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PrimaLuna EVO 300 Hybrid

The Dutch specialist broke with its all-tube tradition when it launched the EVO 300 Hybrid integrated amp. Its success has now inspired a bridgeable power amp version
 Review: **Ken Kessler** Lab: **Paul Miller**

Three questions sprang to mind when discussing the PrimaLuna EVO 300 Hybrid 'poweramplifier' with editor PM. The company has been merrily supplying all-valve products for 22 years, so the introduction of hybrid models seemed a *non-sequitur*, especially given that this particular amp's £6498 price tag doesn't preclude an all-tube design on the grounds of costs.

As for the trio of head-scratchers, we mused about 1) why hybrids from a company that paid its dues with valves, 2) why is the power amp dearer than the integrated version [*HFN* Jan '22] and 3) why the new XLR input? Addressing the last first, please turn to PM's boxout [p69].

Founder Herman van den Dungen answered our first question unequivocally: 'Not every loudspeaker can be driven successfully with a pure tube amp, just as not every audiophile is "courageous" enough to make the change to full tube amplification, due to heat or maintenance, including valve replacement costs'.

The concept behind Floyd [PrimaLuna's name for the hybrid series], envisioned by designer Jan de Groot, is refreshingly straightforward. 'We want the warmth of tube sound, but with more power, so we begin by shaping the music in a tube environment – the preamp stage,' says Jan, 'and the MOSFETs carry it from there'.

TWEAKER TEMPTATIONS

The 12AU7 triode tubes, a total of six in this instance, represent a very practical choice – PrimaLuna has always demonstrated a knack for selecting hard-to-criticise valves. With two-decades-plus in China, the company knows how to source the good stuff. That said, I have yet to mess around with one of its amps by replacing the valves with 'selected' or 'matched' or

even NOS classic valves for a worthwhile improvement. This observation might not stop inveterate tweekers from 'tube rolling' for the sheer thrill of it, but I suspect it might be a waste of time.

Herman points out that the MOSFET power amp stage is better suited to driving 'more demanding loudspeakers', and it handled Wilson's The WATT Puppy [*HFN* Sep '24], DeVore O/93s [*HFN* Mar '23], and BBC LS3/5As with equal disdain: nothing seemed to ruffle it. Also important for some – you should see my electricity bills for the listening room – a hybrid amp costs less to run than an all-valve equivalent.

As for the price being higher than that of the EVO 300 integrated, which shares the same chassis design, the power amplifier offers extra functionality. Switches

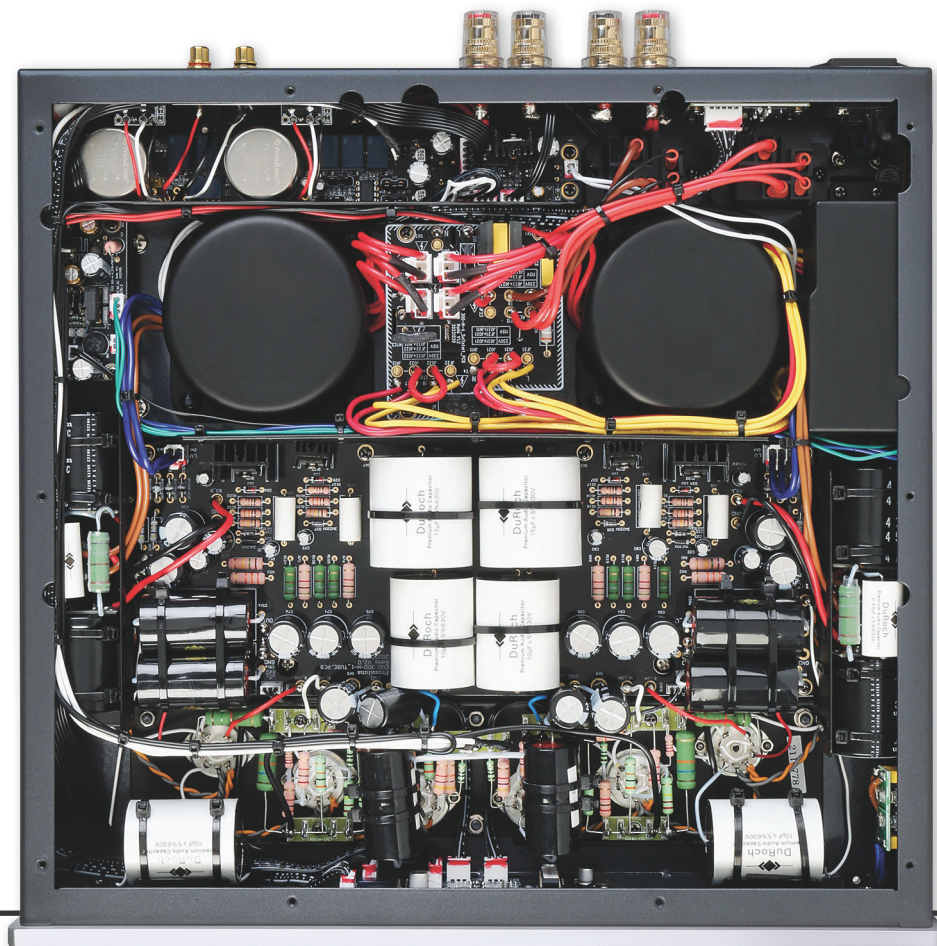
on the rear enable a mono/bridging circuit for those who need more power as well as 'High' and 'Low' gain (sensitivity) settings. The power amp also includes the aforementioned transformer-coupled XLR input while the PSU transformer includes multiple secondaries in this model.

HOT STUFF

Herman also solved another mystery: why does the cool, slim remote handset [p71] only offer mute when most users will pair this power amplifier with a preamp likely to include its own handset (or app...) for volume, input selection, etc? 'I know a lot of lazy people', he replied.

As with most power amps, setup is all-but-self-explanatory. The amplifier weighs a hefty 31kg and occupies 385x205x405mm ⇨

RIGHT: Underneath the EVO 300 Hybrid reveals transformer-coupled XLR inputs [top left], tube bases [bottom] and L/R PSUs [top] for its two input and four 12AU7 driver triodes. The 500VA PSU transformer and Exicon MOSFET-based power amp (on heatsinks) are situated topside





LEFT: The EVO chassis hosts three 12AU7 double-triodes per channel driving a MOSFET power amp 'hidden' inside the amplifier's rear enclosure. With two very richly biased pairs of FETs per channel, the sidecheek heatsinks can get very hot!

(whd), so take that into consideration if placing on a shelf. Also, the FET power amp runs warm – I measured 38°C on the lid and 46°C on the side-mounted heatsinks after a few hours' playing time – so adequate ventilation is important.

On the left side is the on/off rocker switch, the front panel bearing only the power-on LED which changes from red to green after one minute of a muted warm-up period. The rear panel [p71] includes a selector for the XLR or RCA input, 'high' or 'low' gain and stereo or bridged-mono operation.

PRIMA DONNA?

Listening proved that two of these extra features need specific comment,

'It was finely detailed, precise, loping along with the lyrics'

especially for anyone who plans to have a demonstration of the EVO 300 integrated amplifier. The 'High' gain mode, for example, was simply too high for my Audio Research REF 6SE preamp [HFN Jan '21], or when fed directly by my PS Audio Direct Stream DAC MK2 [HFN Jun '23] – in both cases I barely had to turn up the volume on the preamp before blasting myself out of the room. Via the PS Audio DAC, I had to reduce its output by 60% from its usual setting.

It wasn't just about having enough usable scope for precise level setting, as anyone knows if they've used a preamp with only a tiny arc of play before it's too loud. Crucially, the EVO 300 Hybrid sounded much better with the sensitivity

selector set to 'Low' – now it was quieter, less brash, more valve-like. And this amp does sound deliciously tube-y.

So, too, the XLR-vs-RCA inputs. As explained in PM's Lab Report [p71], their behaviour is quite different, but not as one expects from an amplifier with actual balanced XLR inputs to compare to RCAs. While single-ended-vs-balanced sound marginally if audibly different, gain variances aside, the overall character is (usually) fundamentally the same. With this amp, the RCA input sounds more transistor-esque and the XLR more valve-like. I've no idea if that's even technically feasible, but that's how it seemed to me.

Feeding it SACDs, vinyl and open-reel tape, the overall impression was one of balance between its tube and FET technologies. I kicked off with the reel-to-reel of The Beatles' *Sgt. Pepper's Lonely Hearts Club Band* [Capitol L-2653] and it took all of five seconds to appreciate two fundamental aspects of the EVO 300 Hybrid's behaviour. Overall, it can form and fill a massive soundstage with precise positioning and stage depth. Bass, too, will bring a smile to anyone who craves the extension and snap of transistor amps but with freedom from the overly damped artifice some designs are apt to impart.

FAB FINESSE

Instead, especially on Macca's virtuoso bass work on 'When I'm 64', the music flowed with a naturalness that was impossible to ignore. It was finely detailed, precise, loping along with the lyrics. Indeed, its presence throughout the entire album was exemplary, but the clincher was not the bass so much as the detail.

'Being For The Benefit Of Mr Kite' and 'Lucy In The Sky With Diamonds' remain exemplars of The Beatles' studio inventiveness, but they're tricky to use for reviewing purposes as many of the sounds are studio-generated effects. It makes no

PAINTING WITH TUBES

Combining a triode line stage with a FET output need not mean 'triode/pentode amp' levels of distortion, but PrimaLuna has jumped hoops to ensure the 'colour' of the EVO 300 Hybrid 'poweramplifier' is as close to that of the all-tube EVO 300 [HFN Mar '21] as possible. We saw much the same in its earlier EVO 300 Hybrid integrated amp [HFN Jan '22], these still being the only hybrid amps in the range. Both amplifiers employ a three-stage tube front-end – the first 12AU7 triode forms a phase-inverting gain stage, followed by another 12AU7 triode to restore absolute phase. The final triode is a unity gain cathode-follower that drives the two pairs of MOSFETs, per channel, in the power amp. All three tube sections have separate, FET-regulated PSUs and all the transformers are made on site at PrimaLuna's factory. That includes input, output and PSU transformers.

Of course, the 'integrated' EVO 300 Hybrid has higher overall gain than the 'poweramp' [see Lab Report, p71] but there are no active circuit changes here. Instead, the tube stage(s) provide the same 7dB of gain but the audio signal is subsequently *attenuated* by 7dB in the 'poweramp' prior to the FET power amp. While the triple triodes provide no overall gain, they do impart a 'tube sound', says Jan de Groot, Prima's engineer from Floyd (the codename for everything 'FET' within PrimaLuna's amplifiers). 'I saw a similar technique being used in the mid-'80s when I was a service engineer for Luxman', Jan recalls. 'We also prefer to use a balanced-to-SE (XLR) input coupling transformer', says Jan, 'An active input stage may have lower distortion but the sound of our custom transformer was preferred.' More tube/FET hybrid amps will be released soon, no doubt... PM

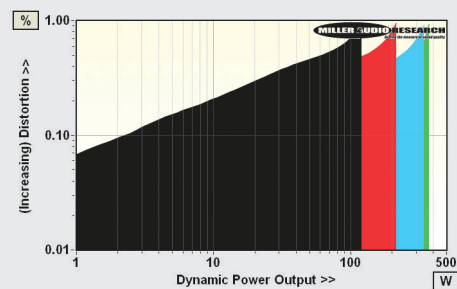
LAB REPORT

PRIMALUNA EVO 300 HYBRID

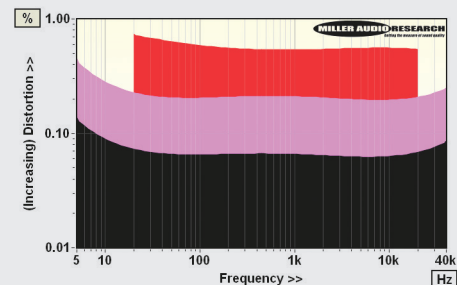
While this 'poweramp' version of the EVO 300 Hybrid is clearly derived from the earlier integrated model [see boxout, p69], and the respective power outputs are largely unchanged, the distortion via the new transformer-coupled XLR input is very different from that of the RCA input. So the *sound* via the RCAs will be consistent between the EVO 300 Hybrid 'integrated' and 'poweramp', but the latter's XLR input will be different...

Tested via the XLRs, the EVO 300 Hybrid offers +29.7dB gain in 'High' mode and +23.9dB in 'Low' mode, the latter perfectly sufficient for use with any likely partnering preamplifier. Power matches the EVO 300 Hybrid integrated at 2x120W/8ohm and 2x190W/4ohm with 120W, 215W, 340W and 375W into 8, 4, 2 and 1ohm loads, respectively, at <1% THD under dynamic conditions [see Graph 1, below]. The 'linear' increase in THD with output is also clear here, from 0.065%/1W to 0.2%/10W and 0.65% at the rated 100W (all 1kHz/8ohm under continuous conditions) versus 0.003%/1W, 0.02%/10W and 0.12%/100W from the integrated and 'poweramp' when driven via their RCAs. Versus frequency, distortion is impressively uniform [Graph 2].

Avoiding the need to buffer a volume control also endows the EVO 300 Hybrid 'poweramp' with a flatter response (-0.1dB/20kHz and -0.6dB/100kHz compared to -0.4dB/20kHz and -5.6dB/100kHz) even though the amp's 0.03-0.095ohm output impedance is little changed. Deleting the volume and input switching circuits also improves stereo separation by up to 25dB here at mid and high frequencies. The same casework, PSUs and tubes also brings a consistent residual noise – both amplifiers delivering a worthy 88dB A-wtd S/N ratio (re. 0dBW). PM



ABOVE: Dynamic power output versus distortion into 8ohm (black), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Maximum current is 19.4A



ABOVE: Distortion versus frequency versus power output (1W/8ohm, black; 10W, pink; 75W, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	120W / 190W
Dynamic power (<1% THD, 8/4/2/1ohm)	120W / 215W / 340W / 375W
Output imp. (20Hz–20kHz/100kHz)	0.031-0.095ohm / 0.83ohm
Freq. resp. (20Hz–20kHz/100kHz)	-0.05dB to -0.1dB/-0.6dB
Input sensitivity (for 0dBW/100W)	180mV / 1800mV
A-wtd S/N ratio (re. 0dBW/100W)	87.5dB / 107.4dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.19-0.22%
Power consumption (Idle/Rated o/p)	97W / 397W
Dimensions (WHD) / Weight (each)	385x205x405mm / 31kg



ABOVE: The EVO 300 Hybrid 'poweramp' differs from the 'integrated' with its bridge (mono) mode and balanced XLR input option. Overall gain is also switchable as are the 12V trigger ports. Speaker outs are on gold-plated 4mm cable binding posts

difference, however, when your ears tell you that you are hearing what George Martin and the Fab Four intended. Indeed, the most revealing element was the long sustain at the end of 'A Day In The Life': smooth, consistent, imposing – nay, majestic.

WONDER WALL

At the opposite end of the scale, I played the lean, wholly naturalistic blues of Lonnie Johnson with Elmer Snowden on *Blues & Ballads* [Bluesville/Craft CR00838]. This offered two trials for the EVO 300 Hybrid, both of which were passed with flying colours. The first was the ultra-wide, extreme left/right stereo of the era while the second was the mainly unplugged instruments.

So lifelike was the recreation of the studio, with vocals so far to the left that I thought a wall had vanished. The guitars had the kind of presence that fools you for those fleeting moments where you swear it's real. But that was nothing compared to the vocals where the textures are the defining

qualities, as distinctive as Joe Cocker's or Paolo Conte's growls.

Despite the mildly distracting (to modern ears) far-left location, the voices were so natural-sounding that it actually refocused one's attention – which is probably the way it should be. The wry, saucy 'Jelly Roll Blues' was delivered with an abundance of feeling, all the better to illustrate what audiophiles mean when they claim a system can

reproduce emotion. And that's also as it should be.

For all the satisfaction the EVO 300 Hybrid provided for this pro-valve listener, I could imagine those diametrically-opposed purist audiophile species – tubes vs trannies – finding grounds for criticism because the two have been weighed equally, exactly as the mission statement required. But perhaps this is an academic debate, for purists of either discipline might not contemplate a hybrid design. For those undecided or who like both, the EVO 300 Hybrid 'poweramplifier' is one of the best examples of cross pollination I've heard.

If choosing an amp is a matter of tubes-only-vs-solid-state-only-vs-I'm-not-bothered, then your own predisposition will influence your reaction to this remarkable amplifier. Via the RCA input it sounds just like the EVO 300 Hybrid Integrated, but via the XLR – even if you resort to an RCA-to-XLR adapter – the EVO 300 Hybrid 'poweramplifier' embraces the hybrid concept, perfectly blending tube colour with solid-state grip. For the undecided, this may well be the best of both worlds. ☺

HI-FI NEWS VERDICT

What a gentle giant! The EVO 300 Hybrid acts like it has three times its power. As far as PrimaLuna is concerned, it is 'mission accomplished' because this amp delivers all its force with the aplomb of a massive transistor amp but with the warmth tube devotees demand. It's neither as fat nor rich as the all-tube EVO 300 amp, nor hyper-etched à la all-solid-state. Rather, it's like Goldilocks' porridge: just right.

Sound Quality: 87%



LEFT: Alloy remote offers control over mute only!