

HERB REICHERT

PrimaLuna ProLogue Premium

LINE PREAMPLIFIER

Everyone knows that world-class analog and digital sources are the bedrock of all fine audiophile systems. Everyone also knows that a happy relationship of amplifier, speakers, and room makes audiophiles smirk *Aren't I lucky?* Fewer among us are aware that the upper limit of sound quality an audio system can deliver will be established by whichever audio contraption we use to select our sources and adjust their volume.

A hi-fi system with too little gain or an impedance mismatch (especially at the interfaces of the selector switch and volume control) can sound dim or hesitant. A system with too much gain can sound jumpy, noisy, or unsubtle. In contrast, when our world-class sources provide a stable, non-fluctuating, high-impedance load, and the control unit's output is low enough in impedance and high enough in gain to stimulate the power amplifier to its full dynamic effect—*then* the system will sound as good as it can sound.

In my 100 years of life I have experimented with every possible preamplifier/control device: passive, active, digital, analog, tube, and solid-state. In the end, I usually prefer the liquid transparency and full-color jump factor of a well-engineered, tubed line stage.

You see, preamps don't have just their own sound—they affect the performance of everything that proceeds and follows them.



A hi-fi system with too little gain can sound dim or hesitant.

Nowadays, I anchor my Bed-Stuy bunker system around my reference Pass Labs HPA-1 headphone amp and line stage (\$3500), or the fresh transparency of one of these tubed preamps: Linear Tube Audio's microZOTL2.0

(\$1100), the over-achieving Rogue Audio RP-1 (\$1699), or the PrimaLuna ProLogue Premium (\$2199). The Pass HPA-1 is the near-perfect rock star of the bunch, but of the three other preamps, the PrimaLuna ProLogue Premium delivers the most jump factor, seductive liquidity, and instrumental color. Which is why I must tell you about it.

Description

The PrimaLuna ProLogue Premium is basically an old-school, line-level tubed preamp, created in the Netherlands

SPECIFICATIONS

Description Tubed, dual-mono, line-level preamplifier. Tube complement: four 12AU7, two 5AR4. Inputs (all RCA): 4 pairs line-level, 1 pair home-theater bypass, phono optional. Outputs (all RCA): 2 pairs variable, 1

pair fixed. Gain: 12dB. Input impedance: 100k ohms. Output impedance: 2800 ohms. Input sensitivity: 200mV.

Dimensions 14.5" (370mm) W by 8" (200mm) H by 15.5" (390mm) D. Weight 37.5 lbs (17kg).

Serial number of unit reviewed D6442852.

Finish Gray lacquer.

Price \$2199. Approximate number of dealers: 60. Warranty: 2 years, limited; 6 months, tubes.

Manufacturer Durob Audio

BV, PO Box 109, 5250 AC Vlijmen, The Netherlands. Web: www.primaluna.nl. US: PrimaLuna USA, 2058 Wright Avenue, La Verne, CA 91750. Tel: (844) 588-4434. Web: www.primaluna-usa.com.

by Herman van den Dungen, and built in China to levels of quiet, durability, and sonic sophistication not possible in the 20th century.

The ProLogue Premium is built into the same type of blue-gray, subtle metal-flake, lacquer-on-steel case as the ProLogue Premium EL34 tubed power amplifier, which I reviewed in the November 2016 issue.¹ That stereo amp weighs 46.3 lbs; surprisingly, this *preamp* weighs almost as much: 37.5 lbs. It's so heavy because it has two large, potted toroidal power transformers and two power-supply filter chokes, all sitting atop the chassis, hidden inside a vented box. Including its tube cage, the ProLogue measures 14.5" wide by 8" high by 15.5" deep.

The ProLogue Premium's dual-mono heavy-duty-ness is enhanced by the use of one GZ34/5AR4 rectifier tube per channel. This design choice is extremely unusual—most tube amps forgo tube rectifiers, instead using solid-state diodes to save space and cost. In their defense, the amp manufacturers often say that solid-state rectifiers are quieter (they're not), or that they sound better (which I question), or that they do it to make their gear sound less like tubes and more like transistors (which is possible).

When a preamplifier does have a tube rectifier, it's usually a miniature 12X4 or 6X4 tube rated to draw 90 milliamperes of current—not the indestructible and organic-sounding, octal-base GZ34/5AR4, rated at 250mA. Each of the ProLogue Premium's 12AU7 twin-triode tubes draws only 20mA, so you can be sure that PrimaLuna is not using massively overspec'd and costly octal tube rectifiers for durability alone—no way. I can assure you that PrimaLuna is using one high-current rectifier per channel because Herman van den Dungen believes it makes his \$2199 preamp sound richer, faster, and less mechanical than other preamplifiers employing beavies of \$1 rectifiers. Why else?

When I removed the ProLogue Premium's bottom plate,

I was instantly impressed by the quality of parts and labor I saw. I've serviced countless tube amps, including some of the world's most expensive, and have never seen better-crafted point-to-point wiring or more intelligent layout. On their website, PrimaLuna makes a big deal about their tube sockets being bolted directly to their steel chassis. This is because it is a big deal—it makes their products more durable and trouble free than those of competitors who attach tube sockets directly to circuit boards. The latter strategy saves space, labor, and money, but every time the user removes or inserts a tube, there's a danger of irreparably damaging the board. Over time, that danger becomes a certainty.

Likewise with those volume controls and selector switches I was talking about. Many of the biggest high-end names use a \$4 chip to control volume, DS1666 Audio Digital Resistor, as a solid-state potentiometer; PrimaLuna uses a motorized Blue Velvet potentiometer, made by Alps in Japan, that costs at least ten times as much. Expensive, Japanese-made relays are used for the source-selector switch.

DuRoch polypropylene capacitors are featured in the power supply and signal path, while Solen polypropylene caps, made in France, are used at the outputs. Almost as impressive as all that are the Japanese-made Nichicon storage caps that proudly project from the ProLogue Premium's chassis top.

On the 7/16"-thick aluminum front panel are two symmetrically placed knobs: volume control on the left, input selector on the right. Centrally located between them is a handsome Off/Warming Up/On LED. The On/Off rocker switch is hidden away on the preamp's left side, just around the protruding edge of the front panel.

On the rear panel is a plethora of gold-plated RCA jacks for the inputs—CD, Tuner, Aux 1, Aux 2, HT (home

¹ See www.stereophile.com/content/primaluna-prologue-premium-power-amplifier.

MEASUREMENTS

I measured the PrimaLuna ProLogue Premium preamplifier with my Audio Precision SYS2722 system (see the January 2008 "As We See It," <http://tinyurl.com/4ffpve4>). The gain with the volume control set to its maximum was 11dB, unbalanced input to unbalanced output, 1dB below the specified 12dB. The preamplifier preserved absolute polarity (ie, was non-inverting). The inputs, all unbalanced, offered a very high input impedance of 183k ohms at 20Hz and 1kHz, dropping to a still very high 116k ohms at 20kHz. The PrimaLuna's output impedance, specified as 2800 ohms, was 2600 ohms at high and middle frequencies, rising to 4500 ohms at the bottom of the audioband. As a result, the ProLogue Premium's frequency response into the demanding 600 ohm load (fig.1, cyan and magenta traces) was down by 3dB at 30Hz, compared to 12Hz into 100k

ohms (blue, red). At the other end of the audioband, the ProLogue Premium's response was more extended into 600 ohms than into 100k ohms, reaching the -3dB point just below 200kHz compared with 70kHz. This graph was taken with the volume control set to its maximum; the good matching between channels was even better at

lower settings, and, commendably, the frequency response didn't change.

Channel separation was good below 1kHz, at >77dB in both directions, but worsened to 51dB at 20kHz, due to the usual capacitive coupling between channels. The wideband, unweighted signal/noise ratio, taken with the inputs shorted to ground but the volume

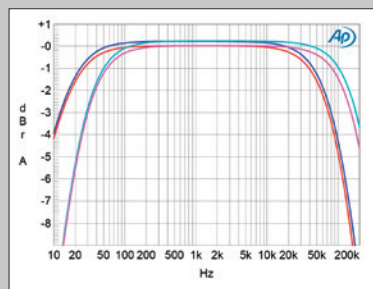


Fig.1 PrimaLuna ProLogue Premium, frequency response at 1V into: 100k ohms (left channel blue, right red), 600 ohms (left cyan, right magenta) (1dB/vertical div.).

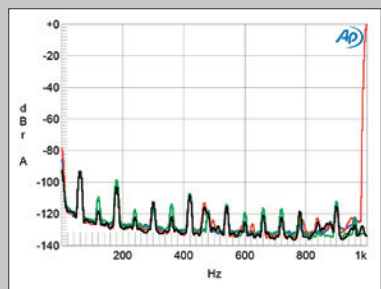


Fig.2 PrimaLuna ProLogue Premium, spectrum of 1kHz sinewave, DC-1kHz, at 2V into 100k ohms (left channel blue, right red) and at 0V (left green, right gray) (linear frequency scale).

theater)—and outputs: Tape Out, Out 1, Out 2. There's also a grounding post. A simple, slender, solid aluminum remote control is included.

Listening

Whenever I insert a new preamplifier or source component in the bunker system, the first thing I listen for is a change in the quantity or character of the musical energy projected between the loudspeakers. Is it denser? More textured? Weaker? Does it occupy more or less space in my room? Is it harder or softer? These are important traits to notice.

That in mind, I began my auditions of the PrimaLuna ProLogue Premium with Iggy Pop singing a very stoned, slurry, after-hours take of "Jesus Loves the Stooges" (7" 45rpm EP, Bomp BEP-114). The song, by James Osterberg and James Williamson, appears to have been recorded with only two poorly positioned microphones: one on Iggy's upright piano, the other on his thick voice.

I was tracing this strange Iggy moment with a humble Ortofon 2M Black moving-magnet cartridge installed in a Jelco SA750B tonearm mounted on an Analogueworks Zero turntable (review to come), driving a Tavish Design Adagio phono preamplifier, and instantly I recognized how the ProLogue Premium enhanced not only the music's force and strength, but also the space and scale of the sound. Momentum was excellent, and timbres were surprisingly real sounding; but it was the PrimaLuna Premium's listen-



The first thing I listen for is a change in the quantity or character of the musical energy.

The ProLogue Premium seen from behind, with its tube cage in place

ability that made this crazy-ass recording so enjoyable. With my other preamps, "Jesus Loves the Stooges" sounds more ragged and fuzzy—more as if it's coming out of a boom box. With the PrimaLuna, it sounded all sweaty and solid, like Iggy onstage.

But as much as I love them, Stooges records are not always good for checking tonal beauty, imaging, or fundamental realisms. So I upped the beauty quotient a little and played Béla Bartók's Piano Concerto 1, in the 1977 record-

measurements, continued

control set to its maximum, was 73.8dB ref. 1V in both channels. This improved to a superb 91.5dB with a 22Hz–22kHz measurement bandwidth, and to 97dB with an A-weighting filter in-circuit. The noise floor was dominated by spurious at mainly the 60Hz AC line frequency and its odd-order harmonics (fig.2), but these are all low in level. It's possible that they arose from magnetic interference between the power trans-

former and the tubes' steel pins. Even-order harmonics of the power-line frequency, which stem from internal grounding issues, were much lower in level, suggesting good circuit layout.

It was when I looked at the ProLogue Premium's distortion that I began to become concerned. Fig.3 shows how the percentage of THD+noise increases as the output voltage rises into the high 100k ohm load. Although

the THD+N is very low below 200mV, the percentage rises almost linearly as the output increases, reaching 0.42% at 2V, and 1%—our definition of waveform clipping—at 4.5V. However, into 10k ohms (fig.4), this load typical of many solid-state power amplifiers, the THD+N behavior is not dissimilar, though the 1% point is reached at 3.5V. Commendably, the distortion remains constant with frequency as well as with

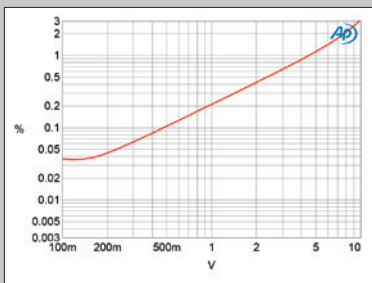


Fig.3 PrimaLuna ProLogue Premium, distortion (%) vs 1kHz output voltage into 100k ohms.

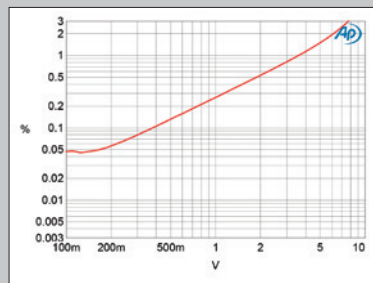


Fig.4 PrimaLuna ProLogue Premium, distortion (%) vs 1kHz output voltage into 10k ohms.

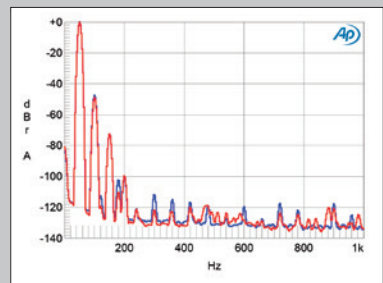


Fig.5 PrimaLuna ProLogue Premium, spectrum of 50Hz sine wave, DC–1kHz, at 2V into 100k ohms (left channel red; linear frequency scale).

ing by Maurizio Pollini with Claudio Abbado conducting the Chicago Symphony Orchestra (LP, Deutsche Grammophon 2530 901), on the not-so-humble analog rig of Palmer 2.5 turntable, Audio Origami PU-7 tonearm, and Mighty Cala Sound MCS TNT 15 moving-coil cartridge, with a Parasound Halo JC 3+ phono preamplifier and Bob's Devices CineMag 1131 step-up transformer. This world-class combo let the ProLogue Premium and power amp strut their high-value stuff. The metal-flake blue team brought this spectacular DGG recording to a very high level of fine detail and lush lucidity.

The PrimaLuna tube combo produced the most mind-grabbing spatial contrasts: big and small, far and near were explicitly portrayed. Instrumental tones, staccato rhythms, and artistic intents were vividly exposed. Pollini plays with uncharacteristically wild attacks, and this system let me lose myself in them. Likewise, Abbado and the CSO explode this fantastic concerto—and the ProLogue Premiums let me savor every fast-moving fragment. (This record played so well with this group of components that it created, for me, an unforgettable moment.)

The next day, I played this LP through this system for one of my measurements-oriented audiophile friends. At the end of the concerto, he looked at me and said, “That’s not an amp!” To my quizzical expression he responded, “That’s a second-harmonic generator!” Sheepishly, I admitted that the sound might be a *little* rich in even-order harmonics, but then asked him, “What *else* could sort and display this complex music in such a tactile, spacious, satisfying way?”



It let the music sparkle and scintillate at late-night whisper levels.

Timpani were far back but completely fleshed out, still weighty and accurately toned. Piano was front right, solid, and frantic, all in just

the right amounts. Wind instruments were anchored, and the preamp exposed the counterpoint of percussion and piano. Rhythms were precise and kept my attention flowing forward. Unlike my visitor, I could not have been more pleased.

I asked Mr. Objectivity how he thought *his* system would play this giant, rattling Bartók disc. “Terribly!” he mumbled. “But far more accurately!”

To further torture my guest, I put on the Kronos Quar-

measurements, continued

load impedance.

When I picked up the PrimaLuna from Herb Reichert for measurement, he jokingly hoped that I wouldn’t find it a second-harmonic generator. But as you can see in figs. 5-7, that is exactly what it is. The PrimaLuna’s distortion signature is predominantly second-harmonic in nature, and varies from 0.31% at 2V (fig.5) to 0.2% at

1V (fig.6) to 0.1% at 500mV (fig.7). Intermodulation distortion, however, though higher than usual, was lower than I’d expected from the “bent” transfer function responsible for the second-harmonic distortion. Fig.8, for example, was taken at 1V into 100k ohms, and the second-order difference product at 1kHz that results from an equal mix of 19 and 20kHz tones lay at

-6dB, or 0.1%. (Note some low-level spurious are present between 2kHz and 3kHz; these were present on all the FFT analyses, but I have no idea where they come from.)

This heavy, well-made preamplifier generally measures well, but that second-harmonic distortion signature will fatten up the sound, as Herb’s Mr. O noted.—John Atkinson

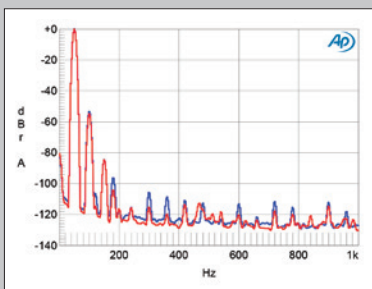


Fig.6 PrimaLuna ProLogue Premium, spectrum of 50Hz sine wave, DC-1kHz, at 1V into 100k ohms (left channel red; linear frequency scale).

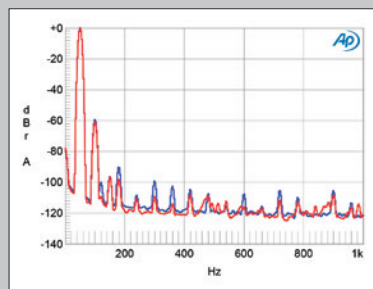


Fig.7 PrimaLuna ProLogue Premium, spectrum of 50Hz sine wave, DC-1kHz, at 500mV into 100k ohms (left channel red; linear frequency scale).

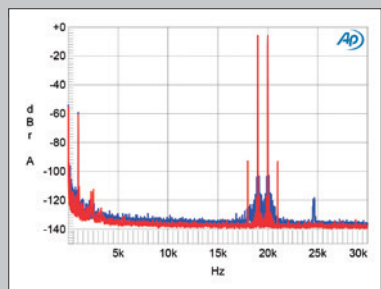


Fig.8 PrimaLuna ProLogue Premium, HF intermodulation spectrum, DC-30kHz, 19+20kHz at 1V into 100k ohms (left channel blue, right red; linear frequency scale).

tet's recording of John Adams's smart, frolicking *John's Book of Alleged Dances* (CD, Nonesuch 79465-2). We listened to this fun bit of art music through my Integra DPPS-7.2 DVD-A player (used as a disc transport) and Schiit Audio's Yggdrasil DAC (\$2200). Mr. O cringed as I pulled out the CD. When he spotted the Schiit, he rolled his eyes. But when he recognized the veracity, true tones, and vivid textures of David Harrington and John Sherba's fiendishly dancing violins, he didn't cringe and his eyes didn't roll.

I can speak only for *my* taste, but I swear: Listening to these *Alleged Dances* through this trio of real-world components gave me levels of robust joy and musical satisfaction that would be hard to match at several times their price. (I was using the \$8400/pair DeVore Fidelity Orangutan O/93 speakers and moderately priced AudioQuest cables and interconnects.)

Late one night, a suave and cultured audio friend, François Saint-Gérand of Mighty Cala Sound, turned me on to a ridiculously hip recording from 1969: *Comme à la Radio*, by France's most talented avant-garde chanteuse, Brigitte Fontaine (LP, Superior Viaduct SV042). Fontaine (b. 1939) is a novelist, actress, playwright, and poet whose main career has been singing her own art songs and musically collaborating with the likes of Stereolab, Gotan Project, Sonic Youth, Grace Jones, Noir

Désir, Archie Shepp, Arno—and, on this album, the Art Ensemble of Chicago and her future husband, Areski Belkacem (b. 1940).

It took only a few seconds of *Comme à la Radio* for me to realize that Fontaine would become my latest French obsession, following Bardot, Piaf, and Debussy. The way this vivid multi-mono album is constructed puts Fontaine's voice right up close to her microphone. Likewise Areski's melodic recitations and accompaniment on sitar and guitar. This is art and music to die for, and the PrimaLuna preamp made each surprising track sound intense and freshly recorded. This album, recorded 48 years ago, sounded so vivid and exposed that I thought I could sense the magnetic tape passing over the recording heads.

Whatever kind of distortion Mr. O thought the PrimaLuna gear was generating, I couldn't hear any of it. The ProLogue Premium preamplifier let me play this record much louder than I usually would, and still feel relaxed and focused while listening. It also let the music sparkle and scintillate at late-night whisper levels.

Comparison

After I'd substituted Rogue Audio's RP-1 tubed preamplifier² (\$1695) for

² See my review in August 2016: www.stereophile.com/content/rogue-audio-rp-1-preamplifier.

ASSOCIATED EQUIPMENT

Analog Sources Palmer 2.5 turntable, Audio Origami PU-7 tonearm, AMG Teatro, Mighty Cala Sound TNT 15 cartridges; Analogueworks Zero turntable & tonearm, Ortofon 2M Black, Hana EL, Zu Denon 103 cartridges; Roksan Radius 7 turntable and tonearm, Corus Silver, Dynavector 20X2L cartridges.

Digital Sources Mytek HiFi Brooklyn, Schiit Audio Yggdrasil DACs; Integra DPPS-7.2 DVD-A player (used as transport).

Preamplification Rogue Audio RP-1 line-level preamplifier; Dynavector P75, Lounge Audio LCR Mk.III, Parasound Halo JC 3+, Tavish Design Adagio phono preamplifiers; Bob's Devices CineMag 1131, Dynavector SUP-200, Lounge Audio Copla step-up amplifiers; Linear Tube Audio microZOTL2.0, Pass Labs HPA-1 used as line-level preamplifiers.

Power Amplifiers First Watt J2, PrimaLuna ProLogue Premium.

Loudspeakers DeVore Fidelity Orangutan O/93, Falcon LS3/5a, KEF LS50, Technics SB-C700, Zu Audio Soul Supreme.

Cables Digital: Kimber Kable D60 Data Flex Studio (coaxial). Interconnect: AudioQuest Cinnamon, Kimber Kable Silver Streak, Wireworld Eclipse 7 & Silver 7. Speaker: AudioQuest GO-4, Auditorium 23. AC: AudioQuest NRG-2.

Accessories AudioQuest Niagara 1000 Low-Z power conditioner, PS Audio PerfectWave Power Base, Dr. Feickert Analogue Protractor NG & Adjust+ software, Acoustical-Systems SmarTractor cartridge-alignment protractor, Musical Surroundings Fozgometer, Moongel stylus cleaner.

—Herb Reichert

the ProLogue Premium, instrumental tones and piano notes felt abbreviated. Attacks seemed minutely suppressed, and decays were attenuated. Perhaps because of this, the Rogue was more intense in boogie factor, which in turn let beats and rhythms hold my attention longer.

The Rogue's "shorter" sound made bass feel more taut and muscular—but because of the reduction in harmonics and the attenuation of decays, there seemed to be less of it. Instrumental colors and midrange textures sounded more fully developed through the PrimaLuna. Because of this, the RP-1 was less beautiful in its transparency, and sometimes even noticeably gray. Through the Rogue, details were more finely drawn but seemed to emerge from a drier, shallower space. Conceivably, I'm describing the absence (Rogue) vs the presence (PrimaLuna) of Mr. O's second-order harmonic distortion.

Overall, the Rogue RP-1 felt more masculine and declarative, always marching and battling its way through difficult music. The RP-1 drove like a '69 Camaro Z28. In contrast, the PrimaLuna ProLogue Premium drove like a 1962 Alfa Romeo Giulietta Spider. It seemed more feminine and seductive. It danced, laughed uncontrollably, and sang. It guzzled French wine by the bottle, and would, after enough wine, kiss me full on the lips.

Nevertheless . . .

The ProLogue Premium has a high input impedance of 100k ohms and delivers a fixed gain of 12dB, which is just slightly on the low side of normal. I've been driving the PrimaLuna preamp just perfectly with Schiit's Yggdrasil and Mytek's Brooklyn DACs and a variety of phono stages: the Tavish Design Adagio, Parasound Halo JC 3+, and Lounge Audio LCR Mk.III. Gain-wise, no matter which amp or source I connected it to, the ProLogue's volume control always ended up in that optimal range of 10am–2pm.

Like all tubed preamplifiers without cathode-follower outputs, the ProLogue Premium's specified output impedance is high: 2800 ohms. This means it will sound its lively, detailed, frequency-extended best only if you connect it to a power amp with an input impedance of greater than 28k ohms. Barring unusual circumstances, a properly quiet and dynamic source-preamp match should not be difficult to achieve.

That accomplished, you should *sense* a new, nearly invisible, but tangibly luminous presence in every recording you play. Punch and drive should be obvious, but not overly or solid-state aggressive. You'll notice a feeling of ease and refined forward propulsion. Bass response will feel enjoyably strong, but maybe not as detailed as you're used to with solid-state amplification. Most of all, you should notice the ProLogue Premium's liquid transparency.

I have experienced many of the best and most expensive preamps, and none has been perfectly invisible. Surprisingly few have been more invisible than the PrimaLuna ProLogue Premium. With its stock tubes, the ProLogue Premium seemed about 80% invisible, with a forecast of 15% sunny and 5% cloudy skies. Humidity was above 50%. The absolute best tubed or solid-state preamps I've heard have never been more than 90% invisible—or cost less than \$10,000.

In nearly two years of use, the ProLogue's stock tubes behaved perfectly: 100% dead quiet and grain-free. Exchanging them for new old stock (NOS) tubes from Amperex, RCA, Mullard, Brimar, or Telefunken will be unlikely to add any invisibility, but they will adjust, in varying subjective amounts, the sonic weather factors mentioned above. NOS valves might also add force, shimmer, or texture to the sound. Although I didn't experiment with alternate brands of tube, the ProLogue Premium's chassis-mounted tube sockets clearly indicate that it was designed to accommodate this kind of fun, and PrimaLuna devotes a webpage to the subject: www.primaluna-usa.com/tube-rolling.

In the end

I've listened to the PrimaLuna ProLogue Premium preamplifier at great length and carefully studied its construction. I've installed the review sample in my system many times and removed it just as often—it's been banged about. So I can say, without doubt, that it's built to last and is musically effective. Its combination of beguiling transparency and dynamic authority reproduces complex music and recordings with ease and élan. In even a very expensive system, it will not set limits on musical enjoyment. As I concluded my review of PrimaLuna's ProLogue Premium power amp: Class A sound at a Class C price. ■