

# XA160 - X600 Review

## by Dr. Poltun

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The Vienna State Opera/Philharmonic sound archives has gleefully lived with the Pass Labs X-600 and XA-160 in our reference monitoring system now for an extended time, and we have spent literally hundreds of hours with each amplifier. The X-600's replaced their Aleph 2 cousins in early in 2000 and were joined by the amplifier which attempts to combine the sonic characteristics of the Aleph and X series designs, the XA-160 in June 2003. Having now had ample time to compare the X-600's with the XA-160's, I feel I am in a position to provide definitive conclusions on their comparative strengths and weakness.

Neither the XA nor the X will please all audiophiles, in all systems, in all rooms, for all musical tastes, but they will come close. Both pieces are state-of-the-art amplifiers providing fantastic natural sound while utilizing innovative, patented circuitry proprietary to Nelson Pass and Pass Labs.

What does this have to do with our performance instruments here in Vienna? On our historic concert stages you will find, either a Steinway or a Bösendorfer concert grand piano. Both instruments representing "state-of-the-art" evolutionary designs; yet they sound almost totally different and the choice of one instrument over the other really does become a matter of personal taste and purely subjective factors.

In the case of the two pianos, let us simply concentrate on the main differences and features. Steinway: Used primarily in our house for concerto or symphonic works, particularly of the Romantic Period where the piano often has to be heard over a massively scored full orchestra; a giant, overwhelming, powerful, strong, penetrating sound which can become percussive or even aggressive if that's what the composer/performer require. The Steinway conveys strength and clarity, which can be clearly heard in the seat furthest from the podium. Certainly it can sing warmly when required but that is perhaps not its forte.



Dr. Peter Poltun has held appointment as Director of Archives for the prestigious Vienna State Opera/Philharmonic Orchestra since 1992. His office, the Musikarchiv der Wiener Staatsoper, stands as the historic home of the original manuscripts and performance materials for many of the greatest composers in the history of western classical music. This magnificent building was commissioned in 1857 by Emperor Franz-Joseph I to replace the original 1709 structure.

Prior to this appointment Dr. Poltun was American vice-consul for the US Diplomatic Corps stationed in Istanbul. During the Regan administration Dr. Poltun transferred to Geneva, where he was merged into the negotiations around the atomic disarmament between the USA and the Soviet Union, which historically brought Reagan and Michael Gorbachev together at the START and INF talk. These historic dialogs were fundamental to deep nuclear weapons reductions between the two super-powers.

Ultimately his passions for music lead him to exchange avocation for vocation, and thus the move to Vienna and the dramatic career change.

On a day-to-day basis, Dr. Poltun passionately manages one of the most important classical music archives/collections in the world. His charge, the preservation of historically important original music manuscripts (Beethoven, Brahms, Mahler, etc.) and the day-to-day preparation of performance materials for the two performing departments. Dr Poltun holds advanced degrees from the music conservatory in Hamburg and Princeton University and is an accomplished horn player.

The Bösendorfer: Preferred in Vienna for chamber music, voice accompaniment and our smaller concert stage; produces a warmer, fuller, rounder, more “weighted” sound which emphasizes more the harmonic content of each tone. The Bösendorfer, our instrument of choice to convey the intimate, close-up, listener involvement which is part and parcel of all chamber and Lieder music performances.

The Bösendorfer concert grand piano is “typically Viennese” much like Schubert and rich pastries. It’s sentimental, darker side, maybe a bit more emotional than powerful. Fear not, it can play loud -maybe not as loud as a Steinway to the last decibel- but it certainly is also appropriate for use in concertos of the classical and early Romantic period which are scored lighter and where the soloist does not need to penetrate through a thundering orchestra.

When you begin to consider solo piano recital music, it really is up for grabs as to which piano is better suited. There are equally convincing arguments for preferring either instrument. You cannot logically conclude which one is the overall better instrument. The correct choice in any situation depends upon many highly subjective factors. Musically the same types of differences exist between great violins, trumpets, horns, woodwinds and etceteras. There is a subjective, intangible element built into their respective designs, which renders it impossible to say “this one is the best”

Now let’s get back to our two Pass Labs instruments at the Vienna Archives: the X-600’s and the XA-160’s. First, the amplifiers exhibit a definite Pass “family resemblance”, both are marvelously sculpted, beautifully executed works of industrial art.

At 150 lbs each weight these amps give notice as no nonsense, heavy-duty designs that can be pushed to their limits without experiencing stress. (Thank you Nelson for over 25 years of absolutely flawless performance of all your electronics designs at the Vienna Archives. We simply can’t afford: Sounds good but doesn’t always work here in Vienna.) Nelsons creations are neither “fragile nor “temperamental” which probably is best translated as “never moody”, unlike many other high performance audio products I have experienced.

The X-600 in my opinion will not run out of gas even when driving the most power-hungry transducer. In contrast XA-160, while capable of delivering and sustaining a very healthy dose of power to most speakers clearly does not possess the overwhelming power of the X-amp cousins.

Cosmetically speaking, the amps, except for their faceplates, look very similar. The XA-160, as befitting it’s refined sonic presentation, visually having a slightly more rounded, softer look than the X-600 package.

The famous meters, a Pass Labs power-amp trademark since the X-amp generation, are definitely worth a closer look. Power-up the X-600’s and the needle after warm up settles down at ca. 1/3 of full scale. With the needle stationary, while playing music, the amplifier is in pure A class operation. If the meter staff moves for a musical peak, then you’ve crossed over into A/B operating mode. The changeover, absolutely seamless.

Now maybe it’s our speakers (WATT Puppy Series 5 to 7) or maybe it’s the size of our archives listening studio but I’ll state up front that I have almost never seen the X-600’s meters move even when pushing the volume up to levels that are potentially dangerous to your hearing. (By the way, we do know something about dynamic range here, because the sound levels generated within the Vienna Philharmonic or any top professional orchestra is truly overwhelming. An opera singer on a rehearsal stage here can “aim” their voice at you and use it as a weapon of destruction if they so choose.) In any case, I suspect that anyone using a pair of X-600’s who claims that the needles bounce around regularly is either using speakers that require their own dedicated power plant outside the city, trying to fill a very large listening room with a very loud sound or has damaged their hearing beyond recovery.

Now with the XA-160 what happens at “turn on” is that the needle first swings to almost full scale but quickly settles down to ca. 2/3 full scale and sits there, forever. Here the design concept is: Pure Class-A until the amp runs out of gas. Now again I will limit my observations to our system here (current reference speaker, Wilson Audio Watt Puppy 7). The XA-160 has more than plenty of power to reproduce highly realistic sound pressure levels with all dynamic shadings from extremely loud to very soft. There is plenty of power to control the woofers of the Watt-puppy 7, which in certain systems need to be held in check by a serious amplifier on a short thick chain. Rest easy: 160 watts of Pass Labs best is more than enough in our system and the XA-160 presents the WP-7 beautifully.

If both amps basically stay in pure Class-A operation in our system and obviously both are from the same family, with a pronounced “family resemblance”, what exactly is the difference, and why should anyone prefer one amp to the other?

So, we're obviously confronted with our piano analogy: it simply depends on various personal needs, overall system considerations, size of room, type of speakers etc. Let's try to focus on the differences between the two that I have heard using only recording materials made by our orchestra/singers in our historic halls where I have personally attended recording sessions.

First, I feel it necessary to state up front my firm belief that it is ultimately very difficult to accurately put into words what one is hearing from a piece of audio gear. Words on paper should never replace music. We can attempt to verbalize about what we're hearing but it never is the same as actually hearing. I have often experienced our orchestra playing through the same piece twice on the same day in the same hall with the same performers and the resulting sound turning out totally different. Everyone involved absolutely hears the difference but cannot quite pin down why it was different. It's just like Nelson Pass wrote in his Aleph literature - numbers or measurable factors neither account totally for the differences between fine wines nor fine audio components.

One needs to "live" with a piece of equipment in one's own system, in one's own listening room for several weeks, if not months, before one really begins to understand what differences one is hearing when listening to recordings that one knows very well. Change more than one factor (or piece of equipment in the chain) and it's a whole new evaluation. With multiple change our reference point is gone and we may wind up with no idea whatsoever about the effect of installing that new amp, piece of furniture or whatever. Never change more than one item at a time, should be every good listeners mantra.

So much for the sage philosophy of Dr. Peter Poltun . To get back to the XA's and X's, it seems to my ears that the ratio of idling current to the total rms power delivery capability of an amp dramatically effects the soundstage and harmonic detail presentation of that amplifier. The Pass Labs XA-160 is pure Class-A all the way. You always are idling at over 3 times the amps total output capability and most of the time you are never using anywhere near the 160 watts. With the X-600 you may almost never move those famous needles, meaning that under most conditions your amplifiers is running Class-A operation, but you could - if your ears/speakers/significant other - can handle it, go for full power and then you clearly are out of "pure Class-A territory". I for one would not want to be in a room where either the X-600 or X-160 is in "go for it" condition. I need my ears for my daily work and continued pleasure.

So, under normal conditions, which can be loud enough to be realistic, the XA- 160 produces a much deeper soundfield than the X-600. Maybe it's the Class-A purity issue, maybe it's something else in the design -ask the great Nelson Pass he definitely knows what's causing it. I hear it immediately when I change between the two amps. It seems to me, that with the X-160 the stage starts closer to the edge of the loudspeakers and goes much further back. On that stage I'm hearing instruments that stand out more clearly in space with their air and lets call it, "harmonic envelope". Yes, the X-600 also clearly delineates instrument position but the XA-160's capability to give each instrument, voice, or whatever that's out there in that field, a greater "weight" or as I call it "harmonic body" is audibly better. It's a strange almost paradoxical effect: I hear the sound field as being deeper but each voice in the field seems closer, warmer, more "intimate" or involving with the XA's. With the XA's I am drawn closer into the orbit of the performers and the atmosphere around the actual playing of the music. (It is like here at the Philharmonic when I move during a rehearsal to sit right up close to the orchestra. Even though I am but a listener, I become more involved with the actual physical act of music making when I sit close to the orchestra.)

Let's not open the audiophile's Pandora's box of colorations vs. neutrality. I'll limit my observations to classical music, exclusively: Nothing played through an audio system sounds like a real orchestra. How can it? As Nelson wrote before: everything done during the recording process is embedded within the final product. When you set up your system and place the reproduction of a recorded environment in the new environment of your listening room, you are consciously moving further from the original art with every step. Maybe a system or amplifier like the XA, which produces a bit more warmth or "golden glow", provides more overall enjoyment with more recordings in more formats than one, which like the X-600 is "brutally" honest or neutral.

There is no "absolute sound" Even in the original performance, as we have seen, the "absolutes" are constantly changing. Audio is a hobby. Enjoy yourself. Don't let it become a quest for "absolutes" or neutrality, which may wind up sounding horrible in your room. Go for what works best for you and brings you pleasure... trust your ears.

Because of this warm, golden, involving sound I personally find the XA-160 to be very "easy on the ears" and I can listen to them for very long periods of time, at all

volumes and never get tired of the sound. I personally have never heard a more musical sound from any amplifier, tube or transistor. At the present time I can never get enough of the XA-160 wonderful, involving sonic presentation. That enhanced harmonic content/presence seems to make everything involved with and around the actual player to become much clearer and more apparent. I hear fingers moving on keyboards/string sounding boards, piano hammers rebounding off of steel strings, violin bows touching strings and the physical contact between vibrating string and bow producing the actual sound. With brass I hear that incredible dynamic capability which can go from a magnificent idling machine to raw overwhelming power in a split second but the horns have never become hard or unpleasant to my ears. I often will hear mouthpiece and reed vibration sounds from the Watt Puppies, when driven by the XA-160; but from no other amplifier. That's how close to the recorded performance I am made to feel. (At moments like this I warmly remember what our former director, Richard Strauss, wrote in advice to young conductors. "Never encourage the brass players. If you can hear them at all they are already playing too loudly.")

The XA-160 is the sound gourmets amp. As a sound gourmet, I become the kid in the sonic candy-shop, surrounded by delicious sweets (maybe Viennese pastries) all out there in the sound field ripe for your ears. Everything seems to flow together more harmoniously, warmer and with less mechanical nature. It bathes the listener in a golden sheen. Just plain great to listen to - forever with all source material, good or bad. And yes it does have good bass control - at least on the WP 7 at any volume I chose to play. I hear great control and much more bass harmonics than with the X-600. The attack of each bass note has more character because I feel closer to the imaginary stage and thus aurally witnessing more of the event.

So with all that, who needs the X-600? For a change I'll get to the point quickly: Certainly it will be the preferable amp for different listeners in different circumstances. Although it might be cost prohibitive for many, you might even need both the X-600's and the XA-160's to have the best of both world's and add variety to your audio-ophile life. At the archives, we're definitely keeping both of them. They both have their own validity, and fit our needs exceptionally well.

The X-600 with its tremendous power reserves will be preferred when we set up larger rooms with very large, power hungry speakers. When playing back massively

recorded opera things - full orchestra, full chorus, stage band (in Vienna we even have a production with real horses/donkeys on the stage) - we all appreciate the X 600's absolutely unflappable character. It will throw up a massive stage that will overwhelm listeners even in a large listening room. They will hear lot's of fully developed, well-located images.

Those images presented by the Pass X-600's will not necessarily have as much "harmonic warmth" as with the XA's but they certainly are not "cold" or project nothing negative for that matter. I'd compare it with a painter that uses deep richer colors [XA] to the painter [X] who goes more for a very finely executed, exact, less opulent presentation.

As a listener, you are not as close to the stage with the X's but it is still a very big stage with a plethora of things quite clearly delineated even from your apparent further back position. The X-600's, have that proverbial "tighter" bass control probably due to their much higher power ratings. These amplifiers start/stop on a dime. With some big speakers or difficult watt consuming loads you might need that tighter control for believable bass lines that the X-600 will provide effortlessly.

Put the XA's together with a more "precision", lots of details type of transducer like the Wilson Audio products and you may wind up with a great match. With a more naturally warmer sounding speaker in a larger room where you need more power to produce convincing volume/dynamic contrasts and the scale could easily tip in favor of the X-600's

So we are back where we started: Steinway or Bösendorfer. They're both great. It just depends upon your personal taste and needs. If you have the room/money, go for both or in the case of Pass amps all 4 of them. Either way, you'll get great, natural sound in a very well designed, reliable product from the leader in amplifier technology.

Thus Spake DR. Poltun.

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