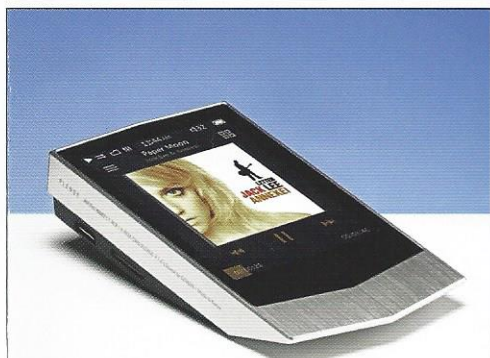


# HI-FI WORLD

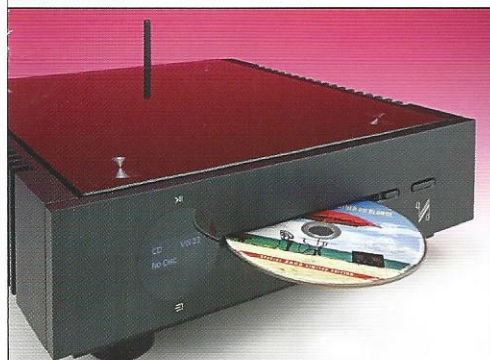
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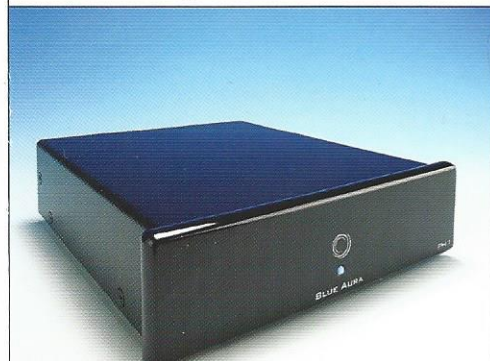
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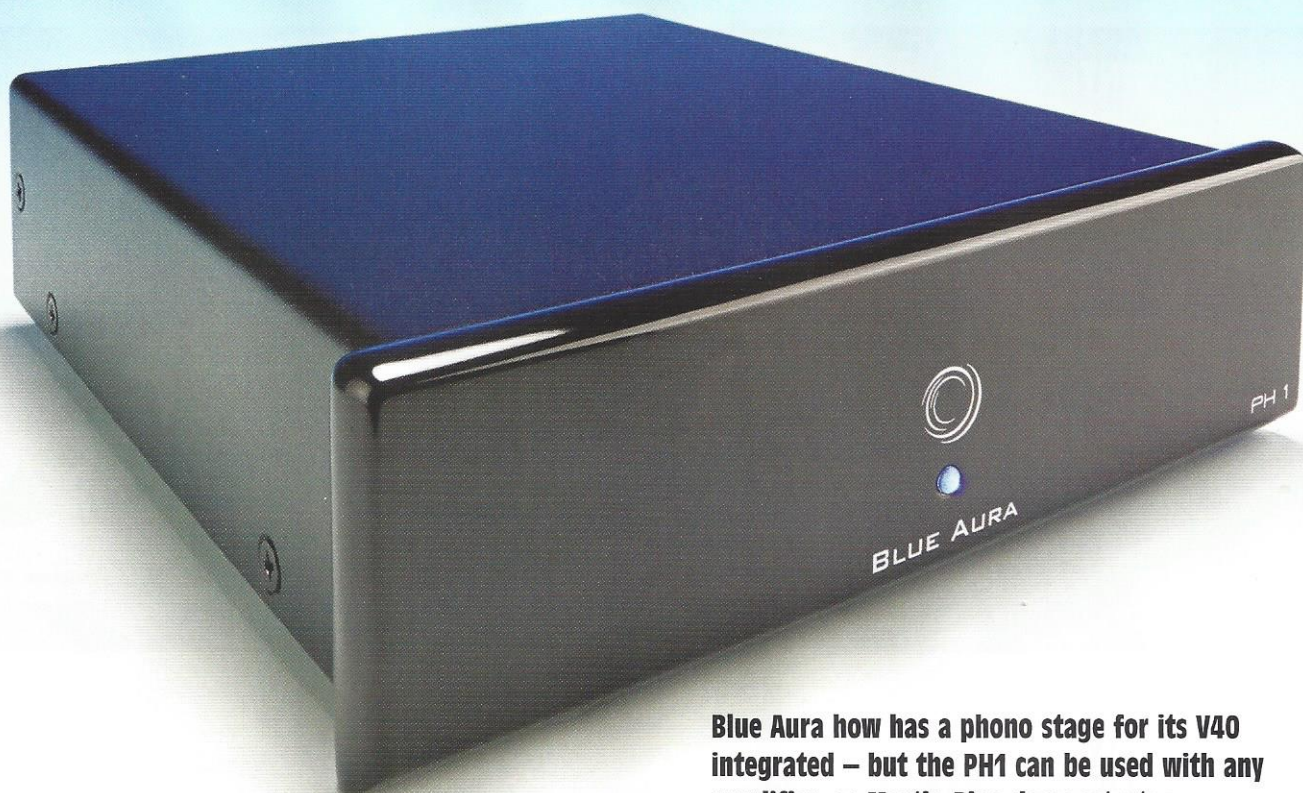
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# Black and Blue



**Blue Aura now has a phono stage for its V40 integrated – but the PH1 can be used with any amplifier, as Martin Pipe demonstrates**

**A** couple of years or so ago, we glowingly reviewed Cambridge-based Blue Aura's Blackline V40 – an affordable low-power (10 watts per channel) stereo valve amplifier with Bluetooth and USB connectivity. But although this versatile little ECC82-based design also boasted a line-level analogue input, vinyl wasn't catered for. Since the V40 started its life on the drawing board, interest in those magic black discs has increased. Blue Aura realised this, and an external upgrade was the obvious answer. "To be honest," the company's founder Nick Holland told me, "a matching phono stage has been requested by

V40 owners for some time – and so it made sense to add one to our Blackline range".

The fruit of his labour is the modestly-priced PH1, a simple wall-wart powered unit that caters for MM and MC cartridges. Its line level output can of course feed any stereo amplifier without phono input, and not just the V40. A prototype version of the PH1 was previewed in a system built around a Clearaudio turntable and other Blue Aura components at last year's Indulgence show, and the company "was greatly enthused by visitor comments". It's aimed not only at "newbies", but "the more discerning listener" too. Interestingly, Blue Aura may benefit

from the vinyl renaissance more than some hi-fi brands because, as Holland revealed to me, it supplies product "to independent vinyl stores whose customers are less hardware-orientated and more interested in the sound...a large percentage of customers are new to 'good quality' audio"! Devices like the PH1 can be used as an upgrade; Blue Aura reckons that theirs "will offer an improved performance, as most built in phono stages are not of high quality...from the testing we have conducted, the PH1 sounds better than built in preamps". Although it's tube-free, the PH1 is – as you would expect – a good visual match for the V40 with its glossy front panel



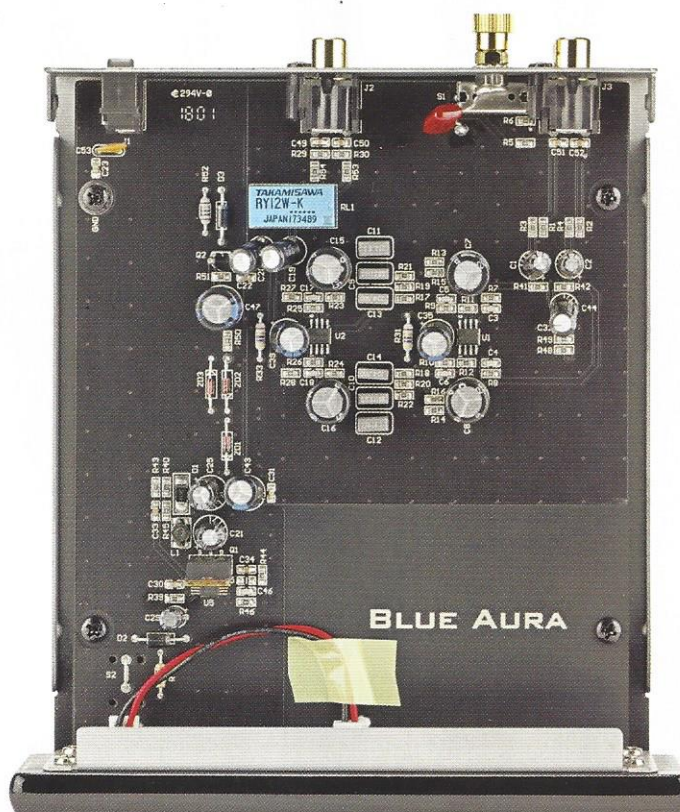
and blue LED. That's the uncluttered face presented to the world by the PH1; the backside is its business end. There you'll find the DC power input, together with one of the tiniest rocker on/off switches I've ever seen, and a ground terminal.

Alongside them are the input and output terminals – both using standard RCA sockets – and a switch that flips between moving-magnet and moving-coil cartridges. The latter has more gain (60dB) and a lower input impedance (100 ohms or so) than the former (47dB and approximately 50 kilohms respectively) to reflect the very different requirements of moving-coil carts. As we're in budget territory, there are no internal jumpers to set gain and cartridge loading – Blue Aura have instead gone for the best compromises. Asked about cartridge recommendations, Holland mentioned that Blue Aura have "used Ortofon, Rega and the Clearaudio Concept MM and MC models", adding that "Clearaudio was the most revealing, but given the cost I guess that is to be expected".

Inside, construction is neat. A mix of through-hole and surface-mounted devices populate a decent-quality PCB. The main audio components are ST MC44078 audio-grade dual op-amps; capacitors and resistors in their feedback paths are used to provide equalisation that follows the RIAA curve. Fairly standard practice, in other words - many on-board phono stages employ a similar configuration. However, you'll seldom see parts of the high grade seen here in built-in preamplifiers – which, while we're at it, seldom makes provide for MC cartridges. Blue Aura's designers seem to have specified a single-rail configuration – meaning the audio ins and outs are capacitor-coupled. Maybe that's why a timed relay is used to provide a power-on mute function, thereby avoiding audible 'thumps'.

## SOUND QUALITY

I used two turntables – a Systemdek IIXE900 belt-drive fitted with Alphason Opal arm and Denon DL304 MC cart, and a Technics SL1200 Mk2 direct-drive with Stanton 500 (DJ, spherical tip) or Audio-Technica AT440MLb (audiophile, microline tip) MM cartridges. With these very different units and an extensive vinyl collection the basic idea was to put this phono stage through most of the scenarios it is likely to encounter in the 'real



*Internal construction is of a high standard, using a mixture of surface-mount and 'through-hole' components. To the bottom-left of the preamp can be seen the power-supply regulator circuitry. The PH1 uses small low noise op-amps – ST MC44078s. To avoid switch-on thumps as the circuits stabilise their d.c. operating conditions Blue Aura has included a relay muting system.*

world'. The chosen 'table was fed, via the PH1, to one of the line inputs of an Arcam A49 integrated amp and thence to Quadral Aurum Wotan VIII speakers or Focal Utopia headphones.

I started off with the Systemdek. Via the PH1, its Denon yielded an

bass drum and footstomps of Cecilia pounded along relentlessly, while The Boxer's bass harmonica enjoyed a prominent role. I did note a little 'cone-flap', which suggests to me that infrasonic filtering is not a PH1 feature. A lack of 'early roll-off' is undoubtedly good for bass, but be

"Every nuance of the piano was evident and the bassline had depth."

expansive and detailed sound with no sensitivity issues (in other words I didn't experience distortion, or have to turn up the volume). A 1970s CBS pressing of Simon and Garfunkel's Bridge over Troubled Water was certainly an enjoyable listen, with great imaging and dynamics although I could hear an occasional trace of vocal sibilance.

However, every nuance of the piano was evident and the bassline (played with two guitars!) had depth. Yes, the PH1 is capable of excavating your record's low end; the prominent

wary of warped records...

There is however plenty of detail in the presentation. I could clearly follow the xylophone in Cecilia's background, as Paul Simon plays a fast sequence of random notes. Similarly, with Keep The Customer Satisfied the Hammond organ was resolved accurately – but not at expense of the other contributions. The string section of So Long, Frank Lloyd Wright was meanwhile given the lushness it deserves. I then switched to Klaus Schulze's Audenty, a portrait of a life painted with an



amalgam of analogue and digital synthesisers.

But there's more to this double-LP than electronics, the layers of which are distinguishable here, as one can pick out a cello in the mix. The pulsing synthetic percussion here sounded maybe a little forward and bright – indeed, with all of the cartridges I tried (but especially the AT) I noted a slight treble emphasis. Switching to the Technics/AT, I found that the bass synth of Kool and the Gang's Street Kids was tight; the brass parts were – thanks to that treble character – given bite. The track's rhythms flowed naturally.

A play of George Benson's Masquerade revealed some delicate percussive flourishes underlying Benson's jazz guitar and the piano groove.

Switching to classical (a 1958 EMI stereo recording of the Berlin Philharmonic performing Dvorak's New World Symphony, under the baton of Rudolf Kempe) yielded a palpable orchestral space in which players were positioned. The span of tonal colour was done justice, and detailing is such that I could even perceive some fidgeting and seat-shifting during quiet passages.

A Harmonia Mundo LP of historic European organs fared well too, and it was possible to identify

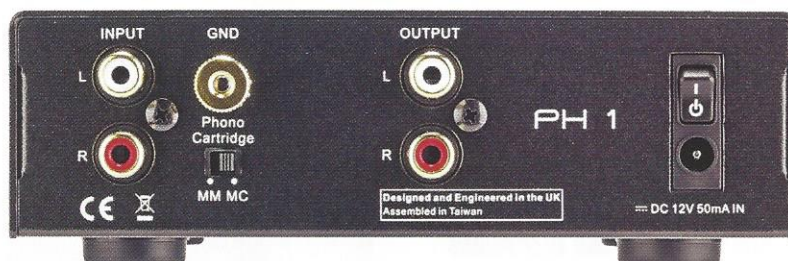
each instrument through its unique timbres.

Finally, I swapped headshells and the Stanton became part of the system. I noticed some lower-frequency colouration with the Simon and Garfunkel album, but this sort of cartridge is more at home with a very different form of music (it's also great for spinning seven-inch singles). A twelve-inch of heavily-modulated breakbeat techno – The Scientist's Exorcist – came across with plenty of energy, and its massive bassline intact. Better still, overload distortion was mercifully absent.

## CONCLUSION

Musically speaking, the PH1 gave the best possible account of itself with

the Systemdek/Alphason/Denon combo – no great surprise there – but a budget phono stage is unlikely to be used with a £400+ moving-coil cartridge! In practice it's more likely to be partnered with an MM design, and the PH1 was found to work well with both the Audio-Technica and Stanton cartridges. The lack of 'tweakery' does mean the stage cannot be optimised completely for a given cartridge, but it the upside is better long term reliability through lack of switch contacts. The PH1 is a neat little unit that will slot into any system where, with an MM cartridge, it offers more gain than most others, suiting low output high quality types such as expensive Audio Technicas. Low, low price plus high ability makes the PH1 a real bargain.



Standard RCA sockets are provided for signal input and output. There's also a binding-post for ground – if you're getting hum, connect the chassis of your turntable here. A small slide switch changes characteristics to suit MC or MM cartridges. There's a tiny power rocker switch too, on a 12V d.c. input socket that connects to a wall wart supply.

## MEASURED PERFORMANCE

The usual gain values for silicon chip phono stages like the PH1 is x100 for MM and x1000 for MC. The PH1 gave a high but useful x222 (47dB) for MM (moving magnet) cartridges and x1000 (60dB) for MC (moving coil) cartridges.

The high gain value for MM helps it suit high quality, low output types.

The MC gain value is fine except for very low output specialised designs where more gain is needed.

Overload levels were normal enough, being set by gain versus output ceiling – a reasonably high 8V. That computes to 36mV in for MM and 8mV in for MC, which was confirmed by measurement – more than enough to avoid overload.

Frequency response measured flat via both MM and MC settings, our analysis showing MM. There is no warp filter to suppress loudspeaker cone flap, so warped LPs are not catered for – but conversely the deep

subsonics of LP get through.

Input noise was a bit up (+4dB) with MC – 0.16µV where 0.1µV is possible nowadays, but satisfactory for a budget preamp and suitable for high output MCs. At 0.2µV input noise (e.i.n. IEC A weighted) with MM was low, but here thermal (Johnson) noise from MM cartridges dominates in any case.

The PH1 measured well in all areas. It is a simple but clean design without drawbacks. **NK**

### Frequency response (-1dB)

7Hz-20kHz

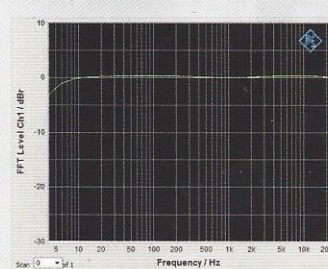
Distortion (10kHz, 1W) 0.01%

Separation (1kHz) 89dB

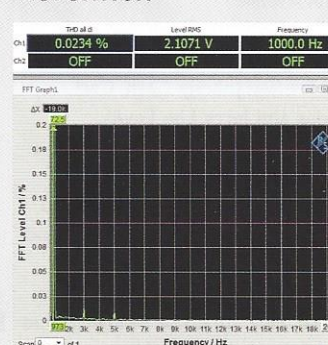
Noise (input noise, MM, MC)  
0.2µV, 0.16µV

Gain (MM, MC)  
x222 (47dB), x1000 (60dB)

### FREQUENCY RESPONSE MM



### DISTORTION



## BLUE AURA PH1 MM/MC PHONO STAGE £159



**EXCELLENT - extremely capable**

### VERDICT

A simple, neat phono stage with detailed sound.

### FOR

- energetic, musical and surprisingly revealing
- very easy to set up and use
- looks good!

### AGAINST

- gain and loading 'fixed'
- could sound a little bright
- no effective warp filtering

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