

THE 12 MOST SIGNIFICANT PREAMPS OF ALL TIME!

the absolute sound

GROUNDBREAKING!

PASS LABS' NEW PREAMP

**SPECIAL
ELECTRONICS
ISSUE!**

- 11 Preamp & Amp Reviews
- 9 Great Designers
Debate Amplifiers
- NAD's Digital Media Tuner

MINI-MAGGIE

Magnepan's most
affordable speaker yet!

MUSIC FROM Lyle Lovett, Muddy Waters,
Willie Nelson & Esperanza Spalding

PLUS! High-Res Download Reviews



MAY/JUNE 2012
\$6.99 US / \$6.99 CAN / £4.50 UK



DISPLAY UNTIL JUNE 20TH 2012

www.theabsolutesound.com

Contents

116

COVER STORY

Pass Labs XP-30 Linestage

Dick Olsher reports on the most ambitious linestage yet from one of high-end audio's most venerable marques.

SPECIAL ELECTRONICS FOCUS

39

The 12 Most Significant Preamplifiers of All Time.

53

Designer Roundtable: Nine of the World's Most Distinguished Designers Weigh In on the State of Amplification.

72

Reviews of 11 Preamps and Power Amps at Every Price.

the absolute sound[®]

EDITOR-IN-CHIEF
Robert Harley

EXECUTIVE EDITOR
Jonathan Valin

ACQUISITIONS MANAGER AND ASSOCIATE EDITOR
Neil Gader

MUSIC EDITOR
Mark Lehman

CREATIVE DIRECTOR
Torquil Dewar

ART DIRECTOR
Shelley Lai

FOUNDER/EDITOR EMERITUS
Harry Pearson

HP'S SETUP
Joey Weiss

SENIOR WRITERS

**Anthony H. Cordesman,
Wayne Garcia, Robert E. Greene,
Jim Hannon, Ted Libbey,
Chris Martens, Dick Olsher,
Andrew Quint, Paul Seydor,
Steven Stone, Alan Taffel**

REVIEWERS AND CONTRIBUTING WRITERS

**Duck Baker, Soren Baker, Greg Cahill,
Stephen Estep, Jacob Heilbrunn,
Garrett Hongo, Sherri Lehman,
David McGee, Kirk Midtskog,
Bill Milkowski, Derk Richardson,
Karl Schuster, Jeff Wilson**

Reprints: Jennifer Martin, Wrights Media: (877) 652-5295, (281) 419-5725, jmartin@wrightsmedia.com.
Subscriptions, renewals, changes of address: (888)732-1625 (U.S.), or (386)246-0144 (outside U.S.), or write The Absolute Sound, Subscription Services, PO Box 420235 Palm Coast, FL 32142-0235.
Ten issues: in the U.S., \$29.90; Canada \$45.90 GST included; outside North America, \$64.90. Payments must be by credit card (VISA, MasterCard, American Express) or U.S. funds drawn on a U.S. bank, with checks payable to NextScreen, LLC.
Address letters to the editor: The Absolute Sound, 8868 Research Blvd., Suite 108 Austin, TX 78758 or e-mail rharley@nextscreen.com

Newsstand Distribution and Local Dealers:
Contact IPD, 27500 Riverview Center Blvd., Suite 400,
Bonita Springs, Florida 34134, (239) 949-4450
Publishing matters: contact Jim Hannon at the address below
or e-mail jhannon@nextscreen.com



VICE PRESIDENT/GROUP PUBLISHER
Jim Hannon

NEXSCREEN CHAIRMAN AND CEO
Tom Martin

ADVERTISING REPS

Cheryl Smith (512) 891-7775
Marvin Lewis (718) 225-8803 (MTM Sales)

Publications Mail Agreement 40600599
Return Undeliverable Canadian Addresses to: Station A / P.O. Box 54 / Windsor, ON N9A 6J5
NextScreen, LLC., 8868 Research Blvd., Suite 108
Austin, TX 78758. (512) 892-8682 fax: (512) 891-0375,
tas@nextscreen.com, info@theabsolutesound.com

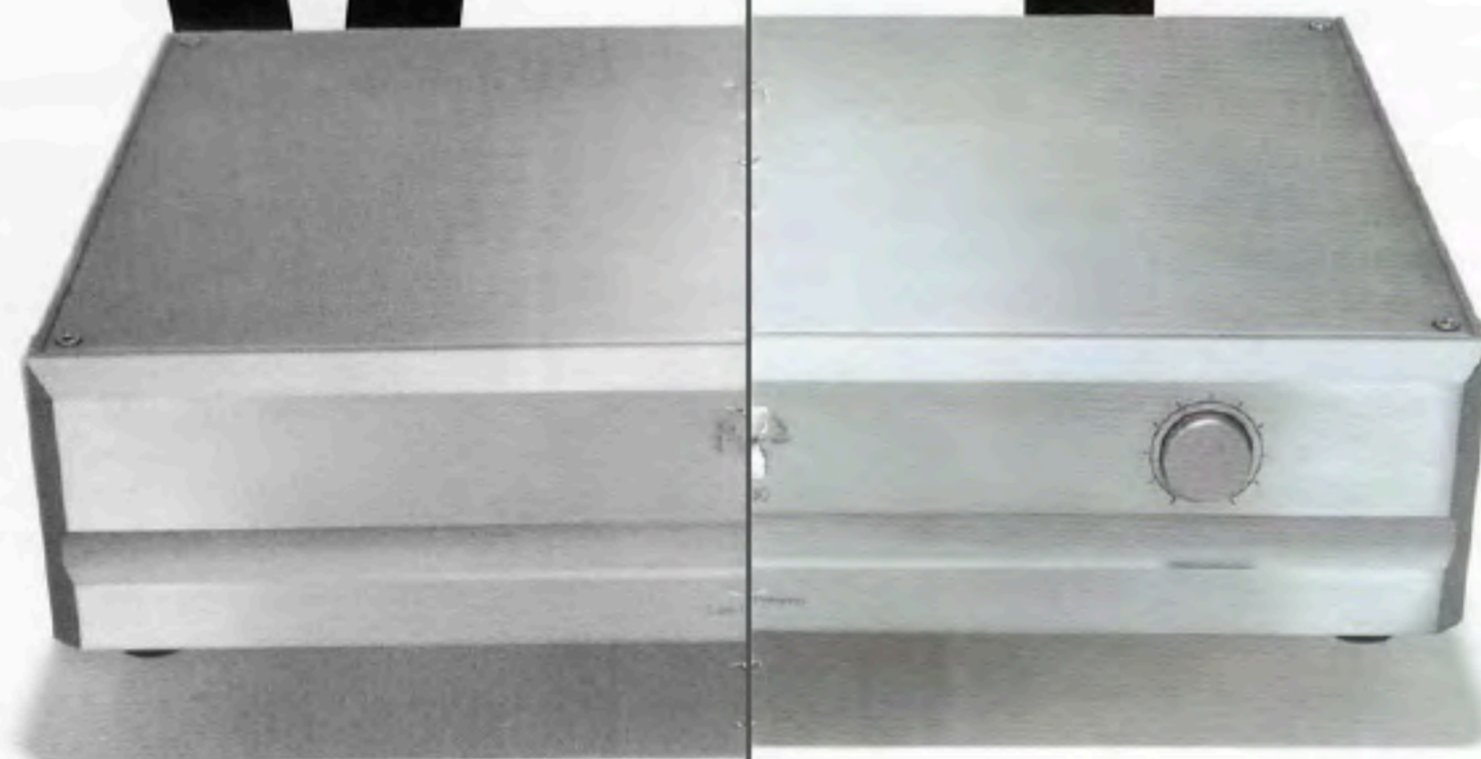
©2012 NextScreen, LLC., Issue 223 May/June 2012. The Absolute Sound (ISSN #0097-1138) is published 10 times per year in the months of Jan, Feb, Mar, April, combined issues in May/June & Jul/Aug, Sept, Oct, Nov, and Dec, \$29.90 per year for U.S. residents, NextScreen, LLC., 8868 Research Blvd., Suite 108 Austin, TX 78758. Periodical Postage paid at Austin, Texas, and additional mailing offices. Canadian publication mail account #1551566 POSTMASTER: Send address changes to The Absolute Sound, Subscription Services, PO Box 420235 Palm Coast, FL 32142-0235. Printed in the USA

TRANSCENDING
THE TUBE/SOLID-STATE

D I V I D E



PASS LABS XP-30
REFERENCE LINE
PREAMPLIFIER



■ DICK OLSHER

To confess, when RH suggested this review I felt a pang of hesitation. As I've spent much of my audio life in the company of tube preamps, the prospect of auditioning a solid-state design made me a bit nervous. However, RH thought it would be a good thing to nudge me out of my comfort zone, and since I was more than a bit curious, I said yes. In retrospect, it turned out to be a most wise decision.

The progression of the XP preamp line, from the single-chassis XP-10, to the dual-chassis XP-20, has reached a glorious apex in the triple-chassis XP-30. Essentially what you have here are two monaural line preamps sharing a single power-supply chassis, though even the power supply is laid out in dual-mono configuration. The gain modules connect to the power supply/control chassis using DIN-25 cables. These cables only communicate power and control commands to the gain stages. At no time does an audio signal cross these umbilicals. Relative to the XP-20, says designer Wayne Colburn, "we started with a larger external power supply big enough for a small power amplifier." There are two low-noise Plitron power transformers, a beefed-up CRC filter network with substantially more capacitance, and electronic capacitance multipliers. The available power from the new supply is sufficient to drive up to six gain channels in order to accommodate the needs of a multichannel surround-sound system.

There are a total of seven line-level inputs (both balanced and unbalanced sets) on each linestage chassis, the sixth being a pass-through for home-theater use and the seventh a tape loop that can only be operated from the remote control. The unit is shipped with shorting plugs on the XLR input connectors and is ready to accept RCA-type inputs. Flexibility is at the core of this design. The XP-30 is able to drive a pair of power amplifiers with two different gain settings. Each gain module features two pairs of outputs (RCA and XLR). In each pair, one is a master and the other a slave that is tied to the master via a volume pot. Thus the slave output can be tweaked, as needed, to drive an active subwoofer or a bi-amplified speaker configuration.

The voltage gain stages are differential in nature. The first stage uses high-transconductance Toshiba JFETs (2SK170 and 2SJ74) as matched complementary pairs in a cascode topology that is responsible for the preamp's exceptionally low distortion levels. Secondary gain and high-current follower output buffers are implemented using Toshiba MOSFETs. The buffers result in exceptionally low output-impedance and the ability to drive long cable runs with the greatest of ease. There is some global feedback. As Wayne points out, the XP linestage is configured much like an instrumentation amp with a high input impedance and one gain-setting resistor. The Toshiba parts are currently out of production, but not to worry, Nelson Pass had anticipated this, and Pass Labs made large purchases of discontinued Toshiba JFETs and MOSFETs to support

IMPROVEMENTS RESULT IN
A CLOSER APPROACH TO
THE REAL THING.



production of this gain stage for the next ten years.

Something that Nelson wished for was the ability to drive an amplifier output stage by itself. That requires a preamp to deliver a fraction of a volt to the power amp or peaks in excess of 50V to a balanced no-feedback follower output stage. The XP-30 is up to both tasks. The internal gain of each stage can be boosted up to 24dB via internal jumpers so that the XP-30 can serve as the low-source-impedance front end for Class A power amps.

Note that the XP-30 uses the same new gain modules as the XP-10 and XP-20 but in an enhanced configuration that incorporates several new semiconductors with superior sonic and technical characteristics, a few custom capacitors, and a few other minor design tweaks. In addition, the internal onboard power regulation was improved through the use of select new parts. The consensus at Pass Labs is that all of these advances, while making for small differences in measured performance, appear to have resulted in far greater sonic benefits and a closer approach to the real thing.

One of the basic tasks facing any preamp is volume control. The pecking

order as far as sound quality has traditionally spanned the range from the lowly conductive plastic pot to a high-quality resistor-based stepped-attenuator. But recent developments in electronic volume control have upset the status quo. The XP-30 uses the new NJR Muses 72320 IC, a two-channel electronic volume control with an internal resistance-ladder, optimized for low noise and sound quality. Apparently, a few resident audiophiles at New Japan Radio Co. lobbied successfully for some high-end parts, and the result was the Muses series of op-amps, including the 72320 volume control. Pass Labs evaluated the new volume control and liked what it measured and heard. Only then was the 72320 adopted for use in the XP-30. The bottom line is that the Muses control gives an unprecedented low-noise floor and a dynamic range of 100dB in 1dB steps, but, according to Wayne, it performs nicely and consistently only if used properly. It should be noted that Pass Labs is only using part of the IC and avoids any of its op-amps.

My own listening tests confirmed that the Muses volume control, at least as implemented by Pass Labs, is top-notch. It went up against my reference,

the Experience Music Passive-Aggressive autoformer volume control, which is based on Dave Slagle's silver autoformer modules and is perfect for a digital front end. It's a tough test for an active linestage. Consider that line-level output is a nominal 2V for a CD player or DAC—a signal level sufficient to red-line typical power amps with an input sensitivity between 1 and 2V. Therefore, the signal needs to be attenuated by an active linestage before it is amplified again—not an ideal situation. The XP-30 is one of the few linestages that could hold its own in such a head-to-head competition.

If the truth be known, I own two solid-state preamps—the SAE Mark I and the Threshold NS10. The former, an early solid-state design circa 1970, sounds a bit raspy, grainy, and deficient in tonal color. The latter, interestingly enough a Nelson Pass design, comes much closer to the real thing. The critical point is that every solid-state preamp I have auditioned in the past displayed a fairly obvious sonic tell. Needless to say, my auditory antennae were finely tuned when I settled in for the first listening session. Much to my surprise there weren't any tells. That's not to say that the XP-30

TRANSCENDING THE TUBE/SOLID-STATE DIVIDE



sounded overtly tubey. It is well known that triodes operated single-ended produce primarily second-order distortion, which is not only consonant with the music, being an octave higher than the fundamental, but also adds weight and body to the sound. Taken to the extreme, the end result is a fat and harmonically lush presentation, symptomatic of a severe case of tube euphonics. In contrast, the XP-30 sounded texturally pure, adding nothing and subtracting nothing from the musical tapestry. Tonal colors were right on, and (program material permitting) the mids sounded mighty sweet. Paired with the Swedish Q-tron PA12 OTL, the soundstage was wide and deep. Image focus was highly localized with sufficient spatial separation to allow a truck to drive between image outlines. Images, though, were not quite as well-fleshed-out as they are with a world-class tube linestage. Tube attributes, brought to the table by the PA12, were in no way diminished by the addition of the XP-30 to the chain. In particular, the PA12's warm harmonic textures and vivid tonal colors were clearly discernible.

Bass control and resolution transcended anything I had previously experienced. Sure, lots of linestages are competent bass-range performers, but bass is about more than just definition. It's about laying down an orchestral foundation with big tone conviction and dynamic integrity. It's about resolving low-level nuances that ordinary linestages gloss over. The XP-30 did a brilliant job of sweeping away midbass and upper-bass mud, honing in cleanly on bass guitar or acoustic bass lines. Much has been said about the power amp/speaker interface, and specifically its importance in damping woofers. There's an argument to be made that the preamp/power amp interface is a significant contributor to bass-range fidelity, and that much was clear with the XP-30 in the chain. I should add that the XP-30 did not interfere with the intrinsic sound character of any of the power amps it was auditioned with, whether tube or solid-state. Thus, an amplifier in search of a romantic partner will find no satisfaction. This preamp is faithful to the recording and refuses to dish out the euphonic camouflage some solid-state amps may desire.

The XP-30 is built for action. Transient attack was a model of speed and clarity, while decay was well-controlled. The treble range was open and extended, with satisfying levels of finesse.

Brushed cymbals and struck bells shimmered just right. The brightness of closely miked piano was clearly elucidated. In general, low-level detail was retrieved without calling attention to the process, in the way that say beryllium-coned drivers appear to do. (I find these drivers impressive for sure, but too much in my face for long-term comfort.) In contrast, the XP-30's detail retrieval was more like ripples in a pond. It allowed me to take in the big picture (i.e., the pond) without distraction, and if I focused, the detail was there for the picking.

Microdynamics—essential for capturing music's expressiveness and rhythmic drive, and long the trump cards of tube preamps—were reproduced with great conviction. And the drama and intensity inherent in scaling music's full dynamic range was given full scope. The preamp showed no hesitation when expanding the sonic envelope from loud to very loud.

In the year of the Dragon, enter the XP-30, a supremely musical line preamp that may well prove to be all things to music lovers and audiophiles alike. It transcends shallow characterizations as either solid-state or tube sound. At its core, it is simply about musical values; music flows naturally through its circuits. I'm jumping for joy over the first solid-state preamp that makes it happen for me. A five-star recommendation! **tbs**

SPECS & PRICING

Inputs: Seven balanced on XLR jacks, seven unbalanced on RCA jacks
Gain: 10, 16, or 24dB
Volume control: 100 individual 1dB steps
Frequency response: 20Hz–20kHz +/- 0.05 dB
Distortion: <0.001% THD @ 1V RMS
Output impedance: Main balanced, 120 ohms total; slave balanced, 200 ohms total; main and slave unbalanced, 120 ohms
Input impedance: 42k ohms
Common-mode rejection ratio: -65dB, 1kHz
Crosstalk: -100 dB, 1kHz
Signal-to-noise ratio: -110dB, ref 5V
Power consumption: 45W
Dimensions: 17" x 4" x 12" (each chassis)
Weight: 74 lbs. (three chassis-packed)
Price: \$16,500

PASS LABORATORIES
24449 Foresthill Rd.
Foresthill, CA 95631
(530) 367-3690
passlabs.com

ASSOCIATED EQUIPMENT
MartinLogan Summit X, Analysis Audio Omega, and BassZilla Platinum Edition mk2 loudspeakers; Sony XA5400 SACD player with ModWright Truth modification; Kuzma Reference turntable; Kuzma Stogi Reference 313 VTA tonearm; Symphonic Line RG-8 Gold MC phono cartridge; SoundTradition Live! MC-10 step-up; Q-tron PA12 OTL, LAMM Audio M1.2 Reference monoblock, Joe Curcio modified Paoli 60 monoblock, & Carver Cherry 180 monoblock power amplifiers; FMS Nexus-2, Wire World, and Kimber KCAG interconnects; Kimber KCAG speaker cable; Bybee Speaker Bullets; Sound Application power line conditioners

