directly-heated triode tubes and transistors. As you may have gathered from some of my past reviews, I have a strong prejudice toward low powered, DHT tube amplifiers designed around very simple circuits executed with the best parts available, but I am getting ahead of myself so will start with a short description of the design of the Pass Labs Xs 150 amps.

Description

Nelson Pass has very strong beliefs with respect to how an amplifier should be designed, chief among these that it is much more important to limit higher order harmonic distortion than it is to seek artificially low overall distortion levels. Harmonic distortion in a Pass amp is predominantly 2nd or 3rd order, not higher. The relative proportions of one to the other will typically influence the final sound of a particular Pass design with pure 2nd, sacrificing some control in exchange for a more triode-like sound. Pass designs tend to rely on massive power supplies and class A operation which generally means that his higher powered amps will be very large and heavy and run very hot.

In this application, each Xs 150 mono amplifier is comprised of two chassis, one containing the power supply which weighs 150 lbs and one containing the audio circuitry which weighs 100 lbs. According to Pass Labs, the utilization of a separate chassis for the power supply lowers electromagnetic noise and allows the space for greatly enhanced storage capacitance and larger, quieter transformers. The power supply employs banks of redundantly paralleled high speed/soft recovery rectifiers as well as highly sophisticated high frequency noise filtering. The amp has both single ended and balanced inputs with the balanced input having an input impedance of 200 Ohms and negligible capacitance. The unique JFET's and MOSFET's employed in the input stage are no longer available in the open market. Cabling connecting the power supply and audio circuitry is included with the package and has very sturdy locking connectors. Likewise, the binding posts are well designed and provide a snug fit while preventing over tightening.

The amps are conservatively rated at 150 watts at 8 Ohms and 300 Watts at 4 Ohms. In practice, I was never able to get them to clip or otherwise misbehave. They run in class A, so continuously dissipate 680 watts which makes them uncomfortably hot to the touch. The audio circuitry is designed to be stacked on the power supply. The units are provided with extremely effective feet which do an excellent job of isolation. They are also provided with adequate power cords but benefitted rather significantly from the use of Stage III Minotaur power cords. They also benefitted from an extended break-in prior to any serious listening, namely 150-200 hours with continued but much less significant improvement thereafter. However, even straight from the box, they sounded very good after two or three hours of warm up.





Listening

Transistor amps typically do an excellent job of accurately capturing the leading edge of triangles, bells, cymbals and other percussion instruments, but often truncate the tail, namely the ringing which follows. This is easily heard on any of the Weather Report albums, all of which have abundant and often very complex percussion. With respect to the Pass amps, percussion was superb with excellent drive. Instruments were realistically sized and located in space. *Mysterious Traveler* gave way to Kenny Burrell's *Midnight Blue*. The guitar had somewhat less of the woody character which I normally associate with this album, but was otherwise excellent.

On Joni Mitchell's *Court and Spark*, Mitchell's voice seemed somewhat lighter and less commanding than with tubes; however, the Pass amps had excellent detail and clarity and handled complex material extremely well. The Xs 150 also did an excellent job of not artificially sweetening the tinny sound of the plane on the first track which was noticeably unpleasant here.

The saxophone and piano on the Boz Skaggs were extended and clear without any hint of brightness. The piano was also well served. The balance on the cut "How Long Has This Been Going On?" was nice. It's all there including the sax and cymbals which are not at all bright. The only thing that may be missing in comparison to the best tube gear is some additional breathiness and magic on sax and voice. When I'm listening via tubes, the voice is the center of attention and it sounds as if it is meant to be. It is big, with a warm edge to it, and an aural halo around it. On the Pass, everything seems

somewhat the same. My ear is not led to one thing or another. There is an “all-over” quality to the soundstage, such that I need to direct my attention to one place or another, rather than being drawn in naturally. However, tubes do not handle the cymbals quite as well. On the Nick Drake, Drake’s voice is believably sized with nice tonality and is not brought forward in the mix which is to say in my estimation, is correctly portrayed. The violin is sweet. There is a nice sense of depth.

At this point it seemed worthwhile to try something a bit different, so pop and jazz reluctantly gave way to classical. I find myself repeatedly returning to the works of Ravel and Debussy, in particular the performance of Debussy’s *Jeux* conducted by Cluytens on Columbia SAX. Late at night, when the electricity is purer and less subject to the fluctuations in power that happen during the day, particularly in the summer, this performance, especially on the French blue label SAXF, can be magical. In this instance, the strings are gorgeous and there is a believable impression of the hall. I would not have thought that this piece would have been well served by the Pass amps; however, I was wrong. These amps preserved everything that makes this recording special for me. Next up was the Reiner war horse Mussorgsky’s *Pictures at an Exhibition* on an early RCA Shady Dog. This piece was well served by the Pass amps with a level of dynamics and bass control that my resident Audio Note 300B’s cannot match.

It seemed like a good time to throw something more problematic at the Xs 150s, the Columbia 6-eye recording of Stravinsky Conducting Stravinsky. This is a dry recording and the strings can be annoying. With the Pass amps, this recording was as non-annoying as I have ever heard it on a really high end system. Bass was outstanding, and detail on the chamber music passages was so absorbing that the dryness on strings and the dryness of the recording in general, were only occasionally annoying.

It seemed fitting to finish the evening with another Joni Mitchell album, *Don Juan’s Reckless Daughter*. The reproduction of Jaco Pastorius’ bass was breathtaking. The recording is by nature somewhat bright and transitory, and reproduction on these amps was brutally honest. Joni’s guitar sound, a pick-up in an acoustic guitar, is bright and annoying, but the Pass amps do not unduly emphasize it. The complex over-dubbing of vocal harmonies is very clean. PRaT is fine. This is essentially an honest and clear reproduction of a great, but flawed recording.

By this time I had pretty much established that I was dealing with a world class set of amps with no easily apparent weaknesses, which in some ways bettered my long term reference, the Kego Balanced. Consequently, the focus of my listening shifted. From this point forward, the vast majority of my listening was relegated to vinyl. The Bill Frisell is a piece that I return to on a regular basis, it is more musically consonant than it is a sonic blockbuster. Here, it was musically enjoyable but lacked a bit of air and was a bit darker than I remembered. I also remember the guitars being a bit richer. The differences were subtle and certainly did not take away from my enjoyment. “Blue Nile” is very hard to reproduce without it sounding annoying because of the heavy use of electronic instruments. Here, I think that what I hear is more accurate than with tube gear, very smooth with almost no grain in the synthesized strings. Finally, on the *Daphnis and Chloe*, everything is there information-wise, not a single moment of overload or harshness even during the most intense/dynamic passages. However, there is a feeling that something is missing. The strings, winds and brass appear with shimmer, edge and almost a feeling of surprise from a deep, dark, mysterious soundstage. The heads of the tympani are palpable. This is the best solid state I have heard, yet, it still lacks that last bit of extension at the top, is a bit darker than life, with the very slight loss of harmonics. I keep asking myself, am I really

hearing the difference anything or is it only in my mind? The Xs 150 is certainly in many ways, the best solid-state amp that I have had in my system.

The speed of delivery for instruments and voices is stunning. There is no hint of any distortion or noise. Nothing in the musical presentation takes away from any other element. The air, space, depth and apparent room ambience of the recording are palpable. Each instrument has its own dynamic envelope which allows a pianissimo strike of a triangle to exist alongside a forte gong crash, with each instrument perfectly distinguished, each part of the musical whole, but also being appreciated as their own notes. The amps rendered it effortlessly. I cannot imagine that I would ever want more power. The stage is three-dimensional, images are stable and placed believably on that stage, each surrounded by its own cushion of air. Bass is powerful and at the same time taut, articulate and well controlled. With my speakers, which each employ four 10-inch dynamic drivers to reproduce the range below 170 Hz — there appears with these amps to be an extra half octave of extension at the bottom. Noise is vanishingly low, grain is for all practical purposes non-existent. Most importantly, these are musically natural and emotionally satisfying.

Note that the above invites the question of how these amps differ from the very best low power direct heated triode amps that have in the past been my reference for what can be achieved outside the concert hall. The best low powered DHT (here I am thinking of Audio Note Balanced Kegons) are ideal for small groups and solo instruments, string quartets, small jazz ensembles, vocalists (whether male or female) and most certainly acoustic music. They are to my ear more harmonically complex, have more “bloom,” and more air around instruments; however, the image which they create lacks the edge definition of the Pass Labs. Their ability to control dynamic woofers suffers in comparison to the Xs 150. What the direct heated triodes do is all about nuance, low level detail and micro dynamics. In these areas, I have yet to hear a transistor amp that is comparable.

While the Pass Labs Xs 150 may have less air, they also have a somewhat more detailed top end. These amps have superb control of the bass without being over damped, but are not quite as harmonically rich as the Kegon. The stage created by the Pass amps is not quite as expansive but has good depth and does not narrow at the back corners. With the Pass amps, my speakers are cleaner and more articulate. Well recorded pianos are also a real miracle. The piano sound is very even, clean, crisp and clear all the way up and down the register. Further, when dealing with multiple instruments, the Pass amps never seem even remotely overpowered by the breadth of a large ensemble consisting of many different timbres, whereas the Kegons will occasionally smear. The Kegons, however, with voices and mid-range instruments, have some magic (and more so than some more recent tube designs in which the goal seems to be to come closer to transistor accuracy) that is hard to define. The voice, or voices, saxophone, trumpet, guitar, etc., sound palpable. They seem to exist independent of the speakers. You can hear the slightly husky edge of the breath, or of the vocal cords vibrating. At its best, there is a sense of presence, and intimacy, that is not as strong with the Pass amps – though it is not entirely absent either. What I find amazing is how many of the virtues of a DHT triode the Pass possesses while also retaining the dynamics and bass control of the best solid state amps.

As a friend said, if the Balanced Kegons are a Rolls Royce, then the Pass amps are a Ferrari, equally superb but very different.



Conclusions

In a perfect world, I would keep both the Pass Labs Xs 150 and Audio Note Balanced Keron. They are different animals, but they are both superb. However, that would represent a larger financial commitment to my hi fi world than I am comfortable with making, frankly. In the end, I concluded that I had a personal preference for the simple tube approach of the Keron; yet, I know there will be days once the Pass amps have been gone for a bit, in which I will hear things that I know would be better on the Pass amps.