



EAR 324

A versatile solid-state phono amp for inveterate tweekers

phono stage

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PRICE	£2070
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Partial though I am to Tim de Paravicini's down'n'dirty 834P phono stage, the paucity of features limits its usefulness

as a reviewer's reference. Despite the simplicity, this budget valve phono stage – I reviewed it some years ago at £400 – has never left my system, and it's been a dependable fall-back for all of those line-level-only pre-amps and integrateds that have taken over since the dawn of CD. But the 834P is a workhorse with only a choice of moving-magnet or moving-coil cartridge, with no adjustment save for gain. And so it was high time I sought out a more flexible device.

Eschewing the new generation of megabucks phono pre-amps (though I am soon to review the Manley Steelhead), I was quite taken with the notion of an all-singing, all-dancing EAR-Yoshino, even if it meant going solid-state. Then again, I've never had as much of a problem with solid-state phono stages as with solid-state pre-amps. EAR-Yoshino's EAR 324 looked like just the ticket, especially as it was bursting with adjustments – a must if you're a chronic cartridge changer or habitual tweeker, whether a reviewer or not.

So full is the 324's 323 x 100mm front panel that you're forgiven for mistaking the unit for a full-function pre-amp; and given that it's also 300mm deep counting the knobs and rear panel fittings, and it weighs 5kg, the mistake is understandable. There's a lot of metal here, including a brushed front-plate 10mm thick, all-metal knobs and no-compromise fittings at the back. The weight is also attributable to the high component count, overkill power supply and superior-quality switches. While there are certain crude details that prevent this being mistaken for a Nagra ('impedance' isn't the way I'd spell it), those who like their hardware 'substantial' will love it even before they switch it on.

Tim de Paravicini derived the EAR 324 from the phono section of the Paravicini 312 Control Centre pre-amplifier, launched in 2000. That product was notable for being the first all-transistor EAR/Yoshino model. It made much use of transformer coupling and de Paravicini's personal take on solid-state circuitry, and was also noteworthy for *not* being a hair-shirt, minimalist design – hence the inspiration for the 324.

As de Paravicini states, 'The 324 borrows extensively from the circuits used within the 312, but is a more specialised product intended to offer the ultimate in quality and versatility, and exclusively for the vinyl enthusiast. Its sole task is to amplify the millivolt-level signal from a phono cartridge to line level, so that it can be processed in the same way would be the signal from a CD

player, tuner or tape recorder.'

As Tim de Paravicini, who also has expertise in such diverse fields as hot-rodding mixing desks, restoring valve tape recorders and piloting small aircraft, notes unashamedly, 'The unique requirements of phono amplification – very small signal levels, plus the RIAA equalisation required, plus the desirability of loading the cartridge correctly – make designing an amplifier for the task one of the most demanding jobs in electronics.' But he loves vinyl as much as he adores open-reel tape, so he rose to the challenge.

In conceiving the 324, he identified 'three particular factors [that] contribute to the performance of this amplifier'. The first is the use of very high quality input transformers for moving-coil cartridges, as found in the 312 and the EAR MC3 step-up. These allow for optimum loading and the best noise performance with high-quality m-c cartridges. The second is a 'unique' RIAA equalisation circuit to provide better stability and freedom from transient overload, in addition to the obvious: accurate frequency response. He claims $\pm 0.3\text{dB}$ for the 324. Lastly – and it's here that the 324 yanked my leash – is a wide range of user-adjustable settings on the front panel that allows matching to be optimised with ease.

As expected of EAR-Yoshino designs, the 324 employs low noise, wide bandwidth and low distortion discrete circuitry. High-quality output transformers are specified for superior cable-driving ability and to ensure that no quality is lost



through the entire amplifier's circuit path; I only ran less than two-metre pairs – single-ended and balanced – so I can't comment on whether or not these allow the sort of runs needed by those who have their turntables near their main listening positions... and yards away from the pre-amp.

Before I received the review sample, I had been engaged in hypothetical discussions with de Paravicini about choosing settings for phono stages. The reason was that I was one of the 'beta' testers for the forthcoming, de Paravicini-designed Quad valve phono stage (which, alas, precludes me from reviewing it). When I and other beta testers were asked by Quad what was the best adjustment selection, the 324 came to mind immediately. Although it wasn't entirely feasible to load up the Quad – price, valve topology and other considerations play a part – it did, however, indicate that the 324 phono stage is about as accommodating as it gets.

For m-m input impedance, he opted for 15k, 22k, 33k, 47k and 100k ohm, while input capacitance settings are 20pF, 100pF, 220pF, 330pF and 470pF. Although we've seen m-c step-ups with six or more impedance settings, three were chosen for the 324 phono stage: 4, 15 and 40 ohm. All these adjustments are accessible via three rotaries on the front panel, along with three gain settings via another knob (0, 6, or 12dB).

Additionally, the front features an On/Off rotary control with a blue LED indicator, and press buttons choose Phono 1 or 2, phase inversion and

mono or stereo (hooray!). The back also has a button to choose m-m or m-c when you use Phono 1, but loading is only adjustable for m-c types. Phono 2 is m-m only and has adjustable resistance and capacitance loading. And you also get a choice of XLR balanced or RCA socket single-ended outputs, selectable with a toggle switch. All that remains on the back is the IEC three-pin mains input and a large earthing post. Oh, and the phono sockets are beefy and gilded. In fact, the 324 reeks of pro usage instead of fragile, fiddly high-end twee-ness. The balanced output, for example, easily surpasses the unbalanced for dynamic qualities and quietness, and every selector has a solid feel.

In addition to the user-variable specifications, the remainder of the numbers include an output impedance of 60 ohm, m-m phono sensitivity of

classics. The bass on 'Theme From Shaft' was taut and 'massive', and this in turn made the performance seem more majestic. Also benefiting were the textures of Hayes' voice and the distinctive *whucka-whucka* guitar work.

Normally, I stay away from the discs I call 'easy' – LPs so glorious that it's hard to make them sound bad. Bob & Ray's *Stereo Spectacular* is one such LP, the recent German reissue being exceptionally impressive. But I wanted to hear what the 324 did with sublimely recorded, wall-to-wall stereo. No question: imaging fanatics will want to run naked through the soundscape, which is so three-dimensional, airy and seamless that I heartily recommend listening to this in the dark. Simply put, your speakers will disappear.

While I did miss a bit of the 824P's warmth, the big Macs took care of that. Moreover, this 324

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2.5mV for 1V output at 0dB gain, channel balance of ± 0.2 dB and an S/N ratio of 68dB (ref 2.5mV). The distortion is stated as 0.2% at 2V output, while the overload margin is 12V output. I ran the 324 into a selection of line inputs – Marantz PM-4 integrated, McIntosh C2200 and Quad QC24 pre-amps and Musical Fidelity Tri-Vista – with no mismatches, just as expected. And, depending on your cartridge and ability to tweak, you can get this baby so close to your tuner's or CD's playback level that you'll never again fear flipping from vinyl to a line source for fear of popping a tweeter.

For the rest of the system, I also used the McIntosh 2102 power amplifier, Wilson WATT Puppy System 7 and Rogers LS3/5A speakers, IF stands and Transparent's new 'mm' cables. The front ends included the London (Decca) Gold in the Decca Universal arm on a Garrard 401 turntable and the Koetsu Urushi mounted in the SME V arm on a SME 10 turntable. I figured that if the EAR could optimise those two, then it would have no problems elsewhere.

It didn't take long to fall in love with the 324. While it lacks the warmth and cuddliness of the 834P, one of the reasons I so adore that prosaic little lump, it does ooze refinement and confidence-inspiring precision.

It was time I messed with the VTA on the Koetsu, as it was well past its running-in period. Sure enough, the 324 let me hear the gains by altering the arm height a mere half-mil. Cables? EAR doesn't rate audiophile wire very much, and yet the 324 – especially the single-ended outputs – proved to be one of my most revealing test beds for assessing old-versus-new transparency.

But forget all that: I whipped out the new 45rpm soul vinyls from Acoustic Sounds – Staples Singers and Isaac Hayes – and was treated to sublime handling of these Stax

phono stage possesses a very slightly grainy background, not quite up to tube noise level, so I suspect this unit won't tempt those who can afford the really high-end phono stages from Audio Research, Boulder and other manufacturers. But the 324 retails for only £2070, which means that any sane retailer will let you walk out with one for £1999. If you're past the NAD PP-1 or PP-2, and you need a bit more flexibility, yet you can't stretch to the bank-breaking phono amps such as the Boulder, here's my phono stage of choice. ■ Ken Kessler

Technology

It was pointed out by de Paravicini, 'Unusually for a solid-state pre-amplifier, the 324 does not use a regulated power supply. Conventional regulators are not without their own problems, and the design of the 324's circuits is such that they are unaffected by small variations in the precise voltage of the supply. High frequency variations are efficiently smoothed out by the multi-stage passive filtering.' Moreover, the input to the power supply from the rectifier bridge is via an inductor, another of de Paravicini's specialities, preferred because of the benefits it brings in terms of low ripple, low peak current through the diodes. This improves reliability while reducing the likelihood of mechanical transformer noise: low electrical noise coupled back on to the mains supply is a further benefit, and the circuit also enjoys a degree of regulation.

Features

- Sound 'oozes refinement and precision'
- User-variable settings, including m-c or m-m
- Choice of XLR or RCA outputs