

KEN MICALLEF

PrimaLuna EVO 300 Hybrid

INTEGRATED AMPLIFIER



“Hybrid” technology—specifically, mixing tubed and solid state in the same amplification device—stirs a deep desire for many enthusiasts. It has the potential to embody a perfect blend: the tonal liquidity, presence, and spaciousness of tubes coupled with

the power and dependability of solid state. It’s potentially an end-game technology.

Still, I have long remained skeptical. I am, I confess, a certain kind of audiophile, a blend of purist and traditionalist. I favor older technologies and simpler circuits. Amplifiers—including

SPECIFICATIONS

Description Hybrid tube input/solid state output, dual-mono integrated amplifier with headphone jack and remote, outputting 100Wpc into 8 ohms (20dBW), 150Wpc into 4 ohms (18.75dBW) at 0.2% THD. Tube complement: 6 12AU7 (2 input, 4 driver). Inputs: 5 pairs single-ended (RCA), one pair single-ended home theater bypass (RCA).

Outputs: Two pair loud-speaker output terminals, tape (RCA), stereo/mono sub (RCA), headphone (6.35mm). Frequency response: 10Hz-80kHz \pm 3dB. THD+N <0.2% (measured at 1kHz, 100W into 8 ohms). Signal/noise ratio: 105dB, A-weighted. Damping factor 160 (1kHz). Total gain 37.2dB (7dB + 30.2dB). Input impedance: 34k ohms. Max.

power consumption 99W (no signal). 645W.

Dimensions 15.2" (385mm) W \times 8.1" (205mm) H \times 15.9" (405mm) D. Weight: 68.3lb (31kg).

Finishes Black, brushed aluminum.

Serial number of unit reviewed XA7524292AE.

Designed in the Netherlands, made in China.

Price \$6995. Approximate number of US dealers: around 60. Warranty: 2 years.

Manufacturer PrimaLuna, DUROB BV, P.O. Box 109, 5250 AC Vlijmen, The Netherlands. US distributor:

Harmonia Distribution
1712 Corrigan Ct.

La Verne, CA 91750.

Tel: (909) 310-8540.

Web: primaluna-usa.com.

integrated amplifiers—should be tubed, input to output. Rectification? Tubes of course. I've even entertained OTL designs—the idea of them at least, though my experiences have been mixed.

Still, my mind and ears are open. Countless hours reviewing for *Stereophile* have shown me that our technology, though quite mature in most ways, nevertheless continues to evolve. A shuttered mind risks ending up ignored like a derelict amplifier on a shelf in the back of a home entertainment superstore, or languishing forgotten in an audiophile rest home. Because what matters isn't what we think but how the music makes us feel, and this can work both ways, old school or new-tech.

A recent example of the hybrid approach is the EVO 300 Hybrid, which was realized by a unique braintrust. Marcel Croese, who designed the highly regarded PrimaLuna EVO 400 tubed preamplifier,¹ contributed his touch to the integrated amp's tubed input stage. Jan de Groot of Floyd Design² applied his skill to the solid state output stage. Herman van den Dungen, CEO of Durob Audio, assisted.

Tube/solid state integrated amplifiers have a rich history. Pioneering designs like Bascom H. King's HCA (1979),³ which delivered 150Wpc into 8 ohms, paved the way. Harvey "Gizmo" Rosenberg's New York Audio Labs expanded the concept with the Moscode amplifier from 1984, which combined a tubed input stage and a FET output stage and was available in several power configurations. Today, the legacy continues with the Vinnie Rossi L2i-SE, Supravox Vouvray, Copland CSA150, BAT VK-3500, Riviera Levante (reviewed by Herb Reichert³), and Vincent Audio SV-737 (reviewed by me).⁴ And others.

Design

The EVO 300 Hybrid is, at 63lb, substantial, but it is also quite compact: 15.9" wide × 8.1" high × 15.2" deep. Its steel construction, which includes both a 1.5mm-thick case and a 3mm-thick chassis, is the same as that found on other PrimaLuna amplifiers, including the EVO 400 integrated that I used for comparison in this review.⁴ Also like other PrimaLuna amps, the EVO 300 is finished in five coats of automotive lacquer, hand-sanded between coats.

The heart of the EVO 300 Hybrid lies in its tube/solid state design. The preamp section features six PrimaLuna-branded dual-triode 12AU7 tubes, two handling the gain stage and four acting as drivers. This curated selection lays the groundwork for the robust output stage. Here, Linear Systems JFETs join forces with custom-built pairs of MOSFETs from Exicon, operating in a dual-mono, class-A/B configuration. This synergistic pairing delivers 100Wpc into 8 ohms and 160Wpc into 4 ohms.

The EVO 300 Hybrid utilizes independent power supplies throughout. The preamp section draws power via two dedicated toroidal transformers; the amplifier leverages a separate 500VA toroidal transformer. All transformers are wound in house, housed in metal, and potted in nonmicrophonic resin to minimize noise

1 See Rogier van Bakel's review at [stereophile.com/content/primaluna-evo400-integrated-amplifier](https://www.stereophile.com/content/primaluna-evo400-integrated-amplifier).

2 Floyd Design is part of Durob Audio.

3 J. Gordon Holt reviewed the HCA in 1979; see [stereophile.com/content/infinity-hca-power-amplifier](https://www.stereophile.com/content/infinity-hca-power-amplifier). Wes Philips reviewed the Moscode 401HR in 2006; see [stereophile.com/solidpoweramps/606moscode/index.html](https://www.stereophile.com/solidpoweramps/606moscode/index.html).

3 See [stereophile.com/content/riviera-levante-integrated-amplifier](https://www.stereophile.com/content/riviera-levante-integrated-amplifier).

4 See [stereophile.com/content/vincent-sv-737-integrated-amplifier](https://www.stereophile.com/content/vincent-sv-737-integrated-amplifier).

MEASUREMENTS

I performed a complete set of measurements on the PrimaLuna EVO 300 Hybrid with my Audio Precision SYS2722 system.¹ I preconditioned the amplifier by following the CEA's recommendation of operating it at one-eighth the specified power into 8 ohms for 30 minutes before I started the testing. At the end of that time, the amplifier's side-mounted heatsinks were almost too hot to touch, at 135.1°F (57.3°C). The temperature of the top panel was 101.8°F (38.8°C). This amplifier needs plenty of ventilation.

The review sample wasn't fitted with the

optional moving magnet phono stage.

The EVO 300 Hybrid preserved absolute polarity from all its outputs, loudspeaker, headphone, Home Theater, and subwoofer. PrimaLuna specifies the EVO 300's single-ended input impedance as a usefully high 34k ohms; I measured 44k ohms at 20Hz and 1kHz and 38k ohms at 20kHz. The maximum voltage gain at 1kHz from the loudspeaker outputs into 8 ohms was negligibly higher than the specified 37.2dB, at 37.45dB. The maximum gain from the headphone output was 20.9dB. The maximum gain from the subwoofer output de-

pendent on whether this was set to Stereo or Mono. (Set to Mono, the output is only sent from the right-channel jack.) In Stereo mode, the gain was 0.7dB; in Mono mode, it was twice that, at 6.7dB, due to the fact that the two channels are now summed.

The output impedance from the headphone jack was an appropriately low 5 ohms; that from the subwoofer output was 146 ohms. The loudspeaker output impedance was an extremely low 0.05 ohms at 20Hz and 1kHz, rising to 0.09

1 See [stereophile.com/content/measurements-maps-precision](https://www.stereophile.com/content/measurements-maps-precision).

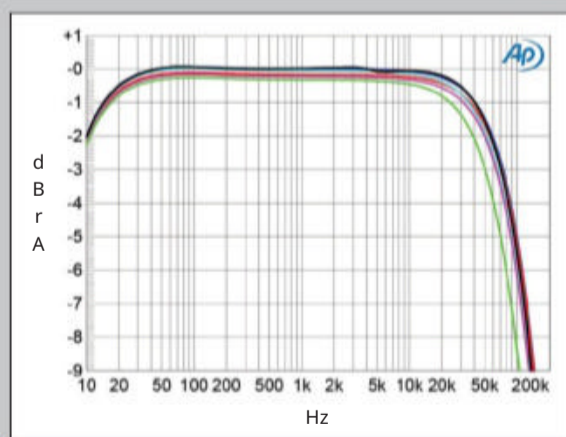


Fig.1 PrimaLuna EVO 300 Hybrid, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), and 2 ohms (green) (1dB/vertical div.).

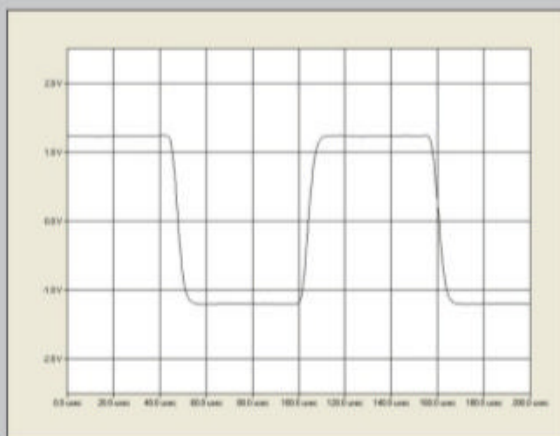


Fig.2 PrimaLuna EVO 300 Hybrid, small-signal 10kHz squarewave into 8 ohms.

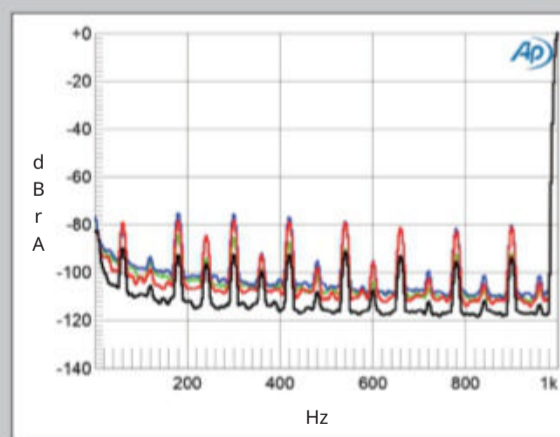


Fig.3 PrimaLuna EVO 300 Hybrid, spectrum of 1kHz sinewave, DC-1kHz, at 1Wpc into 8 ohms with volume control set to the maximum (left channel blue, right red) and to -12dB (left green, right gray) (linear frequency scale).

and protect the windings.

Beyond the tubes, transistors, and transformers, the EVO 300 Hybrid incorporates high-quality components including pink Japanese-made Takman resistors; DuRoch, Nichicon, Kemet, and Rubycon capacitors; and an ALPS Blue Velvet potentiometer-based volume control. The amplifier section is flanked internally by two large heatsinks, for the main PSU and for the MOSFETs.

The EVO 300 Hybrid is primarily hardwired, like the majority of PrimaLuna amplifiers. In “the critical signal path,” the wire is Swiss-made, silver-plated, oxygen-free, continuous crystal (OCC) copper with a Teflon dielectric, “for superior signal speed and increased clarity,” the company website states. Executing the EVO 300 Hybrid’s auto-bias function, though, required circuit boards, which are said to be of the highest quality: 2.4mm thick with 105µm gold-plated copper traces. Another feature common to PrimaLuna amplifiers: the “AC Offset Killer” circuit, which “ensures that DC on the mains never causes the transformers to hum.”

“The AC Offset Killer is used as a filter to correct nasty AC,” said Kevin Deal, owner of PrimaLuna’s US distributor Harmonia



Distribution. “Herman van den Dungen had that circuit designed back in the ’80s to help quiet the mechanical hum of the toroidal transformers in a certain very high-end amplifier.”

It’s no longer only about mechanical hum, Harmonia Distribution Service Manager Josh Phelps added in a separate interview. “Bad AC is like putting bad fuel into your vehicle. AC is like water,

measurements, continued

ohms at 20kHz. As a result, the variation in the frequency response with our standard simulated loudspeaker² (fig.1, gray trace) was minimal. The response into 8 ohms (blue and red traces), 4 ohms (cyan, magenta), and 2 ohms (green trace) was flat from 30Hz to 20kHz, with the 8 ohm output down by 3dB at 75kHz. Fig.1 was taken with the volume control set to its maximum; the response and close channel matching were preserved at lower volume settings and from the headphone and subwoofer outputs. (An external crossover is required with the last.) A 10kHz square-wave (fig.2) was reproduced with short

risetimes and no overshoot or ringing.

Channel separation was >70dB below 3kHz in both directions, decreasing to 50dB at the top of the audioband. The unweighted, wideband signal/noise ratio, taken with the single-ended inputs shorted to ground and the volume control set to the maximum, was a good 73.8dB ref. 1W into 8 ohms. This ratio improved slightly to 76.2dB, left channel, and 80.5dB, right, when the measurement bandwidth was restricted to 22Hz–22kHz. Inserting an A-weighting filter into the measurement circuit respectively increased these ratios to 80.0dB, left, and 82.6dB, right.

Spectral analysis of the low-frequency noise floor while the PrimaLuna drove a 1kHz tone at 1Wpc into 8 ohms (fig.3) revealed power-supply-related spurious at 60Hz and its odd-order harmonics, due to magnetic interference from the power transformers, perhaps being picked up by the steel pins of the tubes in the preamplifier circuit. The blue and red traces in this graph were taken with the volume control set to the maximum; reducing the volume by 12dB and increasing the input signal by the same 12dB so that the output was still

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

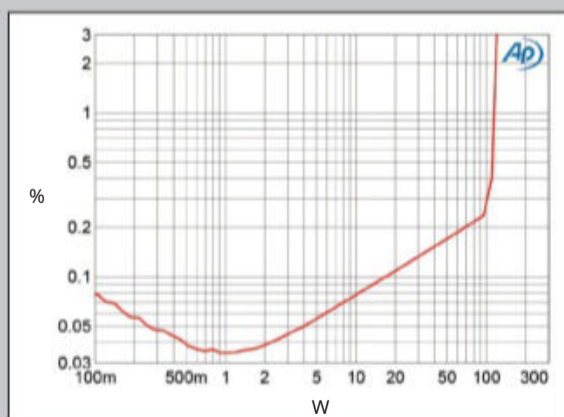


Fig.4 PrimaLuna EVO 300 Hybrid, distortion (%) vs 1kHz continuous output power into 8 ohms.

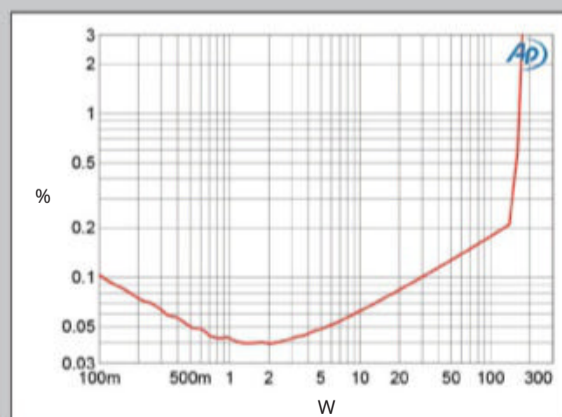


Fig.5 PrimaLuna EVO 300 Hybrid, distortion (%) vs 1kHz continuous output power into 4 ohms.

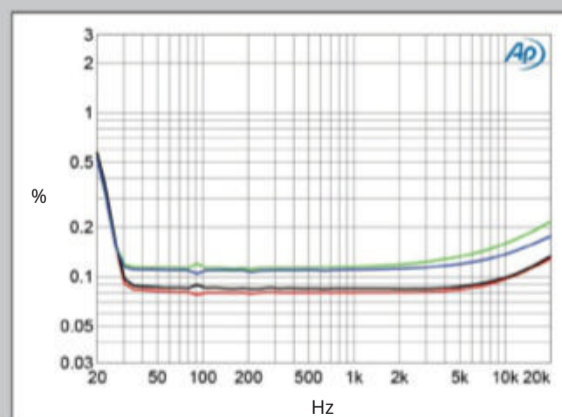


Fig.6 PrimaLuna EVO 300 Hybrid, THD+N (%) vs frequency at 12.67V into: 8 ohms (left channel blue, right red) and 4 ohms (left green, right gray).

so even when a power conditioner is used, the AC Offset Killer makes the AC that much cleaner.”

PrimaLuna also sought to minimize noise in the EVO 300’s input-switching mechanism, which operates via sealed relays mounted on the back panel. When an input is selected, “that relay closes, giving you the best connection possible,” the website states. “All the other relays are left open, so noise and signals from other sources can’t leak in.” Because the signal path is now essentially closed, there are no wires to pick up noise, in theory.

Curved air

PrimaLuna’s signature visual style is easy to see in the EVO 300. A curved aluminum tube cage showcases the 12AU7 tubes, which are also set in a curve and nestled in porcelain sockets. The brushed-aluminum faceplate is adorned with two control knobs, for volume and input selection, and a 6.35mm headphone jack. The power switch is on the left side of the amp; the switch for choosing between loudspeaker and headphone outputs is on the right. The feet are outfitted with a protective plate to safeguard surfaces. The EVO 300 hybrid comes with a substantial remote control made of black steel and wrapped with two rubber rings for a better grip.

The EVO 300 offers five line-level inputs and tape and subwoofer outputs, the latter supported by a mono/stereo switch. A separate small case suspended from the bottom of the main cases accommodates the optional phono preamp (and a sixth input, for phono) if it’s installed. All jacks are outfitted with plastic caps.

All this functionality converges on a single pair of gold-plated, solid-shaft WBT loudspeaker terminals. The EVO 300 can accom-

modate an optional PrimaLuna MM phono board, which was not included in my review sample. If you wish, you can bypass the preamp section and use the EVO 300 as a pure power amplifier.

Setup

The EVO 300 slid easily into my Salamander rack, in the spot previously occupied by the EVO 400 integrated amplifier. A smaller PrimaLuna, the EVO 100 phono stage, sat on an upper shelf. A 1m pair of AudioQuest Pegasus RCA interconnects connected the phono stage to the EVO 300. A 10’ pair of AudioQuest William Tell speaker cables mated the EVO 300 to the Volti Audio Razz loudspeakers (spec’d at 97dB/2.83V/1m). I used the amp’s stock power cord straight into a Synergistic Research outlet.

Like its PrimaLuna brethren, the EVO 300 exhibits a careful approach to power management. When you press the power button, a red LED illuminates, indicating a soft start cycle that takes just over a minute. To ensure a pristine startup, all controls remain muted until the LED transitions to green, signifying the amplifier’s readiness to make music.

Listening

With the indicator light green, I positioned the Hana Umami Blue MC cartridge, mounted on the VPI FatBoy tonearm, over the lead-in section of a 1960s stereo pressing of The Beatles’ *Rubber Soul* (Odeon 1C 072-04 115). The angular electric guitars of “Drive My Car” flared. I was immediately taken by the EVO 300’s energy.

The PrimaLuna conjured a panoramic stereo stage for the Beatles; this was the most balanced, cohesive reproduction of

measurements, continued

1W into 8 ohms dropped the levels of the supply-related spurs by 12dB (green and gray traces) and those of the random noise components by around 8dB.

The PrimaLuna’s maximum power into 8 ohms is specified as >100W (20dBW) and typically 115W (20.6dBW). Into 4 ohms, the specified power is >150W (18.75dBW) and typically 170W (19.3dBW). *Stereophile* defines an amplifier’s clipping power as being when the THD+noise reaches 1%. With that criterion and with both channels driven, the EVO 300 clipped at 115Wpc into 8 ohms (fig.4) and 170Wpc into 4 ohms (fig.5). PrimaLuna states that the THD+N is

0.2% at 100W into 8 ohms; my measured percentage was very close to that figure, at 0.25%.

The distortion in figs.4 and 5 is very low at low powers. I therefore examined how the THD+N percentage varied with frequency at 12.67V, equivalent to 20W into 8 ohms or 40W into 4 ohms. The THD+N was 0.11% into both loads over most of the audioband in the left channel (fig.6, blue and green traces) and 0.08% in the right channel (red, gray traces). The percentage rose slightly above 8kHz, but more so below 20Hz.

With a 1kHz signal at 20Wpc into 8

ohms, the distortion waveform was predominantly the subjectively benign second harmonic at 0.11% (fig.7), with the third harmonic almost 30dB lower in level, even into 4 ohms (fig.8). With an equal mix of 19 and 20kHz tones at the same peak power into 4 ohms (fig.9), the second-order difference product at 1kHz lay close to -66dB (0.05%). The higher-order intermodulation products all lay at or below -90dB (0.003%).

The PrimaLuna EVO 300 Hybrid’s measured performance is very good overall, with only that distortion signature hinting at “tube sound.”—John Atkinson

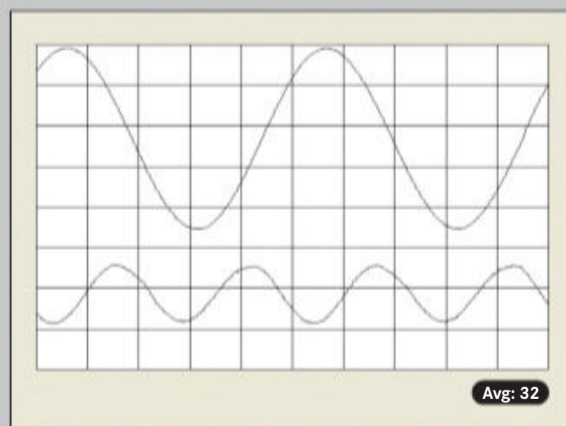


Fig.7 PrimaLuna EVO 300 Hybrid, 1kHz waveform at 20W into 8 ohms, 0.11% THD+N (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

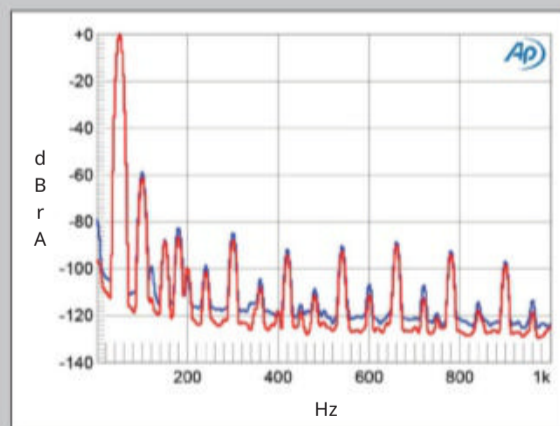


Fig.8 PrimaLuna EVO 300 Hybrid, spectrum of 50Hz sine wave, DC-1kHz, at 40Wpc into 4 ohms (linear frequency scale).

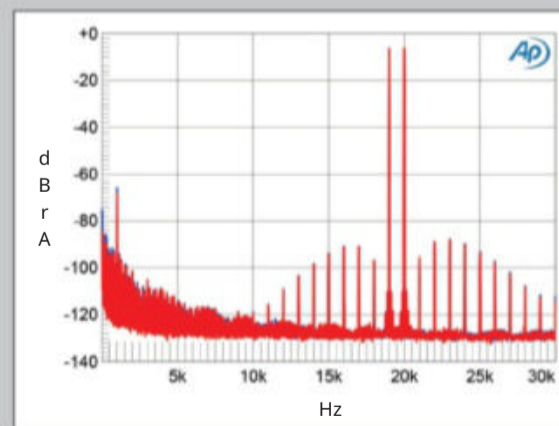


Fig.9 PrimaLuna EVO 300 Hybrid, HF intermodulation spectrum, DC-30kHz, 19+20kHz at 40Wpc peak into 4 ohms (linear frequency scale).

this album's music I've heard. Familiar elements remained but seemed subtly rearranged due to the increased clarity, presence, power, and immediacy I heard. The net effect was to render *Rubber Soul* with more life than I've previously heard. I was held in a tight, engaging focus.

Though I was taken by the EVO 300's immediacy and drive, I found myself wondering if pairing it with the PrimaLuna EVO 100 phono stage was too much of a tubed thing. I found myself wanting more midrange clarity.⁵ I switched to the Aurorasound Vida MkII solid state phono stage. The music unfolded with more spaciousness especially affecting the upper mids and treble. There was a touch of forwardness. It was a trade-off, but the benefits were important. Bass tightened, clarity improved, and instrument separation was improved, allowing me to better hear the nuances of Ringo Starr's drumming, an important benefit for this (former) drummer. Similarly, Lennon and McCartney's vocals acquired cleaner textures and a more sensuous presence. The Aurorasound Vida MkII secured its place in the listening chain for the remainder of the review period.

Moving to the present century, I put on Balmorhea's *Pendant World* (Deutsche Grammophon 4861989), a weird assemblage of intricate instrumentation and novel ambient production; think stray tracks from *Pet Sounds* or *Surf's Up* with a surreal edge. The EVO 300 portrayed this spacious music—bells, drums, whistles, and guitars popping in and out of the mix like shifting shadows—in a wide, deep stage, diffuse and eerie. As on *Rubber Soul*, the EVO 300 presented *Pendant World* cleanly, with excellent separation and statuesque height—consistent characteristics on music reproduced with this amplifier—yet each recording's unique character remained intact within a spacious soundstage. Within that stage, instruments were well-layered, with terrific detail and presence. This is an amplifier that allows music to breathe, opening up a window that was one of the purest I've experienced.

The EVO 300 resolved every element of John Abercrombie's *Current Events* (ECM 1311) with precision. "Clint" kicks off with an expansive Erskine funk groove; the EVO delivered Johnson's bass with stunning depth and gritty texture, rivaling even the track's synth low end—a first for this record with any amp I've used. Yet the sound remained natural and balanced. Abercrombie's guitar synth blips were rich and fluid. Dynamics seemed effortless. The smallest details were uncovered with superb separation and grunt-force power—a rare combination.

After that I spun Analogue Productions' 45rpm version of *Blues and Roots*, Charles Mingus's 1960 epic (APA 001-45). "Wednesday Night Prayer Meeting" detonated. While the soundstage on this recording is kind of flat, the exuberance and intensity of the musicians—as manifested by the EVO 300—beamed through, from raucous brass shouts to Mingus's hollers. The EVO 300 tied all these elements—this exceptional 45rpm pressing, the VPI Avenger Direct turntable, the Hana Umami Blue MC cartridge, the Volti Audio Razz loudspeakers—together in a seamless, intoxicating whole.



Energy and life force of the music were palpable.

Turning the clock back further, to 1957, I cued up the Analogue Productions reissue of The Ben Webster Quintet masterpiece *Soulville* (Verve Records M GV-8274/602458538236). Webster's tenor weaved a relaxed but powerful tale, spinning lush atmospheres. His solos were a masterclass in whispered elegance, opulent tone, and cascading rhythms, tightly accompanied by Oscar Peterson, Ray Brown, Herb Ellis, and Buddy Rich. The EVO 300 rendered each saxophone note with grace and focus. I've heard Webster's tenor reproduced with more warmth and creaminess, but not with this much rhythmic precision or such nuanced dynamics. The soundstage was unmatched, Webster's horn front, center, and big, the band comfortably behind him.

With the DeVore Fidelity O/baby

Driving the DeVore Fidelity O/baby speaker (90dB/W/m, 8 ohm impedance) with the EVO 300 convinced me of the amp's tone-full delivery and forceful signature. The speakers were transformed. The EVO 300 made the music they produced sound meatier, denser, deeper, and more dynamic. The O/babys' soundstage was smaller than the Razz's, but it was more energized, focused, and alive—not just in comparison to the Razzes' soundstage but also than I've heard with these speakers driven by other amplifiers. I'd go as far as to say that the EVO 300 is the amplifier to pair with the O/baby.

Quad Revela 1

The first new Quad loudspeaker design in seven years, the Revela 1 (\$2499/pair, in for review) is a standmount, measuring 15" high × 10" wide × 12" deep and weighing 27lb. It uses Quad's "True Ribbon" tweeter paired with a 6.5" mid/bass driver (wood pulp/artificial fibers) to achieve a sensitivity of 86dB/2.83V/m, specified at 6 ohms. Despite its small size, the QR1 delivers impressive low end alongside its signature brilliant, open, revealing treble.

The PrimaLuna established a productive, cohesive partnership with the Quads. The Quads disappeared sonically, presenting an exacting, detailed soundstage. Decay, depth, and bass were

⁵ Which may itself show that I've in fact moved beyond my "all tubes, all the time" phase.

all impressive, the latter generous and controlled, though they lacked the definition and fullness of the O/baby's larger 7" woofer. Abercrombie's *Current Events* and Michael Frank's *The Art of Tea* (Reprise Records MS 2230) played with exceptional air and resolution. The expansive studio spaces and nuanced ambience captured on these recordings blossomed through the Revela 1. The PrimaLuna-Quad pairing delivered a feast of detail and resolution, rendered with a fine sense of realism via the speaker's brisk treble and believable low end.

PrimaLuna EVO 400 integrated

For a year, I've enjoyed the all-tube PrimaLuna EVO 400 integrated, thanks to its relaxed presentation and liquid-sounding tonal character. Priced attractively \$1000 less than its 300 Hybrid sibling, the EVO 400 facilitated similar instrumental separation, bass extension, and weight. However, in a direct comparison, the EVO 400 fell short of the Hybrid in immediacy, resolution, power, filling the room, subjective bandwidth, and drive.

Rivera Labs Levante Integrated Amplifier

Priced at \$16,500—more than double the price of the EVO 300 Hybrid—and outputting 30Wpc in class-A and 120Wpc into class-AB, this Italian integrated uses two Mullard ECC81/12AT7 triodes as driver stage for its BJT (bipolar junction transistor)/MOSFET solid state output.

The Levante's impact was even more dramatic than the EVO 300 Hybrid's. It imbued that Beatles' recording with more touch and subtlety. Guitars added richness and body. On *The Art of Tea*, the top end got sweeter and lusher, revealing intricate details in guitar and keyboards. Bass was weightier, creating a foundation that felt like an airy cushion. In this case, you get what you pay for.

ASSOCIATED EQUIPMENT

Analog sources VPI Avenger Direct turntable/VPI 12" FatBoy tonearm/Hana Umami Blue MC cartridge.

Preamplification PrimaLuna EVO 100 phono stage.

Integrated amplifiers PrimaLuna EVO 400, Riviera Labs Levante.

Loudspeakers Devore Fidelity O/baby, Quad Revela 1, Volti Audio Razz.

Cables Interconnects: Agent Pur, AudioQuest Pegasus, Triode Wire Labs Spirit II (RCA). Speaker: AudioQuest William Tell. AC: AudioQuest NRG Z, Triode Wire Labs Obsession NCF.

Accessories Pro-Ject VC-S2 ALU RCM, HumminGuru Ultrasonic RCM, NiHome Vinyl Record Cleaning Brush, AOCISKA soft bristle brush, AudioQuest PQ 707 power conditioner.—Ken Micallef

Conclusion

The PrimaLuna EVO 300 Hybrid disrupted my preconception that pure tube amps are superior to amps with a solid state component. From the first note, the EVO 300 established itself as a modern classic, reproducing music fresh-scrubbed, juicy, spatially adroit, dynamically adept, and powerful. It possessed the liquidity and richness of a good tube amp, never crossing over into syrup or schmaltz. It boasts an undeniable aliveness that grabs you from the first note and never lets up. It's got drive. It engaged me in the music for many blissful hours.

I'm no longer agnostic regarding hybrid tube/solid state integrated amplifiers, let alone committed to the all-tube approach. At least when it comes to the PrimaLuna 300 EVO, I'm a hybrid believer. ■