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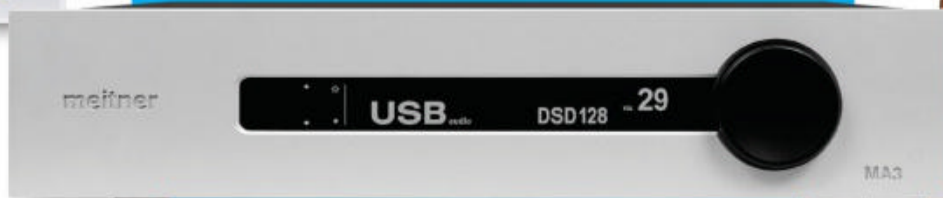


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ROGIER VAN BAKEL

PrimaLuna EVO 400

INTEGRATED AMPLIFIER

National pride is the damndest thing. When I was growing up in the Netherlands, schoolchildren were taught that the inventor of the printing press was a Dutchman named Laurens Janszoon Coster. Germany's Johannes Gutenberg was waved away as an also-ran, if he was mentioned at all.

Since then, the Dutch have claimed other engineering and technology triumphs that aren't quite so dicey. Take the world of audio. Dutch innovators at Philips gave us the audio cassette (for which I beg your forgiveness). Two decades later, they and their Sony colleagues upped the game with the Compact Disc—and randomly decided on the diameter of the center hole by making it exactly the size of the pre-Euro Dutch dime. A Dutchman came up with Bluetooth. Top high-end brands like Mola Mola and Hypex hail from the Netherlands.¹

So does PrimaLuna. For almost 20 years, the company has built a solid reputation making high-quality tube gear—that *still* offers remarkable value, even after the price of its cheapest products rose from \$1095 in 2003 to \$2795.

I own the PrimaLuna DiaLogue Premium HP power amplifier.



The amp just took the signal and reproduced it so that the sound came across as organic, holistic, and alive.

It's superb. So I didn't need much convincing when *Stereophile* Editor Jim Austin tasked me with reviewing the company's top-of-the-line integrated tube amplifier, the EVO 400. After it spent almost three months in my system, I can safely say that in contrast to the story about Mr. Coster and the printing press, there's nothing

hyped or sus about the praise this product has received.

¹ It's not a coincidence. Dutchman Jan-Peter van Amerongen, who died late last year, founded Hypex in 1996 and later hired Bruno Putzeys as the company's head of R&D. Amerongen and Putzeys later cofounded Mola Mola.

SPECIFICATIONS

Description Tubed, remote-controlled, stereo integrated amplifier designed in the Netherlands, manufactured in China. Tube complement: six 12AU7s, eight EL34s. Inputs: 5 pairs RCA, 1 pair home-theater bypass. Outputs: 4 ohm and 8 ohm. Stereo sub outs. 1/4" headphone jack. Rated output power: With stock EL34s, 70Wpc Ultralinear, 38Wpc

triode; with KT88s, 72Wpc Ultralinear, 40Wpc triode; with KT120s, 85Wpc Ultralinear, 45Wpc triode; with KT150s, 88Wpc Ultralinear, 50Wpc triode. Frequency response: 9Hz–50kHz ±1dB; 8Hz–68kHz ±3dB. S/N ratio: 90dB (98dB A-weighted). Input impedance: 100k ohms. Power consumption: 470W with EL34 tubes; 480W with KT88s; 540W with

KT120s; 550W with KT150s. **Dimensions** 15.9" (410mm) W × 8.1" (210mm) H × 15.2" (390mm) D. Weight 68.2lb (31kg).

Serial number of unit reviewed Y7646463U. Manufactured in China with components hand-selected in the Netherlands. **Warranty:** Three years with registration; tubes, six months. **Price** \$5595. Approximate num-

ber of dealers: 59 in the United States, 13 in Canada.

Manufacturer Durob Audio BV, PO Box 109, 5250 AC Vlijmen, the Netherlands.

Tel: (+31) 73-511-2555.

Web: primaluna.nl.

U.S. distributor: PrimaLuna USA, 1712 Corrigan Ct., La Verne, CA 91750.

Tel: (909) 310-8540.

Web: primaluna-usa.com.

Care and feeding

I have a checkered history with tube amplifiers, and some of that is my own fault. One morning two years ago, when I was reviewing for a different publication, an amp arrived for audition. I plugged it in, and only when a wisp of smoke accompanied the puzzling absence of sound did I realize that, while I'd neatly rolled out the speaker cables, I hadn't actually connected them to the binding posts. The replacement fared better, and the sonics were enjoyable, but frequent fluttering noises made for a mixed experience. I never did write that review.

For me, choosing sides in the old tubes-vs-solid state debate is a Solomonic ordeal. I often love the *sound* of tubes (in the right system), but that soothing, seductive signature is offset by the care and feeding that tube technology seems to require. Plug in a solid state amplifier and you're good to go, probably for decades. Plug in and turn on a tube amp and you've got *responsibilities*. Depending on the particular model, you may have to make sure there's always a load on the terminals before plugging it in and remind yourself to adjust the bias from time to time (although PrimaLunas, admirably, are truly autobiasing²). You also can't help but listen for tubes that are possibly sputtering toward death. You'd best have spares on hand when they finally croak, and be prepared to spring for an entire fresh set every so often. Which, especially in times of tube scarcity—I'm looking at you, Russia—can tax budgets.

In my experience, which goes back 25 years to an otherwise very fine Mesa Baron power amplifier, tube components are also more susceptible to hum and other unwanted noises than their solid state counterparts. I've even seen disquieting arcing in a

factory-fresh tube preamp.

Then again, my PrimaLuna DiaLogue power amp, ca. 2016, has never exhibited the slightest bit of trouble; there may be truth to the company's claim that its products are built to last a lifetime. I've also had zero issues with my Black Ice (formerly Jolida) FX10,³ a pint-sized, wallet-friendly little tube (ch)amp that has no business sounding as pleasant as it does.

About now you might expect me to write a paragraph about how my time with the EVO 400 was *also* puppies and roses. Well, not quite, but close. No excessive drama transpired, but a few weeks in, first one and then another of the amp's six stock Psvane 12AU7 tubes started making fluttering noises through the speakers, so I swapped in new ones. Luckily for doubters, PrimaLuna warrants the tubes for six months, the amps themselves for three years.

When I asked California tube guru and PrimaLuna importer Kevin Deal about the duo of uncooperative 12AU7s, he said it could simply have been a break-in issue: "Sometimes a new tube that gets a little noisy just needs to be reinserted or moved." He added that his company, Upscale Audio, has retubed about 75,000 components and that many tubes that people send in as faulty test fine. "A tube that's noisy in a gain stage may be perfectly quiet as a driver or phase splitter."

Everything else about the EVO 400 was hunky dory. No hum emanated from the speakers or directly from the amplifier, not

² See primaluna-usa.com/adaptive-autobias.

³ See stereophile.com/content/entry-level-7-page-2.

MEASUREMENTS

The PrimaLuna EVO 400 arrived without the eight EL34 output tubes installed, just the six 12AU7 small-signal tubes. Neither the EL34s nor the sockets are numbered, so I assumed that PrimaLuna's Adaptive Auto Bias system would ensure that the tubes were optimally biased after I installed them. (As recommended for EL34s in the manual, I made sure that the bias switch on the right side of the chassis was set to Low.) None of the four red LEDs for each channel's tube condition illuminated during the testing, which meant that

PrimaLuna's BTI circuit didn't detect a bad tube. I measured the EVO 400 with my Audio Precision SYS2722 system,¹ performing a complete set of tests from each of the 8 ohm and 4 ohm taps in both Ultralinear and Triode output modes, repeating some tests from the headphone output. The review sample was not fitted with the optional PhonoLogue moving magnet phono stage.

The EVO 400's unbalanced input impedance was a usefully high 33k ohms at 20Hz and 1kHz, dropping inconsequentially to 29k ohms at 20kHz. The PrimaLuna amplifier preserved absolute polarity from both

output transformer taps and from the headphone output. The amplifier's maximum voltage gain at 1kHz into 8 ohms depended on the output mode and tap. The highest gain was from the 8 ohm tap in Ultralinear mode, at 37.3dB. The gain from the 8 ohm tap in Triode mode was 1.3dB lower. The gains from the 4 ohm tap into 8 ohms were 36dB in Ultralinear mode and 33.8dB in Triode mode. The maximum gain from the headphone output was 20.15dB.

The amplifier's output impedance also

¹ See stereophile.com/content/measurements-maps-precision.

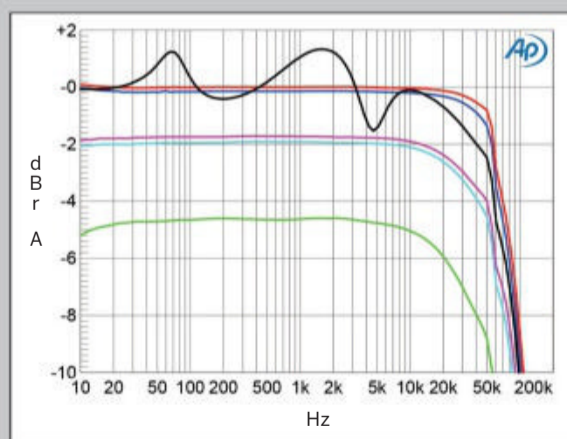


Fig.1 PrimaLuna EVO 400, Ultralinear mode, 8 ohm tap, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (green) (2dB/vertical div.)

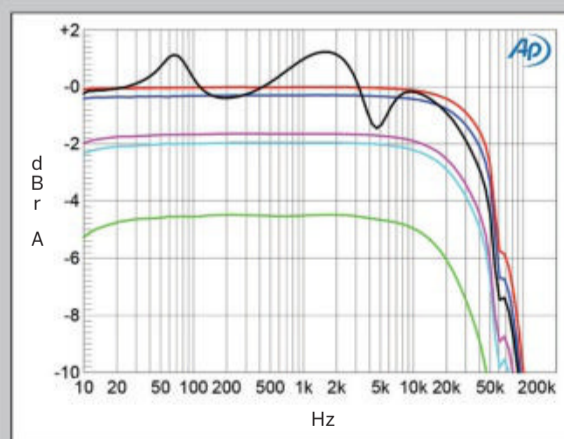


Fig.2 PrimaLuna EVO 400, Triode mode, 8 ohm tap, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (green) (2dB/vertical div.)

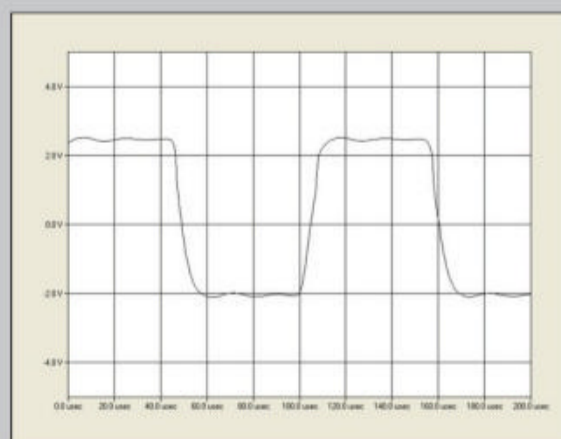


Fig.3 PrimaLuna EVO 400, Triode mode, 8 ohm tap, small-signal 10kHz squarewave into 8 ohms.

even when the room was dead quiet and I placed my ear practically against the drivers of my Tekton Moabs, which have a sensitivity of 98dB.

That's not happenstance, explained PrimaLuna founder Herman van den Dungen after I emailed him to ask about his design approach. "We're not the best salespeople, so we need good products to still make sales. High reliability and good after-sales service help us do that. I'm not a masochist—if necessary, we'll repair with a smile—but we'd rather smile because a repair isn't necessary."

PrimaLuna claims its tube gear has "a negligible defect rate of just one-half of one percent—unheard of in the industry—which makes it more reliable than a lot of solid-state gear."

The EVO 400, priced at \$5595, sits at the top of PrimaLuna's integrated amplifier line, lording over the EVO 100 (\$2795), the EVO 200 (\$3395), and the EVO 300 (\$4695). The 400 costs about \$1400 more than its predecessor, the DiaLogue Premium HP integrated, did when that amp was introduced eight years ago. About half of that increase is inflation; the other half is attributable to higher-quality parts and extra features, including fatter transformers, upgraded diodes, higher-end Takman resistors and DuRoch tinfoil capacitors, a tape-monitor circuit, stereo subwoofer outputs, plus the fact that the EVO 400 is prewired for an optional PrimaLuna moving magnet phono stage (\$249; not tested).



Getting an up-close look

Weighing in at 68lb, the imposing EVO 400 is a marriage of gleam and substance. A black or silver fascia—your choice—fronts a chassis with an attractive gray-blue automotive finish, applied in five coats. On the left, a volume control operates an analog Japanese ALPS Blue Velvet potentiometer. On the right is an input-selector knob with positions AUX 1 through 5 plus a sixth marked HT, which lets you turn the EVO 400 into a power amp for driving the

measurements, continued

depended on the output mode and tap. The highest impedance was from the 8 ohm tap in Ultralinear mode, at 2.5 ohms at 20Hz and 1kHz, rising to 3.3 ohms at 20kHz. This resulted in ± 1.4 dB variations in frequency response with our standard simulated loudspeaker (fig.1, gray trace).² The output impedance from the 8 ohm tap in Triode mode was slightly lower, ranging from 2.25 ohms to 2.85 ohms, which reduced the variations in response to ± 1.2 dB (fig.2, gray trace). As expected, the 4 ohm tap featured the lowest output impedance: 1.45 ohms at 20Hz and 1kHz, 1.8 ohms at 20kHz, in Ultralinear mode; 1.3 ohms at 20Hz and 1kHz, 1.6 ohms

at 20kHz, in Triode mode. The headphone output's source impedance was a low 3.2 ohms across the audio band.

Into resistive loads, the small-signal response from both transformer taps was flat almost to 20kHz and rolled off above that frequency (blue, red, cyan, magenta, and green traces in figs.1 and 2). A residual resonance just below 70kHz can be seen in the ultrasonic rolloff. This resonance is well-damped, however, with just one cycle of ringing visible with the amplifier's reproduction of a 10kHz squarewave (fig.3).

Figs.1 and 2 were taken with the volume control set to its maximum, where the

channel matching was within 0.1dB. The excellent matching was maintained at lower settings of the control, but peculiarly, the right channel lagged the left channel by a second or so in reaching the new level when the volume was changed. L-R channel separation was good below 2kHz, at 70dB, but 50dB in the other direction. The separation reduced to 56dB and 38dB, respectively, at the top of the audioband.

Measured at the 8 ohm taps and taken with the inputs shorted to ground and the volume control at its maximum, the ampli-

² See stereophile.com/content/real-life-measurements-page-2.

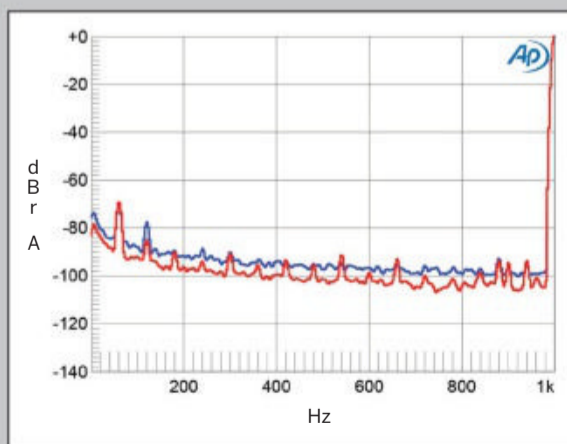


Fig.4 PrimaLuna EVO 400, Triode mode, 4 ohm tap, spectrum of 1kHz sinewave, DC-1kHz, at 1W into 8 ohms with volume control at its maximum (left channel blue, right red; linear frequency scale).

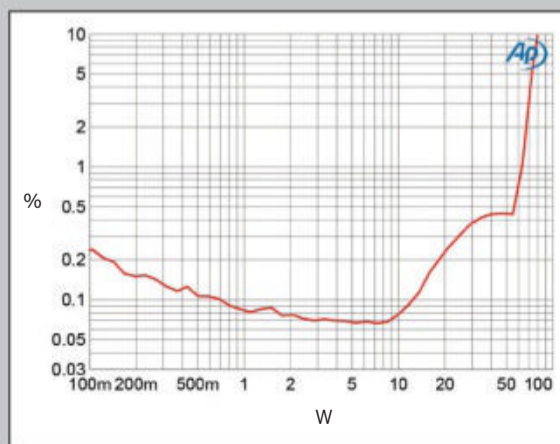


Fig.5 PrimaLuna EVO 400, Ultralinear mode, 8 ohm tap, distortion (%) vs 1kHz continuous output power into 8 ohms.

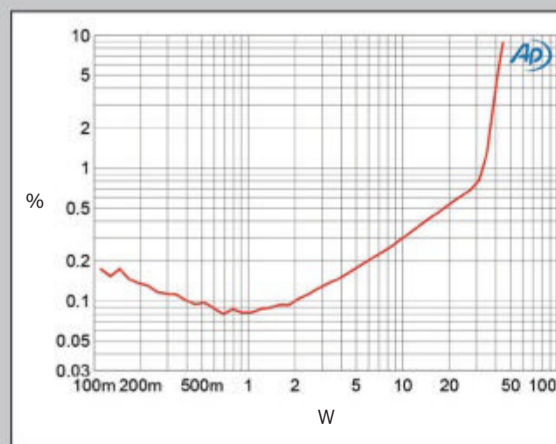


Fig.6 PrimaLuna EVO 400, Triode mode, 8 ohm tap, distortion (%) vs 1kHz continuous output power into 8 ohms.

left and right speakers in a home theater.

Up top, an arched array of six 12AU7 mini triodes forms the front row of tubes. The two center valves do preamp duty, while the other four are the drivers for the two rows of EL34s (eight in total). Each EL34 has a red LED next to it that will light up when that tube goes bad, removing some guesswork.

On the back of the unit are 4 ohm and 8 ohm speaker taps, an IEC C-14 power receptacle, all the aforementioned inputs, plus the tape and stereo subwoofer outputs.

A fat, two-way power switch protrudes from the amplifier's left flank. On the right are two more switches: one for moving from speakers to headphones (there's a 1/4", single-ended headphone output on the front), the other to accommodate either the stock EL34 tubes or aftermarket high-bias valves like those from the KT family. (I found the Tung-Sol KT150s especially enchanting when I tried them for a few weeks.)

Inside the chassis are massive toroidal power transformers that the company encases in a non-microphonic resin for noise reduction. The equally beefy output transformers are wound in-house, and the entire signal path is wired by hand using Swiss-made, silver-plated oxygen-free copper wire. The hypertidy layout looks like it's done by someone who *really* likes Marie Kondo.

No printed circuit boards are in the signal path, which might be a relief for tube rollers who've suffered the heartache of thin copper traces on tube-heated PCBs cracking, necessitating repair.

Van den Dungen told me that he hates to compromise on



quality. These days, he sources tinfoil capacitors from Switzerland, made to his specs, and has them sent to the Netherlands. "Here, we sample for quality, and then they go on transport to China. In China," where PrimaLuna's products are built, "each capacitor is tested, which in fact we do with *all* our parts: resistors, caps, transistors, FETs, MOSFETs, and tubes of course. If they're not good enough, we send them back to the manufacturer."

measurements, continued

fier's unweighted, wideband signal/noise ratio in Ultralinear mode was 64dB in the left channel, 67.5dB in the right channel, ref. 1W into 8 ohms. These ratios respectively improved slightly to 65.3dB and 70.2dB when the measurement bandwidth was restricted to the audioband, and to 70.3dB and 74.8dB when A-weighted. The S/N ratios in Triode mode were 2-3dB higher, and were 3dB higher again from the 4 ohm tap. The main power supply-related spurious in the EVO 400's noise floor were at 60Hz and 120Hz and the random noise level was a little higher in the left channel (fig.4, blue trace) than the right (red trace), which

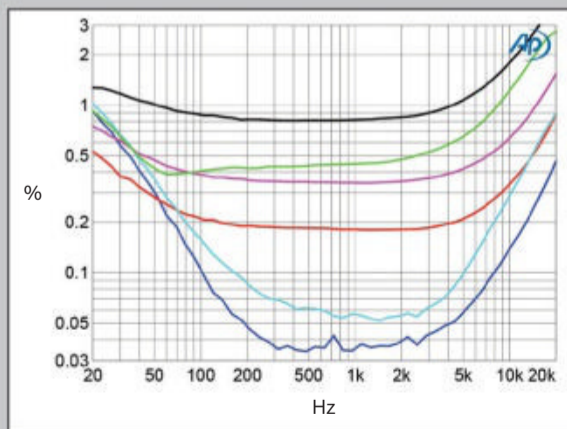


Fig.7 PrimaLuna EVO 400, Ultralinear mode, 8 ohm tap, THD+N (%) vs frequency at 4.9V into: 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (left green, right gray).

correlates with the lower S/N ratios in that channel.

Fitted with EL34 output tubes, the PrimaLuna amplifier is specified as delivering 38Wpc into 8 ohms in Triode mode (15.8dBW) and 70Wpc into 8 ohms in Ultralinear mode (18.4dBW). Using our definition of clipping, which is when the output's THD+noise percentage reaches 1%, with both channels driven with a 1kHz signal the EVO 400's 8 ohm tap in Ultralinear mode clipped at 63Wpc into 8 ohms (18.0dBW, fig.5). Relaxing the definition of clipping to 3% THD+N gave the specified power of 70Wpc into 8 ohms.

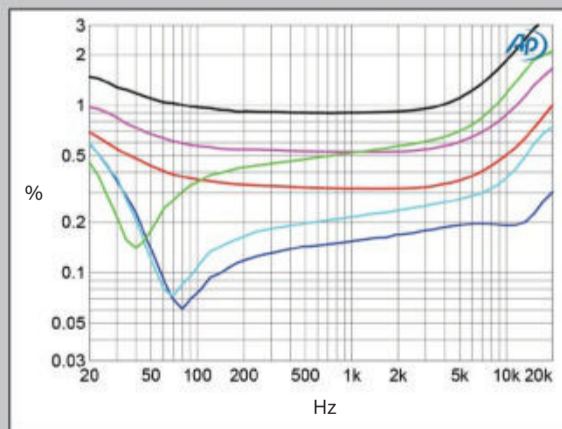


Fig.8 PrimaLuna EVO 400, Triode mode, 4 ohm tap, THD+N (%) vs frequency at 4.9V into: 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (left green, right gray).

In Triode mode, the 8 ohm tap gave 33Wpc (15.2dBW) at 1% THD+N and 39Wpc (15.9dBW) at 3% THD+N (fig.6). Similar maximum powers at 3% THD+N were available from the 4 ohm tap when driving 4 ohms: 67Wpc (15.25dBW) in Ultralinear mode and 37Wpc (12.67dBW) in Triode mode.

The traces in figs.5 and 6 were taken with the left channel and the distortion levels in both output modes dropped below 0.1% at low powers. Although I haven't shown the relevant graphs, the distortion at moderate powers was even lower when the output transformer tap was driving a

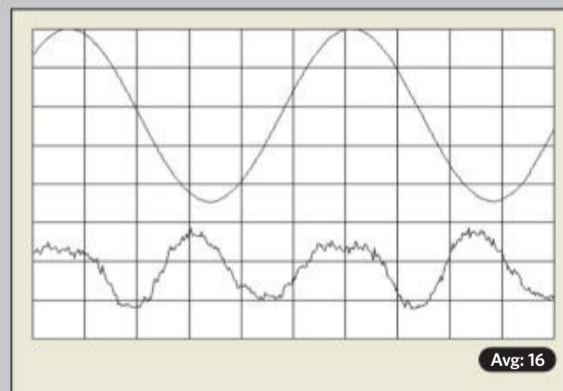


Fig.9 PrimaLuna EVO 400, Ultralinear mode, 4 ohm tap, 1kHz waveform at 5W into 8 ohms, 0.066% THD+N (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

List(en)ing surprises

I fed the EVO 400 a signal from my Bluesound Node 2i streamer connected by S/PDIF to the German-made, second-generation RME ADI-2 DAC FS. There was very good synergy between the RME and the PrimaLuna. The smooth but clinically revealing RME, which banishes noise, distortion, and jitter to far beyond the audible range, boasts an admirable, just-the-facts quality that comes from being designed by Teutonic boffins. (It even *looks* like a piece of lab equipment.) I used it without engaging its bevy of built-in filters or its parametric equalizer. Later, I played music from my 16" MacBook Pro M1 Max running Roon 1.8 into a Roon ROCK via USB, and from there to an Auralic Vega DAC. Speakers were my trusty references: MartinLogan Odyssey electrostats and a pair of Tekton Moabs.

In honor of PrimaLuna's birthplace, I decided to start my 12 weeks of almost-nightly listening with an improvised playlist of Dutch music. First up: Sweet d'Buster's "Bread" (16/44.1 FLAC, Tidal), a fine piece of mid-'70s polderfunk. World-class bassist Herman Deinum lays down a propulsive riff that, through the extraordinary clarity the EVO 400 provides, reveals his instrument unmistakably as a Fender Precision bass.

I soon discovered that this perspicuity is a defining characteristic of the amp, perhaps even more than with the DiaLogue Premium HP, whose treble sometimes sounded a trifle closed in by com-



parison. When I played the title song from Luwten's 2021 album *Draft* (24/96 FLAC, Qobuz), the EVO 400 made me aware that *delicate* and *delectable* have the same root. For the intro, singer Tessa Douwstra hums a single note and through multitracking adds a second and a third identical one—same pitch, same voice. Through the PrimaLuna, each part was easy to distinguish from its doppelgangers on the neighboring tracks.

On "The Goodbye Look" by Donald Fagen (24/96 FLAC, Tidal), a de facto test track I've played easily more than 500 times, I noticed something that had previously escaped my attention: In the

measurements, continued

load higher than its nominal value. I plotted how the THD+N percentage changed with frequency at 4.9V from the 4 ohm tap—a voltage that is equivalent to 3W into 8 ohms, 6W into 4 ohms, and 12W into 2 ohms—in both Ultralinear mode (fig.7) and Triode mode (fig.8). These graphs show that the distortion was significantly higher in the right channel (red, magenta, and gray traces) than the left (blue, cyan, and green). It is possible that the tubes were not as well-matched in the right channel as in the left. (The more closely the tubes are matched in a push-pull design, the lower the level of even-order distortion.) The dis-

tortion also rises at the frequency extremes and into loads that are equal to or below the nominal transformer tap impedance.

Fortunately, the EVO 400's distortion was predominantly the sonically benign second harmonic (fig.9), though as expected it was higher in level in the right channel (fig.10). This graph also shows that at low frequencies the third harmonic makes an appearance, though it is lower in level at higher frequencies (fig.11). When the amplifier drove an equal mix of 19 and 20kHz tones at a peak level of 3W into 8 ohms from the 8 ohm tap (fig.12), the second-order difference product at 1kHz

lay at -57dB (0.14%) in both channels and the higher-order intermodulation products were all below -66dB (0.05%). The graph was taken in Triode mode; intermodulation distortion in Ultralinear mode was similar in level.

Other than the higher level of second-harmonic distortion in the right channel, the PrimaLuna EVO 400's performance on the test bench was what I would expect from an amplifier with a push-pull output stage that uses paralleled EL34 tubes. The test results suggest that the lowest distortion will be obtained with the 4 ohm tap in Ultralinear mode.—John Atkinson

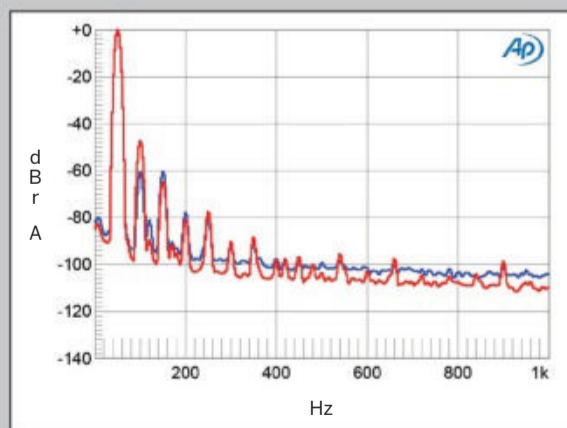


Fig.10 PrimaLuna EVO 400, Triode mode, 4 ohm tap, spectrum of 50Hz sine wave, DC-1kHz, at 3Wpc into 8 ohms (left channel blue, right red; linear frequency scale).

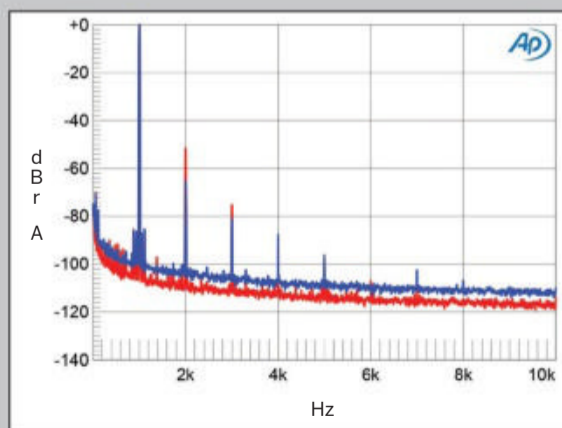


Fig.11 PrimaLuna EVO 400, Ultralinear mode, 8 ohm tap, spectrum of 1kHz sine wave, DC-10kHz, at 3Wpc into 8 ohms (left channel blue, right red; linear frequency scale).

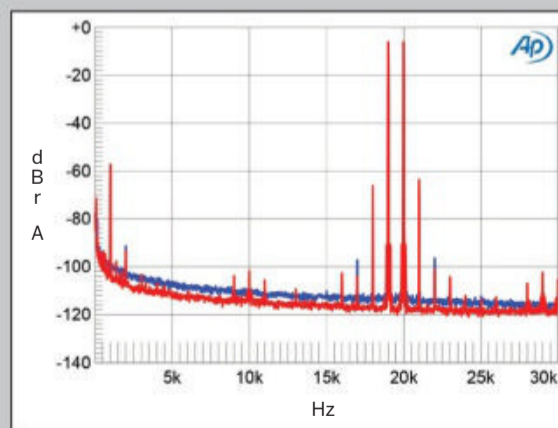


Fig.12 PrimaLuna EVO 400, Triode mode, 8 ohm tap, HF intermodulation spectrum, DC-30kHz, 19+20kHz at 3Wpc peak into 8 ohms (left channel blue, right red; linear frequency scale).

final syllable of the last line of the chorus, on the word *look*, there's an extra voice in the right channel.

This kind of detail retrieval made for an Easter egg hunt of sorts, an exciting one. What else would the EVO 400 reveal?

Among the surprises: When I listened to Paquito D'Rivera's megafamiliar (to me) "Afro" (16/44.1 FLAC, Tidal), at 3:09, I heard something crinkling or rustling—sheet music, most likely. Another example: On David Bowie's "Bring Me the Disco King" from *Reality* (16/44.1 FLAC, Qobuz), one vocal note seems off. In the line "stab you from the city spires," on the second syllable of "city," Bowie hits an A where the scale dictates an A-flat. It's not that you can't hear this minor (ha!) flub on other equipment; it's that the PrimaLuna renders it with an elevated, dissective clarity.

Heart vs head

Despite that precise character, the EVO 400 plays to the heart, not the head. I had listening sessions where not a single new remark appeared on the pages of my notepad—not because there wasn't anything to write about but because the PrimaLuna guided me to immersion, not analysis. Case in point: the track "Samhain Labs" from *Here Be Dragons* (24/44.1 FLAC, Qobuz) by the Kilimanjaro Darkjazz Ensemble. This is ambient noir reminiscent of Angelo Badalamenti, mood music evoking drizzle, fog, glistening streets, upturned collars, and vague menace. Via the PrimaLuna, no particular instrument elbowed to the fore. The amp just took the signal and reproduced it so that the sound came across as organic, holistic, and *alive*.

When I *did* manage to take notes, I ended up with phrases like *Rife with detail and dimensionality. Inviting, slightly warm, and opulent. Also, solid density of textures; plush.*

Headphones, bass, and triodes

One evening, I plugged my Monolith M1060 planar magnetic headphones into the PrimaLuna's headphone jack, mostly to keep from feeling guilty that I'd spent a perfectly good \$270 on them even though they're easily bested by several 'phones I own. Listening to Arturo O'Farrill's "The Offense of the Drum" from the album of the same name (24/44.1 FLAC, Qobuz) made me giddy. It was as if the headphones had received a free upgrade to Audeze LCD-2 or LCD-3 status. And when I switched to my LCD-4s, they too sounded better than before. The weight of the kickdrum, the blattiness of the *muy picante* trombones—all was represented with panache and color. The PrimaLuna turns things vibrant with a sprinkling of warm pigments but without making a DayGlo, euphonic mess.

"Planners & Thinkers" from *Metropolis (Soundtrack)* by Metropolis (16/44.1 FLAC, Tidal)⁴ revealed a startling amount of tight, room-rattling bass, on a par with the best I've heard from my Moabs. With reggae and dub, I sometimes heard less *control* in the bass than I do with my solid state gear. Some overhang was present, with the deepest bass notes not as apt to stop on a dime. But the music chugged and jived in ways that left no room for disappointment. Always, 20–30 minutes after I fired it up, the EVO 400 became a glowing little contentment machine, ready to lay bare the soul of any music I threw at it.

In my description of the EVO 400, I failed to mention that you can switch it from triode mode to Ultralinear on the fly with the included remote control. Which is best? To my ears, ultralinear provided the clearest lens into the music, prioritizing near-scrupulous fidelity to the source material. But what if that source material needs a little help? Lots of terrific early-'70s pop with a tipped-up upper midrange—the Kinks, say, or Cockney Rebel, or ELO—can sound harsh and ultimately fatiguing. In triode mode, the PrimaLuna is like a hit of Valium. It takes the edge off.

ASSOCIATED EQUIPMENT

Digital sources 16" MacBook Pro M1 Max running Roon 1.8. Roon ROCK (Lenovo ThinkCentre). Bluesound Node 2i streamer. NAIM Uniti Atom, controlled through iPad Pro and iPhone 12 Pro Max. PureAudio Lotus DAC5, Benchmark DAC3 B, RME ADI-2 DAC FS, Auralic Vega, Musical Fidelity V90.

Preamplifiers Benchmark HPA4, Naim Uniti Atom, Apt Holman (overhauled and returned to factory specs 2020).

Power amplifiers Krell FPB 200c (recapped 2020), PrimaLuna DiaLogue Premium HP, Schiit Ragnarok, McIntosh HPA-100.

Loudspeakers Tekton Moab, MartinLogan Odyssey, on IsoAcoustics Aperta aluminum stands. Subwoofers: Hsu VTF-2 Mk5, Canton 12.3.

Headphones Audeze LCD-4, HiFiMAN HE1000se, Focal Clear, Sennheiser HD600, Oppo PM-3, Monolith M1060.

Cables AudioQuest, Tara Labs, Kimber, WAudio, Monoprice. Accessories Core Power Technologies Equi-Core 1800 MkII and Deep-Core 1800 power conditioners on a dedicated 20-amp circuit. Townshend seismic isolation podiums for speakers and power amplifiers.

Listening room 22' x 14' 6" with 9' 8" lath-and-plaster ceiling. Hardwood floor over reinforced joists. Moderately damped by large, medium-thick rugs, furniture, and a tall bookcase. Wooden stairs on rear wall lead to an open second-floor landing of about 16' x 10'. —Rogier van Bakel

I had to force myself to refrain from flicking the triode/Ultralinear switch back and forth on every recording. If the presence of the feature awakens the tweaker and worrier in you, it can become a double-edged sword.

Sounding solid

What of the nontubed competition? A great solid state amp like my Krell FPB 200c, or the Pass Labs INT-60, will render individual performers as if they're standing in white, narrow-beamed aural spotlights, sharply delineated while the space just a foot or two away remains black. It's the kind of sonic treatment I love for its stark precision but that tube lovers may dismiss as clinical.

In contrast, the illumination produced by the PrimaLuna is more gold and amber in character. The spotlights' focus is wider and softer, lighting up the space between the players and letting you take in the whole stage at once. *That's* fantastic too. Which is better?

The three-horn interplay on the Bud Powell composition "Glass Enclosure" (16/44.1 FLAC, Qobuz), from *Sotho Blue* by Abdullah Ibrahim and Ekaya, was a standout on the EVO 400, besting the Krell in some ways. The alto sax sounded bright yet burnished, and the baritone displayed that exhilarating ochre-brown hue, that signature dark-colored *bzzz* that goes straight to the gut. The grand piano was as gorgeously expansive as I've ever heard it, although maybe lacking the cleanest leading-edge definition of each note. The Krell was better at rendering chords as a collection of discernable notes; the PrimaLuna tended toward an impressionistic, holistic picture. To borrow an analogy from the Dutch art world, the Krell painted with the geometrical precision of Johannes Vermeer; the PrimaLuna was more like Vincent van Gogh.

That clinches it: PrimaLuna's EVO 400 is a work of art. If you're on the hunt for a world-class integrated tube amp for less than five figures, it's hard to imagine how you could do better. ■

⁴ This is an electronica album, not the "original motion-picture soundtrack" with Freddie Mercury and Pat Benatar.—Jim Austin