



Aurorasound Preda

Strikingly individual in its approach, this meticulously-crafted, fully-balanced line preamplifier from Japan promises pure enjoyment from digital sources

Review: **Steve Harris** Lab: **Paul Miller**

On the face of it, a line preamplifier might seem the least complicated component of a hi-fi system, and of course it should not add any character of its own to the sound. But preamplifier design is far from standardised and there is plenty of scope for the 'boutique' builder who aims for ultimate audio purity.

A case in point is Aurorasound, a fairly new Japanese company with a fresh and innovative approach. With the £8000 Preda, designer Shinobu Karaki has included his own implementation of the transformer volume control, a principle that's hitherto been associated mainly with the most fanatically purist passive preamps.

Yet this is not Karaki's first audiophile preamp design. Aurorasound's short history [see boxout] really began with his CADA 'Control Amplifier for Digital Audio', surely the only commercial hi-fi product to have combined archaic directly-heated triode tubes (beloved of DIYers) with a modern digital-to-analogue converter in the same chassis. Unfortunately, it proved difficult to get consistent supplies of the 3A5 tubes used, and the CADA seems to have been put on hold.

The Preda is quite different. It's all solid-state and, although it's similarly described as a 'Preamplifier for Digital Audio', it doesn't include a DAC. But the description is still logical in a sense, because Aurorasound now caters for analogue sources with its VIDA phono stage [HFN Jul '13]. Like the VIDA, the Preda is modular in construction, and in fact uses the same power-supply modules, one for each channel. Another building block of the design is a new 'Aurora-AMP' discrete amplifier module, and six of these are used in total.

But the main innovation is in the use of a transformer attenuator for the volume control, where taps on the secondary

winding of a transformer replace the resistors of a conventional stepped attenuator. In the context of a passive preamp, this approach can give a constant input impedance and also overcome the resistor type's disadvantage of increasing output impedance at lower levels. A currently-available Sowter transformer, for example, covers a 50dB range in 2dB steps when used with a suitable 26-position rotary switch.

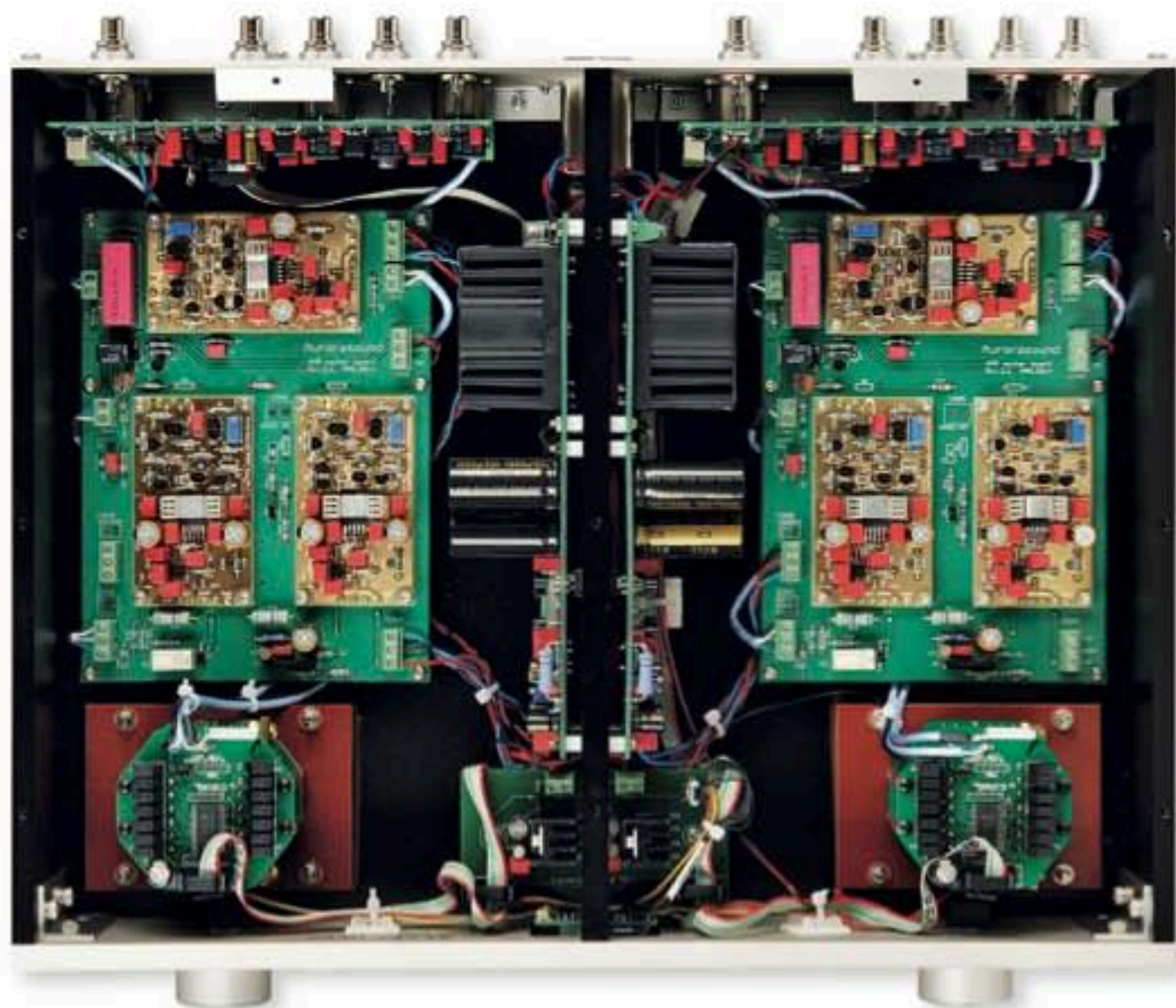
A FEW IDIOSYNCRACIES

However, it's far more unusual to see a transformer volume control used in an active preamp, let alone a fully-balanced design like the Preda. Aurorasound's own volume control module is apparently an auto-transformer, where the primary and secondary are formed by a single winding. It offers 54 steps of 1dB, switched by UK-made Pickering glass-encapsulated relays

that are operated by external magnetic fields. DC buffer amplifiers precede and follow the volume control module, to prevent any interaction of source or load capacitance with the inductance of the transformer. An instrumentation-type amplifier is used for the XLR balanced inputs, while the balanced outputs each go through a final Aurora-AMP module.

Preda's front panel controls are simple enough. Two 'endless' rotary encoders provide source select on the left and volume on the right, with the settings of either indicated by the two-digit display in the oval centre window.

Normally the display shows the volume setting, nominally in dB, from 1 to a maximum of 54. When you touch the source selector, the display shows the chosen input (1 to 4 for the unbalanced line inputs, 5 or 6 for balanced) for a few seconds only, before reverting. This isn't



RIGHT: Clearly a true dual-mono design, the Preda employs a ladder of relays that switch across the 54 steps of its transformer-coupled volume control. Inputs and outputs are buffered



as convenient as a continuous display of the selected input, as you can find yourself having to touch the control just to check which one is active.

A small front-panel LED indicates phase-invert, an option that's provided along with some extra facilities via the chunky, metal-bodied remote [see p61]. In a cross-shaped button array, up and down arrow keys control the volume and a central button gives muting, while the left and right arrows alter the channel balance.

These cause an LED to light above the figures in the display window, to left or right as appropriate. When both LEDs are out, the balance is at the centre position. Source selection on the remote is by buttons numbered 1 to 6, and there's also a display-off key.

Aurorasound isn't the first company to place the power switch underneath the front panel, but there's another switch next to it for 'gain select'. Pressing this cuts the preamp's overall gain by 6dB, while an LED indicates this with a patch of green light under the unit. Most preamplifiers allow

you to fade the volume down smoothly into silence, but with the Preda in normal mode the lowest level, '1', may still be too loud in some circumstances. Hence the Low gain option, described as 'convenient for midnight listening by using high sensitivity speakers'. But some users may still find that the volume can't be lowered enough for listening quietly into the night.

On the back of the unit, reflecting the dual-mono layout inside, are sets of balanced (XLR) and unbalanced (RCA phono) inputs, plus one unbalanced and one

balanced output socket for each channel. Balanced and unbalanced outputs are available simultaneously.

LITTLE DETAILS REVEALED

For the listening sessions I settled down on my usual sofa [see www.hifinews.co.uk/news/article/meet-the-team;steve-harris/9911], but with some different components. I used a Bryston 4BSST balanced stereo power amplifier kindly loaned by Unilet, with balanced cables by Van Damme. For unbalanced operation,

"The Sad Cafe" was infused with a timeless melancholy'

ABOVE: With rotary controls for source select and volume, both power-on and high/low gain switches are tucked away underneath the unit. The display shows selected settings and gain

I used Vertere Pulse B interconnects. Speakers were the B&W CM10s.

I decided that the balanced connection was better, but it was a very close-run thing. On Wynton Marsalis's *Selections From The Village Vanguard Box* [Columbia CK62191], when the trumpeter banteringly asks the time, you could hear just a bit more clearly the audience members' replies. On 'Easy To Love,' the opener from Patricia Barber's *The Cole Porter Mix* [Blue Note 50999 5 01468 2 6], there was just a bit more texture to the voice, and a slightly clearer perspective to all the instruments.

After this, I continued listening using the balanced format. On track after track and with CD after CD, I was arrested by the preamp's ability to reveal little details that had gone unnoticed before. One example was the subtler bits of percussion in Gwyneth Herbert's 'Perfect Fit (Original)' from *Clangers And Mash* [NaimEdge naim CD137]. While the handclaps sounded notably fleshy and real, the little rhythmic finger taps now also had shape and reality, instead of disappearing in the mix.

An indicator of the quality of a component is how well it can reveal the subtleties of the production on a CD track. June Tabor's wonderful rendition of 'The Lads In Their Hundreds' from *Quercus* [ECM 372 4555] was recorded live at The Anvil in Basingstoke in early 2006. But it was mixed for release at the Rainbow Studio in Oslo by Jan Erik Kongshaug and label boss Manfred Eicher, and with the Preda I felt I could almost see the way they had overlaid The Anvil's ambience with the 'ECM sound'.

With a very different kind of threesome, the Tori Freestone Trio and *In The Chop House* [Whirlwind Recordings WR4648],

A RISING AURORA

Osaka-born but now based in Yokohama, Shinobu Karaki played guitar in rock bands at high school and university and built his own first RIAA phono equaliser at the age of 15. He joined Texas Instruments Japan in 1980, eventually becoming Digital Audio Group business director. Taking early retirement from TI in 2009, he then pursued his interest in audio, initially building power amps, DACs and switching boxes for local audiophiles and shops. Then in 2011 came his unusual Aurorasound CADA, a tube preamp with built-in DAC, and the Aurorasound HiFace Pro D/D converter, a 'tuned up' version of M2Tech's HiFace. For 2012, Shinobu added BusPower-Pro, a clean power supply for USB devices, and introduced the VIDA phono stage. In 2013, he established Aurorasound Inc as a limited company. Shinobu now runs the business out of a new workshop and listening room, helped by his wife and two engineers working on contract.

PREAMPLIFIER



ABOVE: Rear panel reflects its dual-mono internal layout. Each channel has two balanced and four unbalanced inputs, with one balanced and one unbalanced output

the music really came alive in all its rhythmic complexity and precision. Freestone's brilliant harmonic sense means that you never feel the absence of a chordal instrument, and with the Preda the sheer beauty and honesty of her saxophone sound was more compelling than ever.

Listening to some archetypal 1970s rock recordings showed that the Preda could convey great dynamics while remaining poised and unruffled, never sounding edgy or untidy. On Dylan's *Blood On The Tracks* [Columbia 5 12350 6] its clarity allowed you to appreciate every instrumental contribution as the band maintained that oom-pah rhythm throughout 'Lily, Rosemary And The Jack Of Hearts.' On 'Simple Twist Of Fate' the acoustic guitars had body, feeling and dynamic subtlety as they ebbed and surged to accompany the twists of the tale.

REAL TRANSPARENCY

And the Preda was really imperturbable on more modern recordings too. When I cranked up the volume and put on Kings Of Leon with 'The End' from *Come Around Sundown* [Sony 88697782412], the drum sound was truly gigantic and Caleb Followill's groaning vocal was monolithic, with the fractured piano that winds things down at the end a perfect contrast.

Turning to classical music, the Preda could maintain clarity and sparkle even with the heaviest of orchestral textures. On the LSO's 2003 Barbican recording of Brahms Symphony No 1 with Bernard Haitink [LSO Live LSO0045], the huge sound of the opening movement was free of that deadening opacity that

comes in many systems from a lack of detail, and moved forward like the sea.

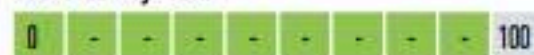
Moving on to hi-res sources, I used the Preda with a Chord Hugo DAC to replay files from a MacBook via iTunes and Pure Music. Here it offered a real transparency, with the feeling that you really were hearing the source unsullied and uncompromised. On Tim Hugh's recording of the Kodály solo Cello Sonata, from *Hands On Heart* [Naim], there was nothing to get in the way of the intensity of the music, the cello sounding superbly rich and sonorous in the supportive acoustic of Wigmore Hall.

With Rimsky-Korsakov's 'Dance of the Tumblers', the Minnesota orchestra sited comfortably in the acoustic of the hall, the percussion had a truly live and free breathing quality. Among other tracks from the same HDtracks sampler, Bach's Violin Concerto BWV1041, played by Anne Akiko Meyers, had a lovely, unforced delicacy to the string sounds, while J D Souther's 'The Sad Cafe' was grippingly infused with timeless melancholy and regret. A truly communicative sound. 🎵

HI-FI NEWS VERDICT

No ordinary preamp, to say the least, the Preda seems to reflect its designer's long experience in modern commercial electronics as well as his lifelong audiophile quest. It's somewhat idiosyncratic in styling and ergonomics, and so it may not be for everyone. But sonically, it can be revelatory, excelling at portraying the realism of vocal textures, for example, which makes the music expressive. It must be heard.

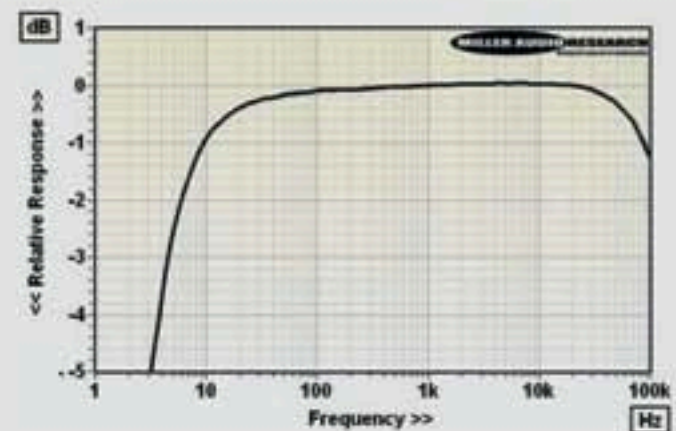
Sound Quality: 86%



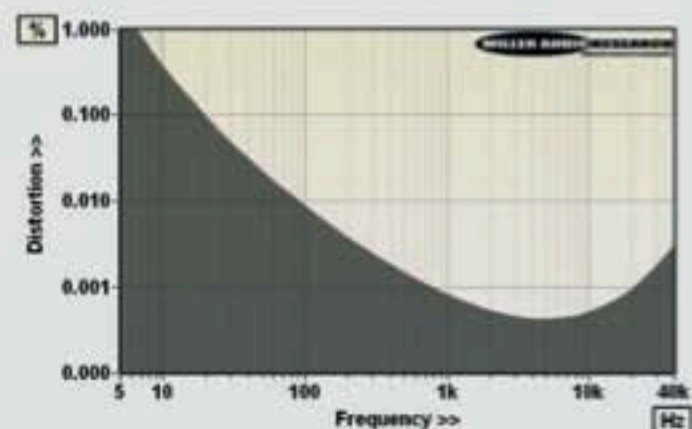
AURORASOUND PREDa

Aurorasound's proprietary 54-step transformer-coupled volume control operates over a (limited) 50dB dynamic range in rough 1dB steps although the usable scope of the control is supplemented by the Preda's 'Standard' and 'Low' gain setting. Tested in balanced mode and switched via the green button under the fascia, 'Standard' offers a maximum +13.4dB gain (a volume range of -36.5dB to +13.4dB) and 'Low' -0.5dB (a range of -52.1dB to -0.5dB). The Preda offers substantial input and output overload margins – in excess of 10Vrms and 25Vrms respectively via the balanced XLRs, the latter via a 46ohm source impedance – so it has the headroom to cope with any line level source with the output swing to drive any likely power amplifier.

Importantly, because the stepped-transformer volume control is correctly buffered, the Preda's input and output impedance remains constant as does its frequency (and phase) response [see Graph 1], the former gently tailored to -0.38dB/20kHz rising to show a hint of presence emphasis (+0.03dB/1kHz-10kHz). Distortion is very low indeed above 500Hz, falling to a consistent 0.0008% right up to 20kHz. The transformer causes an increase in THD at bass frequencies – from 0.01%/100Hz and 0.1%/20Hz to 1.9%/5Hz [see Graph 2, below], in line with the tailored LF response [Graph 1]. Noise, too, is a little higher than with competing preamps as a very low-level carpet of 50Hz harmonics spreads through midrange and treble. However, an A-wtd S/N ratio of 95dB (re. 0dBV) is still perfectly acceptable (105dB+ is state-of-the-art). Readers are invited to view a comprehensive QC Suite test report for the Aurorasound Preda preamplifier by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Extended frequency response (1Hz-100kHz) at 0dBV/60kohm via balanced input/output



ABOVE: Distortion versus extended frequency from 5Hz-40kHz at 0dBV (left, black; right, red)

HI-FI NEWS SPECIFICATIONS

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|----------------------------------|-------------------------------|
| Maximum output (<1% THD, 47kohm) | >25Vrms (Balanced) |
| Maximum input level (<1% THD) | >10Vrms (Balanced) |
| Output impedance (20Hz-20kHz) | 46ohm (Balanced) |
| Frequency response (20Hz-100kHz) | -0.38dB to -1.27dB |
| Input sensitivity | 213mV (Standard gain setting) |
| A-wtd S/N ratio (re. 0dBV) | 94.9dB |
| Distortion (20Hz-20kHz re. 0dBV) | 0.00078-0.093% |
| Power consumption | 28W |
| Dimensions (WHD) / Weight | 420x90x330mm / 10.8kg |