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Pass Labs INT-30A Integrated Stereo Amplifier

Written by Chris Eberle

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Introduction

For nearly forty years, Nelson Pass has been designing simple, high-performance electronics. In 1991, with twenty years experience under his belt, he founded Pass Laboratories which has since become among the most highly regarded companies for high-end power and integrated amplifiers. His design goals couldn't be more clear: power, simplicity and performance. Today, Pass Labs markets two lines of amplifiers, the X.5 (Class AB) and XA.5 (Class A) series. The XA.5 covers power ratings from 30 to 200 watts while the XA.5 amps are available in models from 150 to 1000 watts. The INT-30A integrated amp reviewed here combines an XA30.5 amp and an XP-10 preamp in a single chassis.

SPECIFICATIONS

- Design: Stereo Integrated Amplifier
- Power Outut: 2 x 30 Watts RMS into 8 Ohms
- Inputs: Two RCA Unbalanced, Two XLR Balanced
- Gain: 26 dB
- MFR: 1.5 Hz - 60 kHz
- THD+N: 1% at Full Output
- Input Impedance: 30 kOhms
- Volume control: 63 dB Range, 1 dB Steps
- Dimensions: 7" H x 19" W x 19" D
- Weight: 60 Pounds
- MSRP: \$7,150 USA
- Pass Labs

I'll admit it right up front – I'm a digital multi-channel guy. I like music to surround me and I like the clean accurate presentation offered by an all-digital signal path. That being said, I am very aware of the decades of refinement offered by a traditional two-channel analog setup. The designers of products like this have had a tremendously long time to try different approaches to sound reproduction. With that kind of history, it's inevitable that products would have reached some sort of zenith. I'm also experienced enough to know that great specs don't necessarily mean a better sounding product. Numbers don't tell the whole story. Eventually, you have to cast your preconceptions aside and just sit down for a listen.

So with my senses influenced by digitally produced music and speakers all around me, I couldn't wait to see what the high-end two-channel world had to offer. The INT-30A is a simple, almost elemental product. There is no

room correction, no tone control, no processing of any kind. Besides attenuation and balance, there is nothing to alter the signal from source to loudspeaker. While I have experienced many two-channel rigs in the past, I had not lived with one in my current environment before. High expectations at the ready! Let's move forward.

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Design



Physically, the INT-30A is an imposing component. It's far from the average box that graces most equipment racks. The monolithic faceplate is a solid, half-inch thick aluminum plate with its only feature a milled channel running from side to side. This channel houses buttons for power, mute, the four input selectors and an IR sensor. On the far right is a large metal volume knob. The luminescent blue display in the center shows the active input and volume level for each channel. The volume is shown in absolute values and always starts at zero when the amp is powered on. Adjusting the balance control on the remote biases the level to either side.



The rest of the chassis is painted black. The sides are large cooling fins extending from front to rear. They are connected to the amp's output devices and get quite hot after a long listening session. The rear panel has a full compliment of analog jacks. Inputs 1 and 2 can be driven as single-ended or balanced with either RCA or XLR connectors. Inputs 3 and 4 are RCA only. Also included are preamp outputs, again offering both single-ended RCA, or balanced XLR connections. Speaker terminals are beefy binding posts that can accept bare wire or spade lugs. In order to comply with regulations in some countries, Pass Labs has prevented the use of banana plugs by filling the centers with a plastic insert. Since I didn't want to cut up my already terminated cables, I removed the inserts. As this was a somewhat difficult procedure, I recommend having your dealer do this for you if you plan to use bananas. Rounding out the back panel is a power cord connector, a power switch, a fuse holder and a signal ground terminal. The solid rubber feet are about half the size of hockey pucks and nearly as dense. I can't imagine any aftermarket feet absorbing more vibration than the ones provided here.

You can see in the picture below, the interior of the INT-30A is all business. The toroidal transformer at the front (left in the photo) is a large part of the component's weight. The capacitors are unfortunately hidden below the input jack board. You can also see the output devices bolted directly to the side-mounted heat sinks.



The remote can only be described as sexy. It's an all-metal box that feels like it was milled from billet. The batteries are changed by removing the four screws securing the back panel. The buttons are small and made of plastic. Since this remote is common to other Pass Labs products, there are a few keys that don't apply to the INT-30A. Included are a power toggle, mute key, discreet input buttons, volume and balance controls, and a button to dim (or defeat) the front panel display. The remote's off axis range is a bit narrow. I found I had to point directly at the box to get a response. Otherwise, it worked perfectly and its style and feel befit this product's level of quality.



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Setup

I decided up front to make this strictly a two-channel review. Though I have an excellent sub in my theater, an SVS PB-12 Plus, I wanted to use the INT-30A the way it was intended – as a high-end two-channel component. As you'll see in the next section, I had no need at any time for a subwoofer.

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Encyclopedia of Words, Terms, and Concepts

Pass Labs recommends maximum ventilation for the INT-30A so I set it up on a small pedestal on the floor between my two main speakers, Axiom M60 full-range towers. I used two different sources during the review, a standard Oppo BDP-83 and a Marantz SA-8260 SACD player. These were both connected via RCA cables made from Belden LC-1 with Taversoe Crimp connectors by Blue Jeans Cable. The speakers were hooked up with Belden 5000UE (12 AWG) cable and compression screw-type banana plugs also from Blue Jeans.

Following the instructions in the well-written manual, I first plugged the INT-30A in with nothing else connected and switched on the power supply to charge the capacitors. The manual says your lights will dim for a moment and sure enough, they did! Despite the amp's small power rating, there is obviously some serious beef in that heavy chassis. After that, I disconnected the power and made all the remaining connections.

Turning on the power for the first time, I noted the display showed a volume level of zero. I quickly discovered this is standard operating procedure for the INT-30A. You will have to adjust the volume to your desired level every time you power on. This does eliminate the danger of volume spikes should your source already be playing when you power up the amp.

At this point, the manual says "You are ready to play music." and "With any luck, you can now enter that blissful state of musical nirvana, and we won't expect you back for a while." As you'll see in my extensive listening section, truer words were never spoken.



[Click Here to Add or View Comments](#) **In Use**

I started my listening with the Oppo BDP-83. I made sure to set SACD priority to the two-channel layer. I am aware that many audiophiles believe in extended break-in and warm up of components. I was dubious about this until I experienced the INT-30A for the first time. My very first impression was of grainy highs and a somewhat narrow soundstage. I auditioned a few familiar classical music excerpts and was not initially impressed. After about 30 minutes however, I observed a marked change. The high end suddenly became very clean and clear and the soundstage opened up tremendously. In fact, I went back and re-auditioned my first 30 minutes of material. It was quite amazing to hear. By this time, the side-mounted heat sinks were quite hot and I could hear the INT-30A was just getting started.



First up was Liquid Ebony, a collection of concerto performances from the West Point Band. This recording was made in 2009 and I am proud to say I was one of the soloists. We recorded in a small concert hall which we have used for years. I can say I have never heard the Lycian Center in Sugar Loaf, New York sound better! My very first impression was one of clear and detailed hall ambience. If ever I had heard realism in a recording, this was one of the best times. I followed with my old familiar Chicago Symphony & Sir Georg Solti recording of Brahms' Second Symphony. This CD does not display the greatest fidelity but again, it sounded better than I had ever heard it. Winds and brass were brought forward very well. The upper strings sounded a bit compressed but this is the fault of the source material.

I finished the first session with the Five Sacred Trees CD of New York Philharmonic bassoonist Judith Leclair and the London Symphony conducted by John Williams. Ms. Leclair has a very bright resonant sound that often sounds thin on lesser equipment. Not so here as all the partials in her huge tone shone right through. Again the hall decay was excellent giving a real sense of space around the soloist and the orchestra. The consonant sounds like percussion and the plucking of harp strings were particularly well-rendered. This CD also contains Alan Hovhaness' Symphony No. 2 "Mysterious Mountain." This piece is a real showcase for low strings and woodwinds. The depth of the bass was simply amazing. I had to remind myself that my sub was not playing. I was listening only to two average-sized tower speakers. Again the winds and brass were brought forward just the way I like them. I also discovered that removing my speaker grills cleaned up the highest tones further. I left them off for the remainder of the review.



For my next and following sessions, I borrowed a Marantz SA-8260 SACD player from a friend. I wanted to try a better analog source and I was not disappointed. This player brought out more detail and greater dynamics than my Oppo. For a human voice example, I turned to Mahler's Fourth Symphony recorded with the Berlin Philharmonic conducted by Bernard Haitink with Sylvia McNair singing in the fourth movement. This movement could almost be a stand-alone work as it transcends the themes presented in the rest of the piece. McNair's voice is extremely clear and detailed displaying perfect pitch and diction. The INT-30A brought out all the natural qualities I've come to enjoy in this recording. It really was quite moving. I should also mention the sleigh bells that are used throughout the first movement. Their sound is difficult to reproduce and usually sounds like someone tapping the key on a white noise generator. Through the INT-30A however, they really sounded like sleigh bells.

To explore the bass extension further, I cued up Camille St. Saens' Organ Symphony on SACD with the Philadelphia Orchestra. The pedal notes literally rocked my room. Again I said, "Who needs a sub?" (Now there's a phrase I never thought I'd write!) I honestly didn't miss it. The INT-30A brought out qualities in those Axioms I didn't know were there. The terrific bass was not just exclusive to the louder dynamics. The second movement contains very soft organ passages that border on inaudible. I was glad to have a very quiet room as the tone quality was just wonderful. I followed this with a wonderful performance of the Brahms Clarinet Sonatas by John Manasse. He and his accompanist, John Nakamatsu put maximum effort into every note and I have not heard a finer performance. Unfortunately the recording quality is not quite as good as their musicianship. A fuzzy veil is thrown over the whole thing which I believe comes from excessive post-production noise reduction. Still the INT-30A faithfully reproduced the bad with the good.



I always like to break away from classical music for at least some of my listening. It is after all only a tiny fraction of what's out there. For my Celtic example, I used Gaelic Storms album, How Are We Getting Home? The percussiveness of plucked strings was again my favorite thing. Their clarity is just stunning. Massed vocals had a real sense of separation between voices. Despite the thick and complex harmonies, you could hear the different tone qualities of each singer. The low percussion and bass had terrific presence without sounding bloated.

Moving on to a little smooth jazz from my youth, I dropped in Pat Metheny's American Garage. His sound is so homogenous and blended it often seems bland but the INT-30A fleshed out details I had not heard before. Bass was very well-controlled. In fact I usually don't hear such control without some form of room correction. The INT-30A obviously did fine without it. Once again I really appreciated my quiet, acoustically-treated room. This amp deserves nothing less.



Next up was a little blues guitar courtesy of Stevie Ray Vaughn and his Texas Flood CD. I think if I owned this amp I would populate my music collection with as much guitar music as possible. The detail and clarity are felt as much as heard and just wonderful to listen to. Vaughn's technique has few peers and I marveled at his lengthy improvised solos.

I ended this session with a modern big band, Big Bad Voodoo Daddy and their title album. Though this is a studio recording, a lot of space and ambience has been added to great effect. It really has a classic jazz club feel not only in sound but in style. The big brass sound was supremely effective and INT-30A never failed to deliver even at high volume levels.

A Brief Interview With Nelson Pass



Photo by Vladimir Simovich

Chris Eberle: What do you feel Class A topology brings to music that other amplifier types do not?

Nelson Pass: Class A is inherently more linear and it gives not only lower distortion but also simpler types of distortion. This allows a designer to use less (or even no) feedback and also simpler topologies, resulting better measurements, better sound, and often both.

CE: Do you believe there is any room for improvement in Class A technology?

NP: Depends on what you mean by improvement. In my opinion the only improvement you can make over classic “pure” Class A operation is to increase its efficiency, but that has invariably come with reduced sound quality and represents a compromise between “pure” Class A and Class AB. I patented the first effort to increase the efficiency of Class A amplifiers in 1976, but it did not represent an improvement sonically over Class A with static bias, and I don’t currently use it.

CE: Have you experimented with Class D amplification?

NP: I built a nice little piece (photo above) in the late 80’s, but didn’t pursue it further. My issue with Class D is that it heads in the opposite direction of what has been working for me. I make amplifiers with as much intrinsic linearity as possible, depending minimally (or not at all) on negative feedback. By contrast, a Class D amplifier is a maximally nonlinear circuit which depends completely on negative feedback. I admire the results that designers have achieved, considering the handicaps that come with Class D.

CE: Is it realistic to compare the power output rating of a Class A amp versus a Class AB one? In other words, does the 30 watts of the INT-30A translate to a different number if it were Class AB?

NP: The INT-30 would be 100 watts if we called it Class AB. The important thing is not the ratings but the actual amount of bias current flowing through the output stage. I have a nice article on www.passlabs.com called “Leaving Class A” which goes into the subject in detail, but it summarizes as “More bias is better.”

CE: During my listening I observed a noticeable improvement in sound quality, especially in the highs, as the amp warmed up. What exactly is taking place as internal components are coming up to operating temperature?

NP: Mostly the bias currents of different parts of the circuit are going up, but also the characteristics of each gain device is moving into the “sweet spot”, which is tweaked at the factory after burn-in with the amp as its normal operating temperature. It’s natural that the performance is best after warm-up.

CE: Have you considered creating any multi-channel home theater products?

NP: We are a “two channel” house, and none of us has more than stereo to accompany our screens. We have made some 3 and 5 channel amplifiers, and are currently developing a large 5 channel amplifier for release toward the end of the year, but that’s probably it.

CE: I’ve been focusing a lot on the amplifier section of the INT-30A. Can you tell me what’s special and unique about its preamp section?

NP: Nothing, since there is no preamp section, just an input selector and a buffered volume control. The buffer is simply a little Jfet follower - all the gain comes from the main amplifier.



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Conclusions

The one thing I kept thinking of as I listened to the INT-30A is, “This component is about how music makes you feel.” I have heard a lot of electronics and many different speakers and though I have high regard for most of them,

none made me feel quite like this one. As an instrumental performer, I have a great appreciation for the individual sound quality of different examples of the same instrument. Not every bassoon (or bassoonist for that matter) sounds the same. I believe this is what attracts people to high-end audio. While electronics like this are very accurate, they also impart something to the listener that is not easily defined. I just loved the way the INT-30A made me feel when I heard it.

Despite its power rating of 30 watts per channel, it never sounded strained. The loudest dynamics were produced with all the clarity of the softest. With its purist approach to signal reproduction, you will want the best possible room to use it in. A poorly treated space will reduce the INT-30A's true potential. And I can say without a doubt, my Axiom M60s have never sounded better. In fact, this integrated amp elevated the quality of all the components in my system. I did appreciate the loan of my friend's Marantz SACD player. I do recommend a quality analog source if you want to realize full potential.

I started this article by saying I was a multi-channel guy. My horizons have now been greatly expanded. The feel of great two-channel is something that should be experienced by every music enthusiast. While I won't be giving up my home theater separates any time soon, the idea of a dedicated two-channel system has suddenly become very attractive. Though I can't afford the INT-30A, it has officially gone on my list of components to aspire to. It receives my highest recommendation.

