

# hi-fi news

THE HOME OF REAL HI-FI

& Record Review

148 pages

Exclusive

# MUSICAL MOMENTUM



**MILES DAVIS**  
THE GENESIS OF JAZZ ROCK

VINYL ICON

D'Agostino's crowning preamp



£500 Moving-coils  
Five of the best pick-ups on test

**NEW SERIES**

Buying Vintage  
Yesteryear's top FM tuners

PMC fact.12  
New flagship floorstanders

Naim Supernait 2  
Brit-amp just gets better

'Hi-res music  
- with Linux'  
Investigation, p16

Yamaha's 3000  
Stunning 'retro' combo



- PLUS 19 pages of music reviews and features • VINYL RE-RELEASE Warren Zevon's *Excitable Boy*
- OPINION 11 pages of letters and comment • VINTAGE REVIEW Philips' classic CD303 CD player
- CLASSIC VENUES We revisit the Apollo, Harlem, NY • READERS' CLASSIFIEDS Hi-fi bargains galore

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# MUSICAL FIDELITY

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## V90-DAC | DIGITAL ANALOGUE CONVERTER

“The V90-DAC is an upsampling DAC of outstanding quality”



## High-end performance from real world sources

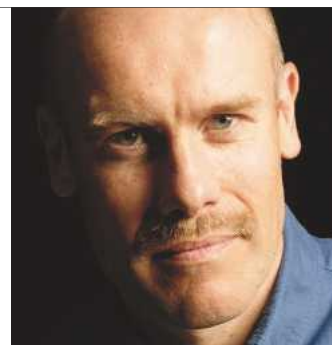
The V90-DAC is the perfect way to upgrade the performance of a wide range of equipment. Housed in a solid yet discreet case, it unites sleek design and technical excellence to offer unrivalled musical enjoyment.



**RIGHT:** Stax, the brand synonymous with electrostatic 'Earspeakers' promises high voltage harmony, see p66



**ABOVE:** Claro Audio's latest Clarity Dual has us in a spin, see p34



meeting our cover stars, the D'Agostino Momentum preamp and PMC fact.12 loudspeakers, in the flesh. Unveiled and fully reviewed for the first time in any magazine on the planet, our in-depth technical coverage from pages 22-33 will just have to suffice until the 'real things' are within auditioning range at our similarly exclusive Hi-Fi Show.

Sales of desktop fans have apparently broken all records as the UK has basked in some unseasonably clement weather this summer. Traditionally, bright sunshine and the lure of outdoor pursuits have never been a harbinger of sizzling hi-fi sales, but the boom in headphones for audio on the move shows no signs of abating.

Nevertheless, some luxury cans have 'armchair listening' written all over them, including the Stax Earspeakers featured in this very issue (p66). As these specialised headphones require an external amplifier to energise their electrostatic drivers, the SRS-4170 will surely be the last ear-warmers ever to leave the house.

If you want to experience these headphones for yourself, along with the *crème de la crème* of room-filling high-end exotica, you can by making a date at our inaugural Hi-Fi Show which lifts off from the Beaumont Estate conference centre in Windsor this 25-26th October. No doubt the UK's extended summer will be but a distant memory by then, so what better autumnal retreat could there be for the diehard *Hi-Fi News*-reading audiophile?

If our exclusive reviews of world-class hi-fi have you salivating over every issue, then just imagine the prospect of

**'Just imagine meeting this month's cover stars in the flesh..'**

At the time of writing, visitor tickets have only been on sale for two weeks but the demand promises we're all in for a fabulous two days of hi-fi heaven. If the anticipation isn't already overwhelming, then why not tempt yourself with more of the 'UK firsts' being planned by our exhibitors in our show update on p9 and on the website. Be part of the celebration and join your favourite *HFN* regulars for the high-end party of the year!

**PAUL MILLER EDITOR**

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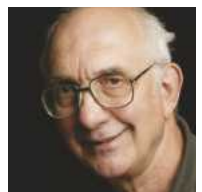


**VINYL:** Miles Davis' *Bitches Brew* is this month's Vinyl Icon (p76) while Steve Sutherland revisits Warren Zevon's dark, psychotic and extremely funny world as *Excitable Boy* is reissued on 180g LP (p74)

**RIGHT:** *Hi-Fi News & RR* is the exclusive UK representative of EISA's Audio and Home Theatre panels. Paul Miller is EISA's Audio and HT Panel Manager



**HI-FI NEWS' EXPERT LINE UP: THE FINEST MINDS IN AUDIO JOURNALISM BRING THEIR EXPERIENCE TO BEAR ON ALL AREAS OF HI-FI & MUSIC**



**BARRY FOX**  
Investigative journalist supreme, Barry is the first with news of the latest developments in hi-fi and music technologies



**JOHN BAMFORD**  
JB brings huge industry experience, a penchant for massive speakers and a love of hi-res audio in all its diverse guises



**KEN KESSLER**  
is currently our Senior Contributing Editor and almost singularly responsible for the renaissance in valves and 'vintage hi-fi'



**KEITH HOWARD**  
has written about hi-fi for 30 years, and edited *Hi-Fi Answers* for nine. KH performs our speaker and headphone lab tests



**STEVE HARRIS**  
Former Editor of this very title from 1986 through to 2005. A lifetime in audio and a love of jazz makes Steve a goldmine



**JOHN HOWES**  
Foremost collector and archivist of vintage hi-fi, famous for the UK's bi-annual Audio Jumble, John shares his experience with *HFN*



**STEVE SUTHERLAND**  
Worked on *Melody Maker* and then edited *NME* from 1992-2000, the Britpop years. Steve brings a unique slant to our Vinyl Release pages

# The Absolute Dream



The World's First  
100%  
Mono-crystal Cable

“an abundance  
of detail...”

- Jonathan Valin, *The Absolute Sound*,  
January 2013

“For those who are only ever  
satisfied with ‘the best’,  
then here it is.”

- Paul Miller, *Hifi News*,  
October 2013

“Absolute Dream USB  
is well-named.”

- Paul Miller, *Hifi News*,  
June 2013



 **absolute sounds** Ltd.

International Distributors & Consultants of Specialised Hi-End Audio & Video Systems  
58 Durham Road, London, SW20 0TW T: +44 (0)20 89 71 39 09  
W: [www.absolutesounds.com](http://www.absolutesounds.com) E: [info@absolutesounds.com](mailto:info@absolutesounds.com)



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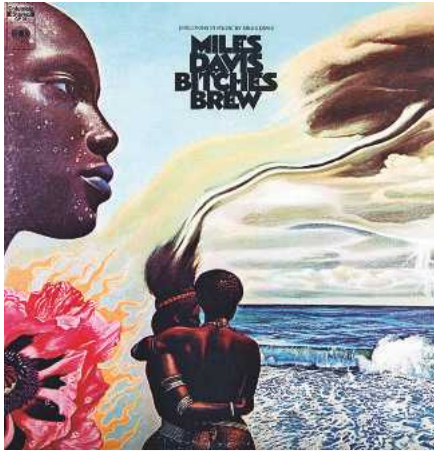
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**ABOVE:** For our Group Test of £520-£599 MC pick-ups, turn to p41



**LEFT:** The Musical Fidelity M6PRE (top) packs a MM/MC phono stage plus a USB input. Like the M6PRX power amp (bottom), it costs £3000. See p58

**SUBSCRIBE!**  
**hi-finews**  
Free £155 digital interconnect  
See page 86

# Tubes and touchscreen

AUDIO RESEARCH ANNOUNCES THE IMMINENT RELEASE OF ITS NEW, FULLY BALANCED SP20 TUBE PREAMPLIFIER



A new tube preamplifier from Audio Research is always hotly anticipated, and the fully-balanced Class A SP20 with its promise of LS- and PH-series performance for less than £10k (£8490) is likely to whip up a storm. The aesthetic design is a mix of classic ARC aluminium with a 4.3in LCD touchscreen controller, similar to that used on recent REF-series components. Two optically-coupled rotary controllers service volume and input selection, the latter also accessible via the touchscreen whose menu caters for stereo/mono, balance, phase, phono input loading, input naming, gain offset and volume presets. Naturally, there's also a tube hour meter. Both line and phono stages feature low-noise J-FET inputs and 2x6H30 triode outputs with a separate tube stage for the headphone socket. **Audio Research Corp, 0208 971 3909; [www.absolutesounds.com](http://www.absolutesounds.com)**

## Direct-Drive Deck

BOUTIQUE DD TURNTABLE FROM GERMANY

A new artisan turntable brand is now available in the UK, courtesy of Puresound. STST is a German marque, founded in 1985, and currently producing two decks, the £3600 Motus and £5000 Motus II. Unusually, these are both direct-drive types, the former mounted into a solid plinth, the latter featuring a suspended subchassis. Both models are offered in a variety of wood-veneered plinths with a choice of matching, or contrasting, top plates. STST also produces a partnering tonearm, called the Vertex, available in 9, 10 or 12in lengths.

**Puresound, 01822 612449; [www.stst-hifi.de](http://www.stst-hifi.de)**



## HI-FI NEWS' NUGGETS

### CHORD'S DSD UPDATE

Chord Electronics' outstanding digital network media player, the DSX1000 [*HFN* May '13], now offers DSD 64 file playback over ethernet, giving audiophiles even greater opportunity to enjoy high-resolution music from its Reference-level streamer. Current owners can get the upgrade for free via the internet, with a simple push-button menu option from the unit's display screen. The £7500 price tag remains unchanged. [www.chordelectronics.co.uk](http://www.chordelectronics.co.uk)

### QUADRAL'S QUARTET

Quadral has announced no fewer than four new series of loudspeakers plus a £339 Qube 7 subwoofer. The latter is destined to accompany the Argentum 470/490 floorstanders and 420/430 standmounts (£210-£550), all featuring 'aluminium coated polypropylene' bass/mid drivers. The Ferrum 7000 range is a complete 5.0 channel combination pitched at just £969, with a pair of Ferrum 700 floorstanders available for stereo duty at £698. In addition, there's the Magique – a £749 'active TV speaker' and £725 high-gloss Rondo 100W active desktops. [www.quadralgb-ie.co.uk](http://www.quadralgb-ie.co.uk)



## Meridian Director

EXPLORER DAC GETS BIGGER BROTHER

Hot on the heels of Meridian's EISA award-winning Explorer DAC comes a beefier alternative, the aptly-named Director. Drawing on technology developed for its Reference 800-series components, the Director supports media up to 24-bit/192kHz resolution and includes Meridian's apodising digital filter algorithm as part of the upsampling DSP.

The sleek, extruded alloy case includes an input selector and sample rate LEDs while, at the rear, fixed output analogue RCAs are joined by a 3.5mm socket offering S/PDIF coax and mini-Toslink optical ins on a single connector. The USB input utilises the same asynchronous PC drivers as the Explorer while Mac users can simply plug-and-play. Price is £449.

**Meridian Audio Ltd, 01480 445678; [www.meridian-audio.com](http://www.meridian-audio.com)**

## Striking a Chord

REFERENCE VERSIONS OF CADENZA, CHORUS AND ANTHEM

New Reference versions of Chord's mid-priced Cadenza, Chorus and Anthem interconnects have been developed by adding its VEE 3 RCAs and employing ARAY technology in their construction. The Cadenza Reference uses silver-plated copper conductors in a twisted pair geometry with a foil and braid screen while the Chorus Reference employs a triple-twist of silver-plated copper strands, one for signal and two for the return. The top Anthem Reference shares the Chorus's design but benefits from a PTFE dielectric. Prices are £220, £350 and £450 for a 1m set. **The Chord Company, 01980 625700; www.chord.co.uk**



## Arcam distills its D33

ARCAM'S NEW irDAC IS NO rDAC CLONE

While sharing the same compact form factor as its popular rDAC, the design of Arcam's IR remote-equipped irDAC is said to have been inspired by the company's top-end FMJ D33 SuperDAC. Priced at £400, the irDAC includes six digital inputs (including USB 2.0, coaxial and

optical S/PDIF and an iDevice port). Available in black only. **Arcam, 01223 203200; www.arcam.co.uk**



## More Performance

CLEARAUDIO'S MID-LEVEL TT PACKAGE GETS DC MOTOR

Latest in its Performance turntable series, Clearaudio's Performance DC adopts, unsurprisingly, a high-torque DC motor in the manner of its high-end Ovation and Innovation models. The alloy/wood fibre composite plinth is retained as are the proprietary magnetic bearings on both the deck and partnering Clarify tonearm. Price is £2495 with Virtuoso V2 MM pick-up. **Clearaudio Electronic GmbH, 01276 501 392; www.soundfoundations.co.uk**



## ART of speaker design

NEO LOUDSPEAKERS UPDATED

ART Loudspeakers, sister company to Systemdek turntables, has updated its Neo Range of floorstanding loudspeakers. Its new trio comprises the £8k two-way Neo 8 and three-way Neo 8.3 and Neo 10 at £10k and £12k. The walls of the new laminated birch ply cabinets are a full 45mm thick while the drivers are mounted onto alloy baffles, CNC-machined from aircraft-grade aluminium.

All three models employ the SEAS Crescendo soft dome tweeter chosen for its 'natural and non-fatiguing sonics' while treated paper mid and bass drivers, also from SEAS, complete the various systems. Sensitivities are high at 89-90.5dB across the range and all are rated at a nominal 8ohm. **ART Loudspeakers, 01292 319 416; www.loudspeaker-art.com**



## HI-FI NEWS? JUST ASK...

If you can't always find a copy of this magazine, help is at hand! Complete this form, hand it in at your local store and they'll arrange for a copy of each issue to be reserved for you. Some stores may even be able to arrange for it to be delivered to your home. **Just ask!**

*Subject to availability*

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on a regular basis, starting with issue.....

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IF YOU DON'T WANT TO MISS AN ISSUE...



## Upcoming Events

IMPORTANT DATES FOR YOUR HI-FI DIARY

- 28-29 SEP** Salon Hi-Fi/Home Cinema, Hôtel Novotel Paris Tour Eiffel, France; [www.salonhifi.com](http://www.salonhifi.com)
- 06 OCT** Audio Jumble 2013, The Angel Leisure Centre, Tonbridge, Kent; [www.audiojumble.co.uk](http://www.audiojumble.co.uk)
- 11-13 OCT** Rocky Mountain Audio Fest, Denver Marriott Tech Center, Colorado, USA; <http://audiofest.net>
- 25-26 OCT** The Hi-Fi Show 2013, Beaumont Estate, Windsor; [www.hifinews.co.uk/show](http://www.hifinews.co.uk/show)

# Platinum series



QUAD's reputation as a manufacturer of hi-fi products that deliver musical accuracy through technical prowess is legendary and is nowhere more evident than in the Platinum series of components. Platinum is the pinnacle of QUAD design, a series of CD/DAC Pre and Power amplifiers that provides everything you need, bar the loudspeakers, to replay music recordings as they were meant to be heard – naturally. Platinum is the flagship of the QUAD range, a new set of electronics from a brand that has been famous for quality amplification since 1936. Like all QUAD designs, Platinum's purpose is the 'closest approach to the original sound' – in Platinum's case closer than ever before.



# Hi-Fi Show preview



ABSOLUTE SOUNDS ANNOUNCES A RAFT OF EXCLUSIVES AT THE UK'S INAUGURAL HI-FI SHOW



- Audio Research VSi75 integrated amplifier and REF 10 preamplifier [*HFN* Mar '13]
- Constellation Audio Virgo II preamplifier [*HFN* Jul '13] and Performance Series integrated
- D'Agostino Momentum Preamplifier [this issue, p22]
- Devialet 170 ADH amplifier [*HFN* Sept '13]
- EAT E-Glo phono preamplifier
- Krell Connect audio streamer
- Magico S1 and S5 floorstanders [*HFN* Dec '12]
- Sonus faber Olympica I and II loudspeakers
- TechDAS Air Force One turntable [*HFN* Jun '13]
- Wilson Audio Duette II standmount loudspeakers

With less than two months before the UK's only high-end audio show opens its doors, the 'who's who' of international hi-fi are busy preparing a series of exclusive presentations, listening demonstrations and Q&As. For full information about this exclusive event, including teasers to whet your appetite, please visit our site at [www.hifinews.co.uk/show](http://www.hifinews.co.uk/show).

But how's this to set the pulse racing? Audiophiles will remember a time when a demonstration by Absolute

Sounds, the UK's leading importer of the world's finest audio equipment, would be *the* must-see event of any hi-fi show. So we are delighted to announce a plethora of its prestigious high-end brands appearing in not one but three of The Hi-Fi Show's expansive demonstration suites.

Here's just a taster of the many class-leading products set to receive their first airing at any UK show and a rare opportunity for enthusiasts to savour some *HFN* favourites.

## MEET THE DESIGNERS

We can also reveal that key representatives from many of these companies will be flying in from around the world to answer your questions. With carefully crafted systems in all three rooms personally prepared by Ricardo Franassovici (the man who, few would argue, put high-end audio on the map in the UK), these promise to be uniquely satisfying musical experiences.

The waiting is now over as tickets are on sale for the UK's premier high-end audio event – The Hi-Fi Show at the Beaumont Estate, Old Windsor on Friday 25th and Saturday 26th October 2013. We have a fixed visitor allocation for this event and, once fully booked, sadly, no tickets will be available on the day. Tickets cost £20, or £15 for subscribers. Please call 02476 322234 now to avoid disappointment and see [www.hifinews.co.uk/show](http://www.hifinews.co.uk/show) for more details.

## Digital firsts

SOUNDS AT SANDRINGHAM

One of the many exciting open-house events taking place in our Sandringham Suites includes a series of workshops by Audioquest. Representatives from the company will be demonstrating computer-sourced audio over both networked and alternative media player/USB DAC-based systems. Not only will visitors get to compare the *sound* of different network and USB cables but they'll also get advice on choosing the best cables for their own system.

Also using a PC as a source, the Hi-Fi Network will unveil a system that includes the first UK showing of the new Norma Revo DS-1 disc player/USB DAC. Norma amplification will drive the outstanding Elac FS 407 and recent group test winning BS 403 loudspeakers [*HFN* Sep '13]. Cables will be by Vertere. A diverse range of music is promised by the Hi-Fi Network, including a selection of Ken Kessler's favourites!

## T+A triumphs!

COMPLETE HIGH-END T+A SYSTEM DEMO

For the first time in the UK, visitors to The Hi-Fi Show will be able to enjoy a complete T+A system, demonstrating that a well-matched combination of electronics and loudspeakers can play any type of music effortlessly. As part of this special event, T+A will be demonstrating its flagship loudspeakers – the Solitaire CWT 2000 SE. T+A's finest floorstander yet, these massive no-compromise designs weigh in at 120kg each, yet can reproduce the delicacies of a female voice or violin concerto in the same entertaining way as they can a full orchestra or rock band.

Driving the Solitaires will be T+A's latest integrated amplifier and media player from its HV (High Voltage) Series – the PA 3000 HV [*HFN*



Sep '13] and the MP 3000 HV [*HFN* Jun '13]. Having just earned the 2013 EISA Award for best high-end audio products, as voted for by Europe's leading specialist audio journalists, the HV Series is the perfect match for the Solitaires, with the combination offering a faithful and engaging performance. On hand will also be a number of representatives from T+A who will be very happy to answer any questions about the company and its products. The T+A suite will surely be top-of-the-list for many audiophiles.

# Hong Kong Show 2013

Words & pictures: **Bob Hawkins**

Ah, Hong Kong! The climate, the hustle and bustle in its crowded streets, Stanley Market, Victoria Harbour, The Peak... Can there be a better destination for an audio show? This year's event was the 11th and biggest yet. Held at the Hong Kong Convention and Exhibition Centre with extra space booked at the adjacent Grand Hyatt Hotel, it was very much an East meets West affair with Chinese-

designed and manufactured products on show alongside those from both European and US manufacturers.

Numbers were slightly down this year but still surpassed the 26,000 mark and business appeared to be as brisk as ever in the main hall. With thousands of products on display, there was plenty for the 130 or so dealers to interest audiophiles [all prices quoted in our captions are converted from HK dollars]. Once again, show organiser Rebecca Chin [pictured right] had much to be proud of.



German manufacturer EMT/ Studiotechnik showed its JPA 66 Variacurve Tube Stereo Control Center to celebrate its 66th Anniversary. Designed around triode tube amplification, it sports four phono inputs with all aspects of line/cartridge parameters being adjustable. The unit costs £37,500. [www.emt-studiotechnik.de](http://www.emt-studiotechnik.de)

At first glance this loudspeaker from Italian company Vario looks like a cartoon character. The Vincent/Lola MRT comprises two modules with a 28mm soft dome tweeter housed in the top 'Tito' unit while in the master unit below sits a 140mm woofer. The mouth is a reflex conduit and the cabinet is precision cut from birch wood, multilayered and glued. Tweeter-to-woofer cabling is OFC. Price is £5660 per pair. [www.thevarios.com](http://www.thevarios.com)

SoundSmith's Peter Ledermann demonstrated the Hyperion moving-iron cartridge fitted to a Vertere Reference tonearm on an Acoustic Signature Ascona deck. The attack and separation of orchestral instruments was outstanding. Prices are: cartridge £5555; arm £16,135; deck £28,480. [www.sound-smith.com](http://www.sound-smith.com)





Another head-turner was Eventus Audio's elegant Metis two-way loudspeaker. Neutral sounding, its makers claim an exacting soundstage thanks to its 'Simulated Anechoic Cabinet Construction', which uses high density resin and aluminium. Price is £6420. [www.eventusaudio.com](http://www.eventusaudio.com)

Local company Audio Space is synonymous with valve amplifiers [see below left]. Having won numerous awards for its designs it was one of the most popular dealers at the show. In addition to individual valve and cable sales the company produces the 'LS-3/5A' replica loudspeaker. [www.audiospace-hifi.com](http://www.audiospace-hifi.com)



The flagship preamp in the Audio Space line-up is the Pre-2. Its RIAA eq stage accommodates impedance matching for MM and MC cartridges from 4ohm to 68kohm. Meanwhile, a 2.3kg 'vibration stabiliser' is said to minimise microphonics. According to the company this phono pre is aimed at the enthusiast where careful setup pays dividends. The Pre-2 was priced £1385 at the show thanks to a 20% discount. [www.audiospace-hifi.com](http://www.audiospace-hifi.com)



While sales of CDs in the UK fall as music lovers choose to download files, business in Hong Kong is booming. Shops selling CDs, vinyl and Blu-ray audio discs can be found everywhere and audiophile sections are common. The Shun Cheong Record Co, pictured above, even runs a membership club.

One of the big surprises at this year's show was Modio Kwong's Hi-End Modifying Service. An old Philips CD player modified with valves feeding speakers using old Philips units – all designed by Mr Kwong – produced a remarkably life-like sound. The main system comprised a modified CD player, larger pre and power amps and larger speakers, all for £14,820. No website as yet.



## SHOWBLOG Sights and sounds from around the globe

Tucked away in the show's new Grand Hyatt Hotel section was a splendid display of Dali's Fazon F5 30th Anniversary loudspeakers. Two hundred pairs of the 2011-2012 EISA Award-winning Fazon F5 have been painted by some of the finest artists around, making each set unique. Technically identical to the regular F5, every pair has the Dali 30th Anniversary logo on the rear together with the artist's signature. Prices range from £2465-£3400. [www.dali-speakers.com](http://www.dali-speakers.com)



An engineering masterpiece is probably the best way to describe Pluto Audio's 10A Luxury Reference turntable. Each deck is hand-built and takes three months to complete. It may cost a shade over £45,000 but the price includes designer Eddy Drissen assembling the turntable in your home. [www.plutoaudio.nl](http://www.plutoaudio.nl)



Eventus Audio's £166k Neo was the most expensive and, at 380kg, the heaviest speaker on show. Its 6x8in woofers, 2x8in subwoofers, 6in mid and AMT tweeter deliver a claimed 96dB/2.83V/1m. Designer Domenico Fiorentino (right) stands next to Eventus's Antonio Ruggiero. [www.eventusaudio.com](http://www.eventusaudio.com)

First time on view in Hong Kong, the prototype Kondo Kagura flagship monoblock continues its trail from this year's CES via the New York and Munich shows. Still no indication of price but rumoured to be around the £82k mark, the Kagura features two 211 triode tubes configured in single-ended mode. Output is said to be a lively 55W. [www.audionote.co.jp](http://www.audionote.co.jp)



US company Aragon showed off its 400W Iridium monoblock amp. Smart in design, they come in handed pairs and, at £6570 apiece, should offer fine value for money provided the amp lives up to Aragon's claims. Connect the Iridium to a home network via its Ethernet input and it can be controlled via iOS and Android mobile devices. [www.aragonav.com](http://www.aragonav.com)



Shanling has committed to a range of flagship audio equipment in celebration of its 25th anniversary, according to Simon Ho who runs Shanling's showroom in Hong Kong's Mong Kok district. Three years in development, the line-up includes the T600 CD Turntable based on a Philips CD-Pro drive, D600 DAC with sampling up to 384kHz, P600 preamp and a first for the company in the form of Class D monoblock amps. The components are expected to cost £3850 each, with the monoblocks costing £10,250 a pair. [www.shanling.com](http://www.shanling.com)



Given the number of audio companies who have now stopped making disc-spinning players, it was remarkable just how many new designs were on show. The Heritage CD/SACD player from Swiss company Orpheus appears to be very much state-of-the-art thanks to its use of a VMK-5 transport from Esoteric that uses VRDS technology. The Heritage will set you back a cool £25,620. [www.orpheuslab.com](http://www.orpheuslab.com)

What looked like a triple-deck reel-to-reel tape recorder actually turned out to be a phono preamp designed and engineered by EuroAudioTeam. The £6820 E-Glo Phono Stage employs six triode tubes fitted with cool dampers. On the front of the unit are lights that illuminate to show capacitance and impedance load values. [www.euroaudioteam.com](http://www.euroaudioteam.com)



Is this the turntable of the future? Grand Prix Audio's Monaco Turntable 1.5 Version is compact, has a small footprint, is easy to set up and will take almost any tonearm. And at £12,340 it's priced for the high-end. GPA claims the deck's direct-drive motor offers unprecedented speed accuracy combined with the lowest levels of rumble. [www.grandprixaudio.com](http://www.grandprixaudio.com)



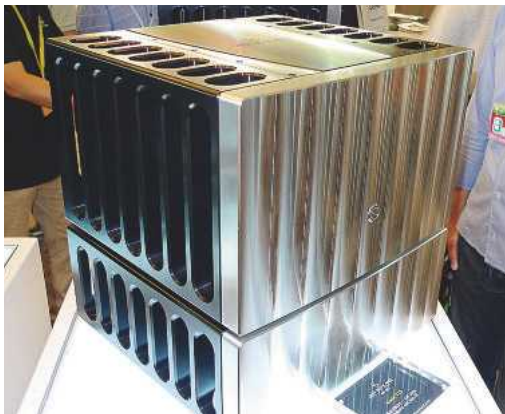
US company Stahltek's Opus CDT transport deck features proprietary master clock circuitry and an internal I2S digital link section. Outputs on the all-aluminium top-loading design include I2S via HDMI, AES/EBU and S/PDIF via RCA and BNC connectors, with the I2S output providing two and four times upsampling capability. The Transport Unit also uses two different vibration and shock control systems. Almost in the cost-no-object bracket, the price of the Opus is £23,140. [www.stahltek.com](http://www.stahltek.com)



One of the attractions at the show is the theatre on Level 3 where audiophile events featuring popular vocal artists and audio demos are held. Karaoke is extremely popular in China and many of the audio presentations featured Chinese vocalists, especially female. Seated to the left in the photo is Johnny Ip, a local pop superstar who sang unaccompanied and played his CDs via Eventus Neo loudspeakers [see p12] to a greatly appreciative audience.



Not everything goes to plan at audio shows. Radar Audio's 3pm demo featured Magico Q7 speakers, dCS sources, Nordost cabling and Constellation Centaur monoblocks – all at a cost of millions of HK dollars. Then the right speaker stopped working. Audience bemused. Demo team unaware. Demo stopped. The right amp was the problem. Oh well, there's always next year!



Speakers in the VTL room were Rockport's new Atria at £20,100 per pair. A three-way design, this floorstander features a 9in carbon fibre sandwich-cone woofer, 6in carbon fibre sandwich-cone midrange unit and a 1in beryllium-dome tweeter, with Transparent Audio internal cabling. Sensitivity is said by the company to be 87dB/W/m. [www.rockporttechnologies.com](http://www.rockporttechnologies.com)



It was a surprise to see famous British brand EKCO at the show. Derived from its founder's name Eric Kirkham Cole, the radio valve manufacturer formed in 1931. UK-based IAG acquired the marque in 2009 and three models are in production in Shenzhen. The EV55SE integrated valve amp costs £2070 and offers triode/pentode output modes of 28/55W. [www.ekcoaudio.com](http://www.ekcoaudio.com)

The Jeff Rowland 925 monoblocks must be among the most visually attractive in the world. Cut from solid blocks of aluminium, polished then diamond cut on the front, they look stunning. The amplifier is a brand new design, weighs 73kg and delivers a claimed 430W into 8ohm. It costs £39,670. [www.jeffrowlandgroup.com](http://www.jeffrowlandgroup.com)



Three new products from the EMM Labs stable included the XDS1 Reference CD/SACD player. In this latest version, all digital inputs (plus coaxial and USB) now support 24-bit/192kHz sampling. The drive has also been upgraded to TEAC's Esoteric unit. Available in silver or black, the player costs £9000. [www.emmlabs.com](http://www.emmlabs.com)



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# Hi-res audio using Linux

Jim Lesurf offers tips and tricks on how to achieve superior PC sound

**L**ike many readers of *HFN*, in recent years I've made increasing use of computers in my audio systems. I've managed to obtain excellent results, but the route I've taken isn't the one usually described in magazines. Rather than Windows or Mac OS, I use a Linux operating system. And when it comes to hardware I always look for basic solutions.

So why use Linux? It's all a matter of choice, of course. What suits one person may not suit another and if you are comfortable with Windows or the Mac OS then fair enough. But I'd suggest that people should at least consider experimenting with one or two modern Linux distributions to be able to make an informed choice. [For a look at Linux in detail, see the box-out on p19]

I've used both Windows and Mac OS at times over the years. I prefer Linux because I find that it allows me to use my computer in the way that best suits my needs. For example, I prefer using the ROX desktop and its file management system because of the way this lets me run programs and access files.

Similarly, I prefer Audacious to play audio files, and VLC to play AV files and to view TV using an HDTV 'dongle'. But there are many alternatives on offer.

In the end, the reason I prefer Linux to Windows or Mac OS has nothing much to do with computers or operating systems as such. It is about feeling free to choose to do things as I prefer, and do what I want, as I want.



But don't be put off if you've never used Linux. A lot of what I will say over the following pages will apply just as well to computers running other operating systems.

## AN EXCELLENT SYSTEM

The rules for success are actually pretty simple once you've installed a modern Linux distribution like Mint or Xubuntu [see [www.linuxmint.com](http://www.linuxmint.com) and [www.ubuntu.com](http://www.ubuntu.com) for more]. Indeed, for us audiophiles the requirements are quite straightforward because you'll want to play lossless LPCM material and not a zoo of lossy low-bitrate formats requiring a lot of data

processing or murky coding. Given that, I can sum up the requirements for an excellent system in just three points...

- Use an external USB DAC that operates in asynchronous mode.
- Choose a computer that is mechanically silent.
- Only use software that offers the option to output music from your PC via the Advanced Linux Sound Architecture (ALSA).

Now I'll fill in some of the details using my audio systems as examples.

My main system for playing music is in my 'hi-fi room'. The computer is a Shuttle XPC SD11G5, which I bought a few years ago. Shuttles like this model have what the maker used to call its 'ICE' CPU cooling system. This sees heatpipes from the CPU connected to a big heatsink with a large slow-speed fan, the aim being to reduce the levels of fan noise. But, of course, I want 'absolute silence' from the computer mechanics, not just 'low noise'. I'll come back to that in a moment...

The SD11G5 does have a fairly extensive set of analogue and optical-digital input and output connections. However, the analogue

and ADC/DAC circuits in most computers are best avoided if you want high quality sound.

When it comes to file formats, I prefer

*'I can sum up the requirements for an excellent system in just three points...'*

FLAC to WAV files. They save space, it's an open format and there are no signs of any odd effects. In fact, using a modern asynchronous-mode USB DAC I find that FLAC and WAV files of the same material sound pretty much indistinguishable. Both also provide gapless replay of sets of files with the version of the Audacious audio player software I'm

**BELOW: A Shuttle XPC SD11G5 home PC, chosen by the author for his main hi-fi system for its quiet operation. According to the manufacturer it generates less than 24dB even under high load thanks to the method used to cool the CPU. This aims to keep fan noise to a minimum – a crucial factor when choosing a PC that will be used as part of a hi-fi system**







using my computer [see [www.audacious-media-player.org](http://www.audacious-media-player.org)]. This is especially convenient for long classical pieces, which I can have split into movements. So I tend to use FLAC because it's convenient.

Meanwhile, LPCM WAV files that I've recorded and want to keep I convert to FLAC using the excellent SoX sound utility program [[www.sox.sourceforge.net](http://www.sox.sourceforge.net)].

Figure 1 shows my main Xubuntu machine playing a 96kHz/24-bit FLAC file of 'Peter Grimes' stored on an external USB hard disk. My tests confirm the output is bit-perfect.

Over the last couple of years I've tried the Arcam rDAC, Cambridge Audio DACMagic 100 and 851C (player) USB DACs. I'm pleased to say they work fine with the same ALSA settings that also service a Halide Bridge USB-to-S/PDIF converter. So it's my experience that it's as easy to get USB DACs nominally advertised for Windows/Mac OS-based computers working with Linux.

In each case, as I play music the sample rate automatically changes to match. No unnecessary or hidden 'conversions' or 're-sampling' by the computer. No need to

remember to change any settings. What I play is what arrives at the USB DAC. If you want to know how to set up ALSA to drive these DACs then the information needed is at <http://www.audiomisc.co.uk/Linux/ALSA/NoMoreSilence.html>.

### TRIVIAL TASK

One decision I made early on may surprise. Despite having a large heatsinking system in the 'Hi-Fi Room' Shuttle I deliberately chose a CPU option that was well below the maximum processing power on offer. Instead of multiple cores/processors running at high speed, I chose a single core running at a relatively modest speed (1.75GHz to be exact). My view was that in modern CPU terms processing FLAC or plain LPCM and shuffling it over USB is a pretty trivial task in terms of CPU loading. So better to minimise heat generation and reduce the need for noisy fans.

Experiments soon showed this worked fine. The fan never turned even after hours of continuous use. I also installed an SSD (Solid State Drive) instead of a traditional spinning hard disk. This meant even

**ABOVE LEFT:** Fig 1 – a 96kHz/24-bit Decca download of 'Peter Grimes' plays on the author's main PC via Audacious

**ABOVE:** Fig 2 – VLC software plays an HDTV transport stream



**ABOVE RIGHT:** The author's secondary machine is a Shuttle XPC SH61R4. It is used with a Cambridge Audio DACMagic Plus

**ABOVE:** Another Linux-friendly DAC is the Cambridge Audio DACMagic 100

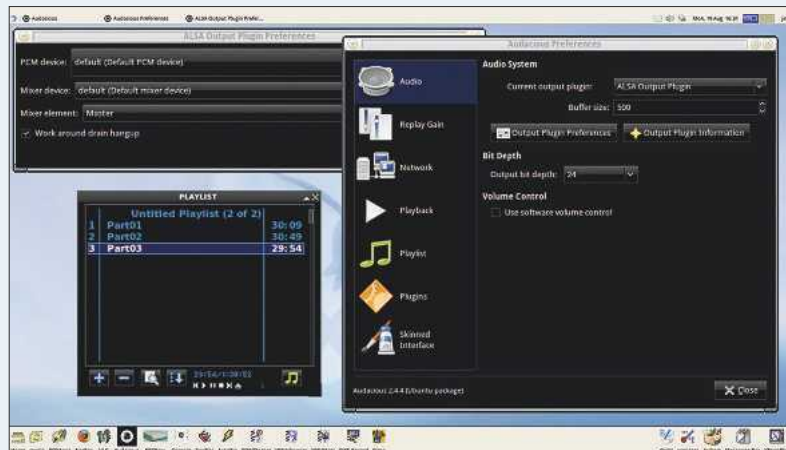
**LEFT:** The settings used by the author when running the Audacious player, version 2.4.4

less noise from the computer as an SSD has no moving parts. The result is, mechanically, totally silent.

### SECOND SYSTEM

In addition to my main system I also use a laptop and a more powerful machine (a Shuttle XPC SH61R4) that has two CPUs. The SH61R4 doesn't actually have any live optical inputs or outputs because my earlier experience led me to decide that I didn't need them in a general purpose machine.

Again, it has the large diameter cooling fan and heatsink connected to the CPU chip by heatpipes, and an SSD. So when I play music there are no mechanical noises. This box also currently runs Xubuntu and I use it with a Cambridge Audio DACMagic Plus to play audio. This is particularly



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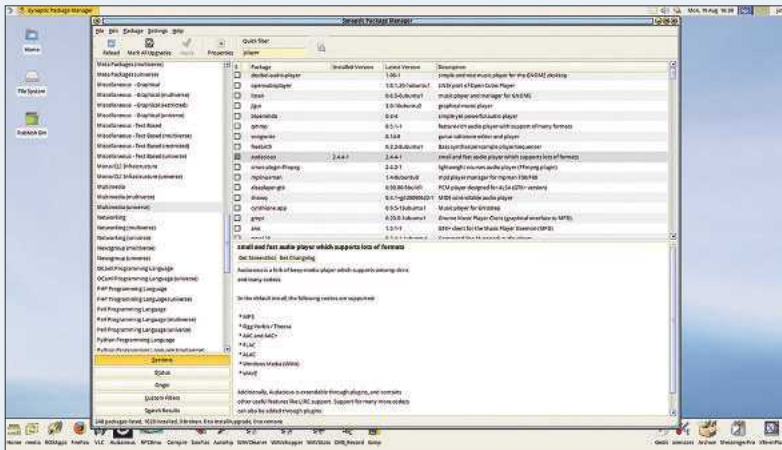


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**LEFT:** Here the author is using the package management system in Xubuntu called Synaptic to seek out and sort the various audio players that can be downloaded and used. Each available player is described in the lower pane of the Synaptic window

convenient as the Cambridge DAC enables me use headphones when editing or processing sound files.

**BASIC SOFTWARE**

I have deliberately chosen to run fairly basic main software on the computers: Audacious to play audio files, VLC to play the audio from AV files, and Audacity when needed.

Figure 2 [see previous page] shows my main machine playing an HDTV transport stream I captured with an Happaage 290e TV ‘dongle’ to do some analysis of the HDTV audio data. The programme was the Broadway Sound Prom from 2012. VLC converts the AAC surround sound into stereo LPCM which is then sent to the DACMagic Plus.

Audacious, VLC, and Audacity can all be set to use ALSA directly. True, most modern Linux distributions tend to offer a range of fancy ‘sound systems’. But these are best avoided if you want a bit-perfect payout over USB to an external DAC. For example, one Linux sound system – Pulse Audio – can be frustrating. It tends to ‘nanny knows best’ the

user. The result is that it can get in your way if you want to add a new USB soundcard or do something else the developers of your Linux distribution didn’t expect. I have spent many days struggling to get Pulse to play nicely and do what I wanted. In the end, I simply gave up. Success came promptly when I just focused on using ALSA.

As for the players themselves, there are many available, like Amarok, AlsaPlayer, Audacious, Banshee and mpg123 – to name but a few. These software players work in a variety of ways, from being complete ‘managers’ of your files and streams to being simple desktop

players. Quite often a player will have different versions from one Linux distribution to another, and so the look and feel as well as the facilities available will vary.

**MINT FOR MUSIC**

The simplest way for a Linux newcomer to get started is simply to try out one or two distributions and experiment. Try the more popular distributions and some of the main

*I have chosen to run fairly basic main software on the computers'*

**WHAT IS LINUX?**

Linux was created by Linus Torvalds [pictured below] back in 1991. His aim was to see if he could create a new operating system that behaved like the well established UNIX. There are now millions of people choosing Linux for their daily desktop computing. And if you use an Android phone or use various devices around the home, the chances are you’re using Linux in some way without even realising it.

There are a number of Linux ‘distros’ (distributions) available, each offering its own selection of desktop, applications, and setup details.



They’re all free. So you can download and install them on as many computers as you choose. You can even try what is called a ‘live’ version of many of these distros, which means you can run them for a while, shut down your computer and on restart you’ll have your previous system back again and just as you left it.

Linux users are also able to download any software they wish to use from a set of ‘repos’ (repositories), which hold thousands of free programs for almost any task you can imagine. From office suites to audio file editors, noughts-and-crosses games to flight simulators.

The converse of this is that it is easy to slim down your system of choice. This can be ideal if you want a reliable no-fuss audio player with an interface you like and which is less likely to need noisy cooling fans.

**LEFT:** Arcam rDAC, which the author found worked with the same Advanced Linux Sound Architecture (ALSA) settings that allowed him to use the Halide Bridge USB-to-S/PDIF converter



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players. Given that those reading this will be audiophiles, I'd suggest starting with one of the versions of the Mint or Ubuntu distributions. Mint, especially, comes with a lot of audio-related support. It might just be your cup of tea!

**RIGHT AT HOME**

If you are used to a Windows desktop you may find something like PCLinuxOS more familiar. Some distributions deliberately aim for a look and feel that will be comfortable for Windows or Mac OS users.

To find out more, have a look at [www.distrowatch.com](http://www.distrowatch.com), which lists hundreds of distributions and ranks them in order of popularity. The site also provides links to the various distro websites.

I'd recommend the Audacious audio player on Xubuntu (the XFCE desktop version of Ubuntu), but try more than one distribution and player. After all, it costs nothing.

I also prefer to avoid complications like having a

*'Bits from the DIY shop and some packing material did the trick'*

NAS (central server) or wireless networking. So my home machines are all connected by Ethernet cable. And for storing music files I use a set of external 1TB USB hard drives.

I keep copies of my music files on three of these drives, physically separated in different rooms. And unless I want to play something from one of them, or add a new file, they are left powered down. I rely on

physical diversity for safety.

Since starting to use the USB DACs I've noticed no difference in quality between files played from the internal

computer SSDs and the external USB hard drives. I have no idea to what extent this is down to the light processing load required by FLAC/LPCM, or to the superb performance of the USB DACs. Whatever the reasons, it 'just works'.

When I first started using the 1TB drives I was able to hear some mechanical 'buzz'. This was noticeable in my main hi-fi system. Investigation showed that the problem was that the disc rotation



**ABOVE LEFT:** Linux Mint is a good choice for music. See [www.linuxmint.com](http://www.linuxmint.com)

**TOP:** The author's 'hi-fi room' with Shuttle XPC SD11G5 in situ

**ABOVE RIGHT:** External hard drive on home-made isolation

**BELOW LEFT:** Cambridge Audio 851C DAC/player, fed via USB from the Shuttle

was vibrating the wooden shelf supporting the drive and that the shelf was acting as a sounding board. I cured the problem in a cheap, low-tech way. I stuck rubber feet to the bottom of the USB hard drive, stood it on a rectangle of carpet tile, then put the carpet tile plus disc on a layer of bubble-wrap.

Fairly basic bits from the DIY shop and some old mail packing material. Not elegant, and lacking ultimate 'high-end' styling, but the desired result was achieved. Silent running!

**FILE MANAGEMENT**

In keeping with my tendency to go for simple and basic solutions I have also avoided using any fancy pre-designed file 'management' systems. I simply give each music file a name that describes what it contains.

And I haven't bothered with metadata in the files. Many of the metadata systems people have devised are fine for pop and rock music but can't really handle all the details for classical music. For some associated items from the same recording I just add a 'Notes.txt' file, which gives added information.

I'd rather spend my time listening to the music. And that's what my systems let me do. 🎧



# D'Agostino Momentum Preamp

Dan D'Agostino has now completed his amplification chain, the fabulous Momentum mono and stereo power amps having a matching preamplifier to partner them  
 Review: **John Bamford** Lab: **Paul Miller**

It was in 2010 that amplifier designer extraordinaire Dan D'Agostino arrived at the Las Vegas Consumer Electronics Show clutching drawings of his new power amplifier, a solid-state monoblock named Momentum. The previous year he'd parted company with Krell Industries – the company he'd co-founded three decades earlier and that helped define audio's 'high-end'. Starting afresh he decided to create a new boutique marque, D'Agostino Master Audio Systems. By 2011 the ultra-luxurious Momentum (currently £55k per pair) was a living, breathing product... and it took listeners' breath away.

Auditioning a brace of Momentums certainly brought a lump to the throat of our Ken, who declared, 'It may, perhaps, be the best amp on the planet', when writing about it exclusively for this magazine [*HFN* July '11]. He's not the only audio aficionado to be overwhelmed. Talk to any high-end hi-fi observer about the sound quality of a big pair of loudspeakers, for example, and these days it's not untypical to hear: 'Yeah, but have you heard what they sound like driven by a D'Agostino power amp?' Dan's new monoblock became a cult item in the blink of an eye.

## AND NOW THE PRE

A year later saw D'Agostino Master Audio Systems introduce a no less luxurious stereo version of the Momentum [*HFN* Aug '12], now priced at £28,500. Employing exactly the same circuit design but with fewer output devices, and a similarly well-regulated power supply, it delivered a solid 2x240W/8ohm and 2x390W/4ohm in our lab tests (where the monoblock proved capable of a whopping 335W/8ohm and 575W/4ohm) and sounded no less sublime. But what of a D'Agostino preamplifier to partner the Momentum power amplifiers? It's been a while coming... and again we have the 'world first' review.

**RIGHT:** No IC op-amps are used in the line preamp section (centre of picture) while volume adjustment is achieved via a relay-switched resistor ladder. Tone PCB visible bottom right

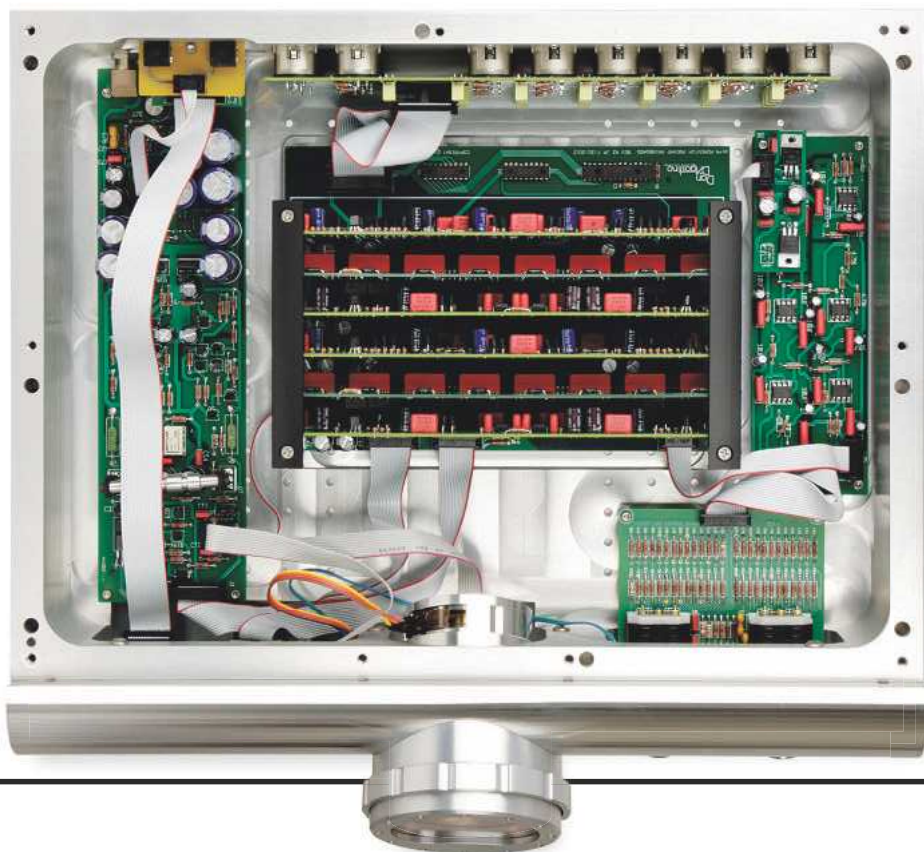
Says Dan with some candour: 'It's taken me a considerably long time to develop. I wanted the Momentum preamp to be sonically non-intrusive and I've been exploring new ground with its circuit design. The topology is a true dual-differential current gain with matching current mirrors on the input and output. It has no feedback and no compensation. The power supply has four regulators and separate grounds for digital and analogue supplies, with two transformers employed for the auxiliary circuits and a separate transformer solely for the audio circuits.'

## TWO-BOX? OH YES...

Priced at £32,900 (silver finish: black costs more), it mirrors the power amps with their distinctive 'watch face' displays centre stage – here the outer ring of the circular dial forms the volume control and the watch hand indicates the control's approximate position. Whether

you consider the look of D'Agostino's Momentum components drop dead gorgeous or overly ostentatious will depend entirely on your design sensibilities. Dan makes no bones about his intentions, having said he wanted to make an amplifier that was built like a fine watch both inside and out. Clearly he took inspiration from classic time-pieces such as those of Swiss maker Breguet, whose distinctive arrow-like hands with hollow 'moon tips' were designed in the 1780s.

Even the exposed 'hub' for the meters looks like a watch's balance. And no expense has been spared in the quality of the casework. The chassis is milled from ingots of aluminium and the attention to detail in the build quality is exemplary. Music-lovers of a hair-shirt persuasion might care not a jot about such extravagance, but since D'Agostino's target audience are those used to the finer things in life the quality of finish is immaculate.





At first glance the Momentum looks like an elaborately sculpted single chassis preamplifier. In fact it's a two-box design, with a substantial linear power supply housed in a slim separate enclosure that forms a base platform upon which the main unit is sited. This is an extremely neat solution. Chunky rubberised feet beneath the power supply provide a degree of vibration isolation – as does the machined-from-an-ingot construction – while the preamp's principal chassis rests on inverted aluminium cones that 'park' in small locating indents on the power supply's top plate. DC power from the supply to the preamp travels via a short connecting cable terminated with locking Lemo connectors.

Under the bonnet the preamp boasts wholly discrete componentry with not an integrated circuit in sight. And, as with the Momentum power amplifiers, Dan has opted for costlier circuit boards with through-hole construction to allow for flexibility in component choice and, he

*'Yes: a high-end preamplifier that offers on-board tone adjustment'*

believes, to provide better reliability and potentially longer life than with surface-mount boards. Volume adjustment is made through a resistor ladder governed by an optical controller.

#### **TONE CONTROLS, DARE WE SAY**

Since it is a fully balanced design (like the Momentum power amps) the preamplifier has only line level inputs on XLR connectors. There are six of them, labelled Server, Radio, DAC, Phono, Theater and Dock. That's right: none is labelled CD. Well, you'd hook up a CD player to the 'DAC' input, right? And your computer audio source? That'd go into the 'Server' input, and your smartphone or tablet into 'Dock'. It sure is a sign of the times...

Inputs are selected via push-buttons on the left of the fascia which have coloured LEDs inset in their centres, the colours corresponding with similarly tinted LEDs on the preamp's substantial remote

**ABOVE:** Fabulous casework oozes luxury. Rotating the outer ring of the watchface dial adjusts volume; defeatable bass and treble controls (right) offer subtle tonal adjustment

controller [shown below]. Switch to the Theater input, which is a pass-through for connecting an external processor, and the level meter alerts you to the fact by swinging over to the far right, indicating that you're at full gain. Below the input selectors are two more push-buttons. The one on the left is the standby on/off switch (whose LED glows orange when the preamp is in standby) and the button to the right of it brings the bass and treble controls into circuit.

Yes, that's right: a high-end preamp with on-board *tone adjustment*. Purists might scoff, while the majority of music lovers will rejoice at having the ability to subtly tweak the tonal balance of dull or overly-bright recordings. Bass and/or treble is adjusted via rotary controls on the right of the preamp's front panel, their  $\pm 6\text{dB}$  settings indicated through apertures cut into the thick aluminium fascia. You'll know sure enough when you've activated the tone control circuitry, since the apertures become backlit in white and the LED in the centre of the tone button similarly emits a bright white beacon. The graph in PM's Lab Report [p27] shows how the bass and treble controls can contour the sound, operating not unlike the tilt controls seen on preamps of yore.

The preamp's IR remote controller is a hefty aluminium affair designed to sit on the arm of a chair/sofa or an occasional table. As well as providing direct input



#### **MIX 'N' MATCH?**

Time was when it was commonplace for audio lovers to mix separate amplifier components from different brands, indifferent to visual harmony in the pursuit of hi-fi bliss. Of course, there have always been exceptions. Quad 33s and 44s were *usually* partnered with 303s and 405s respectively. And Naim's NAC32 and NAP250 – its flagship components in the 1980s – always went together like bread and jam, as did Naim's less expensive pre/power combos. Today, it seems, it's only DIY hobbyists who don't care what audio components look like when they're side by side in an equipment rack. I tend to blame Sir Terence Conran, whose Habitat stores turned us into a nation of house-proud aesthetes. I should point out that this is no bad thing, since it's entirely logical that the creator of a preamp will have designed it to work optimally with his own power amp.

# The Best of the Best



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## PREAMPLIFIER

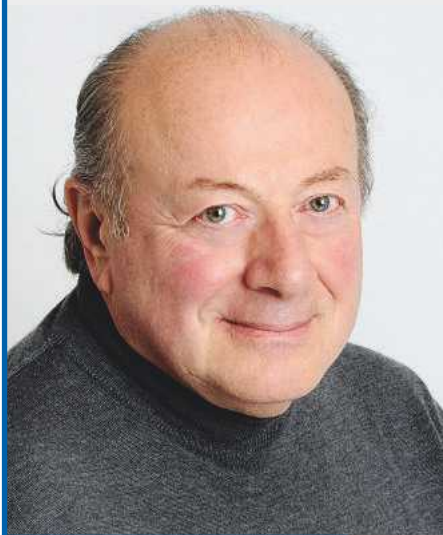
### DAN D'AGOSTINO

In starting over with a new venture, Dan D'Agostino has gone back to his roots, building amplifiers in true artisan fashion. D'Agostino Master Audio Systems comprises just five craftspeople hand-assembling the Momentum range of amplifiers in Dan's Connecticut home town.

Now that his amplifier chain has been completed with the Momentum preamp, what comes next? We posed a few questions to Dan, who revealed that a matching phono stage (to hook up to the preamp's appropriately labelled line input) is certainly on his product road map for the near future.

Other than this, he's remaining tight-lipped. Would he consider a Momentum DAC? Apparently not. Says Dan emphatically: 'D'Agostino Master Audio Systems is a small company with limited resources. I intend to keep it quite small, expanding only cautiously as the world market demands. I will leave digital design to masters of the craft, such as dCS and MSB...'

Given that he cut his teeth as a youngster working for Dayton-Wright we suggested that an electrostatic loudspeaker might be an interesting design challenge. 'There will be no speaker designs in my future,' he said. Mind you, he signed off by throwing in something of a teaser: 'All I can say about new D'Agostino products is that I am working on something big!' Hmmm... a Momentum *integrated* amp, perhaps? Your guess is as good as ours...



selection it has additional buttons to reverse absolute phase and set left/right balance. Unfortunately you can't adjust the bass and treble from your listening seat, but the remote does have a button for switching the tone-control circuit on/off.

Briefly stabbing the volume up/down keys allows satisfactorily fine gain adjustment [again, see Lab Report p27], while there's also a Mute button that's not duplicated on the preamp's fascia.

I can't imagine that anyone would buy a Momentum preamplifier and hide it in a cupboard. But in case it's not in direct line of sight with your listening seat an IR extender 'eye' is provided that connects to a mini-jack socket at the rear of the unit. You won't be in the least bit surprised to learn that this is not a typical plastic affair backed with double-sided sticky tape, rather it's set into a solid aluminium block roughly the size of a cigarette packet. Designed to sit on a shelf or on the floor adjacent to your loudspeakers, it will work with a cable run as long as 30 metres.

### SOUNDS BEAUTIFUL

Since the preamplifier now completes D'Agostino's amplifier family, naturally we requested a pair of the company's sumptuous monoblocks so that we could hear a Momentum system *in toto*. After all, what other power amplifiers would make more sense? We set everything up in the Editor's media room, connecting them with cost-no-object Crystal Cable Absolute Dream wires [*HFN* Jun '12/Oct '13] to his venerable B&W 802 floorstanders and settled down to listen after the amplifiers had been 'cooking' for a couple of days.

**ABOVE:** D'Agostino's iconic watchface dial glows green when 'absolute phase' is positive but turns red in phase-invert mode. The hand and scale denote available gain, not output level

On the company's website Dan talks proudly of the fact that some of the world's most prestigious loudspeaker manufacturers use D'Agostino amplifiers to demonstrate their monitors. No wonder: the amps make speakers sound beautiful! Never had I heard our editor's charmingly matured 'Beemers' loading his room quite so sublimely, the sound so graceful, engaging and utterly gorgeous. I use the word 'beautiful' because that's precisely how the 802s made music sound with the D'Agostino amplifier(s) driving them. The

system served up oodles of sumptuous, bold and richly textured bass, an open and clear midband and delicate and refined high frequencies.

All of this lusciousness was combined with an open, wide and

deep soundstage almost completely disassociated from the physical structures of the speakers themselves. Especially in the upper midrange and treble, instruments were arrayed almost magically in a large three-dimensional space that began well in front of the speakers and extended way beyond the rear wall.

The sound of Channel Classics' hi-res recording of Stravinsky's *Firebird* Suite [24/192 download; CCS SA 32112] was breathtaking, the Momentums delivering a thrilling 'whoomp' from the Budapest Festival Orchestra's timpani while describing most graphically the textures and varying timbres of the brass, woodwinds and strings. ➤

'Never had I heard the Editor's "Beemers" sound so sublime'

# ELAC

sound lives



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## D'AGOSTINO MOMENTUM PREAMP



**ABOVE:** Fed via a short umbilical from its outboard DC PSU (doubling as an isolation platform), the Momentum preamp offers six balanced inputs (inc. an HT throughput) and two parallel balanced outputs. Trigger and RS232 support system integration

Usually such precision and vivid detail retrieval comes with a brightly-lit and explicit sound character, but not so with the Momentum combo. So refined and sweet is its presentation that I initially thought it a little softened and gently rolled-off at high frequencies. But no, the aggressive rasp of the brass and transient attack of the pizzicato strings were wholly preserved, yet deliciously 'easy' and relaxed thanks to a sensation of effortless control and precision across the frequency spectrum.

### PEPPERED WITH DETAIL

I was startled by the Momentums' delicacy and refinement, not to mention the manner in which it paints wonderful stereoscopic sound images. Joni Mitchell's 1977 epic *Don Juan's Reckless Daughter* album [Elektra/Asylum 8 122 74664-2] is a reasonable recording given its era, although hardly audiophile fare due to its typically over-produced sound, awash with artificial reverberation and riddled with all manner of electronic studio trickery. Yet the D'Agostino combo again made it sound beautiful (yes: *that* word once more), the amplifier's transparency making it remarkably easy to hear though the multi-tracked layering of Joni's vocals and acoustic guitars.

Perhaps this was due to the complete absence of stridency, hard-edged glint or treble fizz. Drummer John Guerin's cymbals, struck and brushed, had realistic initial transients and extended, detailed decays. There was no subjective brightness in the high frequencies, yet neither was the sound romantically softened, the realistic twangs of guitar strings remaining faithfully preserved. As for Jaco Pastorius's thrilling bass playing

in the opening 'Overture - Cotton Avenue', the Momentum seemed to have a vice-like grip of the speakers' woofers and delivered firm, deep and revelatory low frequencies.

Ask the Momentum to play a big movie soundtrack such as Harald Kloser's achingly beautiful title theme from *The Day After Tomorrow* [Varèse Sarabande 302 066 572 2] and you'll be swamped in the splendour of the amplifier's deliverance. The recording's thunderous LF often proves overwhelming, but the Momentum held everything together. The orchestration of the piece was at once bold and intimate, the recording's broad soundstage peppered with musical detail that filled the listening room.

Perhaps you're already fortunate enough to own a D'Agostino stereo or two monoblock power amplifiers and have been enjoying their succulent sound. In which case, now's the time to discuss a part-exchange for your existing preamplifier with your dealer and complete the Momentum family. ⚡

### HI-FI NEWS VERDICT

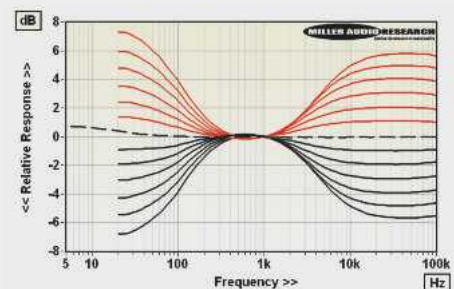
The sound is exquisite, this lavish preamplifier naturally proving to be the perfect complement to D'Agostino's power amp designs. Hearing it combined with a pair of the Momentum monoblocks might make you go weak at the knees, the sumptuously rich and detailed sound every bit as opulent as the products' industrial design. If it doesn't bring tears to your eyes, then clearly you've got no soul!

Sound Quality: 89%

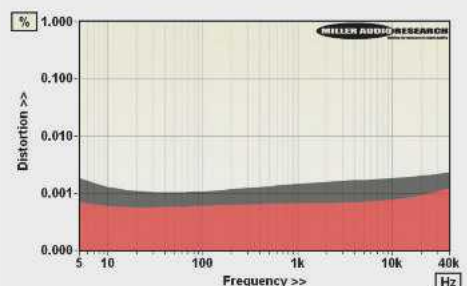


Dan's 'swingometer' indicates the available preamp gain rather than absolute level with '25' representing -35dB (in/out); '50', -12dB; '75', +1dB; and the '100' mark a full +8.2dB or x2.6, even if the legend is just beyond the arc of the needle. Evidently, below '75' the preamp is acting as an attenuator, only offering gain above '75'. The attenuator offers fine 0.5dB steps over the top 26dB of its range with 1dB steps over the middle 22dB and coarser 2dB-5dB steps across the lower 40dB. The total useable range is 88dB. The preamp's response is extended to within ±0.02dB out to 100kHz though there's a broad subsonic lift amounting to +0.4dB/20Hz and +0.75dB/5Hz [see dashed trace, Graph 1 below]. Interestingly, stereo separation also falls slightly from ~100dB through mid and treble frequencies to 83dB at 20kHz. The profiles of the six positive and negative bass/treble tone settings are also revealed on Graph 1, their respective max/min frequencies set almost precisely at 20Hz and 20kHz. A subtle but broad adjustment is evidently possible from the ±1 and ±2 settings.

Distortion is low and impressively consistent with frequency, albeit lower via the right (0.00065-0.00085%) than the left channel (0.001%-0.0017%) with our sample [see Graph 2, below]. The >20V maximum output is prodigious (THD rising to 0.2% here) via a usefully low and consistent 390hm just as the A-wtd S/N ratio is impressively wide at 96dB (re. 0dBV). Thanks to the exceptionally well-screened and filtered DC supply, any residual hum and noise is typically just -99dBV (a mere 11µV, unweighted). Readers are invited to view a comprehensive QC Suite test report for D'Agostino's Momentum preamplifier by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Frequency response (5Hz-100kHz, dashed) and ±1, ±2 ... ±6 tone responses (+, red; -, black)



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

### HI-FI NEWS SPECIFICATIONS

Maximum output (<1% THD, 47kohm)	>20Vrms (Balanced)
Maximum input level (<1% THD)	>10Vrms (Balanced)
Output impedance (20Hz-20kHz)	38.6-38.9ohm (Balanced)
Frequency response (20Hz-100kHz)	+0.38dB to +0.02dB
Input sensitivity (re. 0dBV)	388mV (Balanced)
A-wtd S/N ratio (re. 0dBV)	96.0dB
Distortion (20Hz-20kHz re. 0dBV)	0.00065-0.00085%
Power consumption	30W (7W standby)
Dimensions (WHD)	457x178x318mm

# PMC fact.12

PMC has aimed for a slim floorstander that performs like one of its pro-style monitors. So does the fact.12 deliver?  
 Review: **Steve Harris** Lab: **Keith Howard**

**B**efore the 'fact', as it were, PMC's consumer speaker range always included some huge monitors that were directly equivalent to its professional speakers. With the fact series, though, the goal was to produce genuinely no-compromise speakers within the physical size limitations imposed by modern taste and living conditions.

There would be virtually no budgetary restraints, so the speakers would inevitably be very expensive compared with many outwardly-similar competitors. While the first model, the fact.8 floorstander, costs £5995, the new fact.12 comes in at a rather eye-watering £11,995 per pair.

It almost goes without saying that these models use PMC's much-vaunted Advanced Transmission Line loading principle. In a transmission line speaker, the idea is that much of radiation from the back of the drive unit is absorbed as it passes along the line, which is a tunnel lined with carefully-chosen damping material. But sounds below a certain frequency emerge from the vent at the end of the line, and are effectively in phase with the output from the front of the cone.

The benefits are not confined to the bottom end. Lowering the distortion in the bass means that upper bass and midrange detail is not masked by distortion harmonics from lower notes. So a transmission line can help give a transparent midrange as well as a fast, clean bass. As PMC founder Peter Thomas points out, transmission line speakers are not easy to design, because there are so many variables. The key to it, he says, 'is to match the parameters of the drive unit with the transmission line and the absorption material.'

Over the years, PMC has cunningly juggled those variables to make use of the principle in small standmounts and even in the Wafer wall-mounts. Such tiny speakers can't of course produce the low

bass of a big transmission line design, but a floorstander the size of the fact.8 can have quite a convincing try, as in this design the effective ATL line length, from speaker cone to exit vent, is 3m. The smaller fact.3 has an effective line length of only 1.7m.

## NO COMPROMISE THREE-WAY

And so we come to the fact.12, physically hardly any larger than the fact.8, yet costing twice as much. It is an ambitious design, as the aim was to match the performance of the massive IB2i monitor.

'The box dimensions were nailed down pretty early on,' says Oliver Thomas, who has led the fact design project. 'The design brief was "Here's this size of box. Now make it perform like an IB2." Well, to do this, you have to spend out on all the components. And fortunately, that's

what I was allowed to do! That's why we ended up with the high cost. There aren't any compromises on any of the parts, and they are all custom-made.'

Essentially, to better the fact.8, it had to be

a three-way. As the fact.12's height and width are the same, it doesn't look any bigger in the room, but the front-to-back depth has been increased by 40mm to 420mm, to squeeze in just a little more cabinet volume. To get the most out of the cabinet at the low end, there had to be a completely new bass driver, instead of the fact.8's bass/mid unit, and this in turn led to a new midrange unit.

Designed specifically for the fact.12, the 140mm bass unit has an extremely long throw, something like  $\pm 15\text{mm}$ , and uses a lightweight alloy cone with a soft coating to ensure freedom from unwanted resonances. This is supported by a large roll

**RIGHT:** New 140mm bass drivers are unique to the fact.12, which comes in fine wood veneers or a white option; the 50mm mid is also a new design. A full-height magnetically attached grille seems not to affect sound quality

"The key is to match the drive unit with the transmission line"





## THE NPL CONNECTION

Some of the work done for the fact.12 design benefited from a technique developed by the National Physical Laboratory, in collaboration with PMC. Laser interferometry has been used to analyse the behaviour of speaker cones for decades. But the NPL has devised a new laser-based technique, Rapid Acousto-Optic Scanning, which can be used to map the sound as it radiates from a loudspeaker. When sound travels through the air, the pressure changes cause the air's refractive index to change. This can be detected by guiding laser light through the air and monitoring the subtle effects on its passage. High-resolution scans of the sound field then give a detailed picture of the speaker's directivity or dispersion characteristic. This can rapidly provide much more detailed information than the traditional method of measuring the speaker.

surround, with reinforcing spars that increase stability but don't affect the compliance of the surround even at high levels.

For the fact.12, the ATL system is described as 'high-compression', which refers to the relationship between the cross-sectional area of the line in relation to the area of the driver cones. The transmission line is much 'tighter' than that in the fact.8, resulting in higher pressures behind the drive units, and the effective length of the transmission line is increased to 3.3m.

At a crossover frequency of 400Hz, the twin bass units hand over to a new 50mm midrange dome, derived of course from PMC's long-established 75mm dome unit.

'You've got a reduced mass in the diaphragm, so you can get to reproduce sounds a little bit more naturally, with less coloration than the 3in dome,' says Thomas. With this smaller dome, there is less space behind to absorb the rear radiation, so a hollow pole-piece has been used with a damped rear chamber.

While the bass and mid units are both completely new, the fact.12 uses the same tweeter as the fact.8 and fact.3, although in this case the crossover frequency is set at 4kHz rather than around 1.7kHz. Engineered together with SEAS of Norway, this uses a pre-coated Sonomex material and comprises a 19mm centre dome, a 34mm outer surround and special grille, all designed for very wide dispersion. Like the midrange unit, it is ferrofluid-cooled.

Behind the oval panel on the back of the speaker is the crossover, built on a heavy-duty, double-sided glass-fibre circuit board with components mounted on both faces. It uses custom-wound air-cored inductors and

is designed to keep signal paths as short as possible. As usual with PMC, the crossover slopes are 24dB/octave; these steep roll-offs are said to help lower distortion in the design as well as giving better power handling and a seamless handover between drivers with fewer phase issues.

On the outside, the crossover panel carries three sets of silver-plated binding posts, which can be used for tri-wiring or tri-amping when the links between them are removed. Like the other fact models, the fact.12 has switches to trim the bass and treble response, to help in matching the speaker to room conditions.

The treble control gives subtle boost or cut options but for the first time, in the fact.12, the bass trim switch gives a boost as well as a cut, rather than two degrees of cut. In our case, auditioning in the Editor's listening room, the best settings were flat for the treble and down for the bass.

## MAGNETIC GRILLES

As for the cabinet itself, our review pair came in a new White Silk finish. This has been included along with a range of wood finishes at the request of some overseas distributors, who asked for a semi-matt furniture white rather than a high-gloss finish. In this livery, with its grilles on, the speaker is certainly self-effacing in the room, but lacks the luxury feel of PMC's hand-matched wood veneers (Graphite Poplar, Tiger Ebony or Rich Walnut).

To give stability, the cabinets have neat and sturdy metal outriggers, to which the spiked feet are attached. The grilles attach magnetically, making it easy to remove and replace them, and there are no visible attachment devices on the baffle. We initially tried the speaker both ways and found almost ↪

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## OLIVER THOMAS

Studying mechanical engineering at university Peter's son, Oliver Thomas, specialised in motor sport, and went on to work for Red Bull Racing. He's been with the family firm on and off, working on the design side, for around seven years, and the fact series is Oliver's baby, as he's led the design team on this range since the outset. But after the fact.12, what comes next?

'We've now reached the pinnacle of the right size for a standard-sized room,' says Oliver, 'but I can't say categorically whether we will or won't do larger or smaller models! We've got a theoretical fact family of speakers, and we'd like to make every single one, though I don't think there's necessarily a commercially viable reason for all of them. But perhaps as and when we develop a drive unit which would suit, say, a certain size of the "fact family", we'd take it from there.'

What about home theatre?

'We do have customers that have multichannel fact systems, utilising fact.8s with fact.3s, and now they could choose fact.12. Although it's not in the same range, the twenty series centre speaker is voiced very similarly, so it's a useful step-in if you want to have a multichannel system with fact quality.'

Would there ever be a fact active system? 'It's something for the future, that we'd want to do. And yes, if you want to do an even better speaker at that size, you would have to step up to active, to get further control over the drive units.'



no discernible difference in the sound. So, leaving the grilles off if only for the sake of audiophile credibility, we settled down to listen in earnest.

### STUPENDOUS SOUNDSTAGE

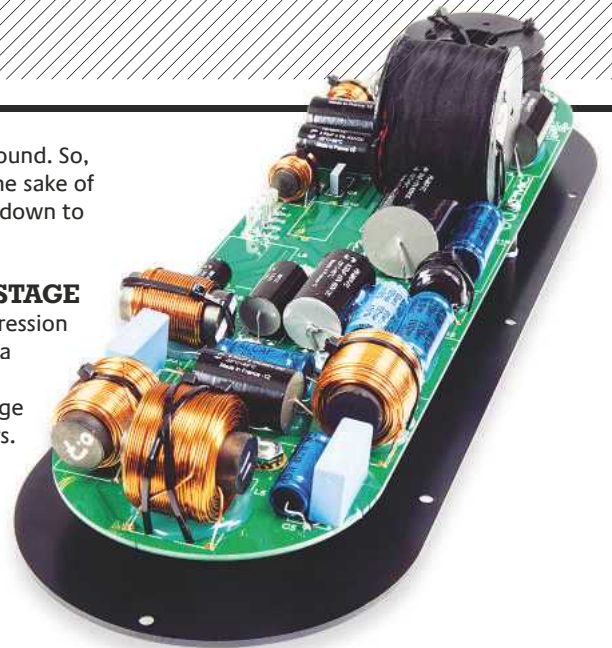
Perhaps my most immediate impression of the fact.12 was that here was a speaker that really did produce a seamless, lifelike stereo soundstage between and around the speakers. A good example of this was on Muddy Waters *Folk Singer* [MFSL UDCD 593] where a reverberant studio sound is used to compensate for the lack of amplification, with the echo effect often making Buddy Guy's guitar obligatos sound electric even though they aren't.

The PMCs gave an enormous soundstage here, with a huge width that seemed to extend well beyond the speakers and fill the room's back corners – in other words, there was still a real feeling of depth to the soundstage even at the extreme edges. There was also a most convincing illusion of stage height.

It was the sheer bass clarity of the speaker, I think, that really helped convey the booming weight on Muddy's voice, and also the top-to-bottom authority of his acoustic guitar, once again giving weight without loss of clarity or control. On 'Good Morning Little Schoolgirl' the PMCs revealed the quick, subtle pulse of Willie Dixon, who never plays one more bass note than necessary but puts them all in exactly the right place.

The fact.12's soundstaging abilities were confirmed with Saint-Saens' *Danse Macabre* with the Minnesota Orchestra [Reference Recordings RR82]. There was a huge, impressive perspective, with the solo violin, then the sweeping first violins, layered in space against the mass of lower strings. Rich orchestral timbres combined with speed and precision, while the xylophone, like the solo violin, seemed exquisitely placed and balanced against the massive orchestral forces around it. The bass too was impressive, with the double-basses cleanly underpinning the music.

With the sometimes fearsome-sounding piano on Mitsuko Uchida's Debussy *Études* [Philips 464 698-2], the fact.12 managed to convey the most absurdly complex treble passages without making them a mere jangle. It passed the acid test of 'Pour Les Quartes', when a salvo of notes sent



**ABOVE:** PMC's substantial crossover has custom-wound air-cored inductors on a heavy-duty, double-sided glass-fibre circuit board with components mounted on both faces

out into the hall would be followed cleanly by the returning echoes.

In general on this recording there was good sense of the size of the piano, and a sense of its sitting firmly on a stage, again with a convincing feeling of height. The weight and power of the lower register was very impressive here. When a single very low note was played softly, it would speak with real sonority.

### CONTROL AND DETAIL

Moving on to a very different kind of live recording, but another one where the acoustic can prove problematic, I put on Marta Gomez's *Entre Cada Palabra* [Chesky

JD301]. The fact.12 made light work of the heavy bass on this track, which can all too often sound rather overpowering and uncontrolled. But in this case, there was absolutely no loss of control. The big, fat bass

**'You could feel the big, fat bass guitar sound in your chest'**

guitar sound was extended enough that you could feel it in your chest, and yet it was 'tuneful,' making perfect sense as a bass line, and never muddying the overall sound. When it came to space, there was a fine sense of scale too, with quite good depth – although I felt that a little *more* depth layering and distance would have been possible.

At the top end, as the drummer/percussionist threw in everything but the kitchen sink, the fact.12 revealed the smallest tinkles. On a later, delightfully swinging track, 'Negrito', where the flute is so beautifully captured centre-stage, ➤

# Air Force One

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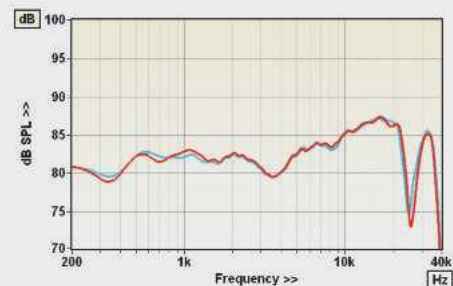
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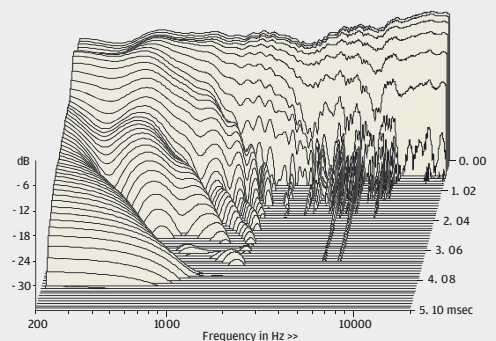
## PMC fact.12

PMC claims 84dB sensitivity for the fact.12 but our pink noise figure of 83.0dB suggests that even that may be a little optimistic. Certainly the fact.12 is well short of achieving the ~90dB sensitivity typical of many modern floorstanders of similar form factor, and so will demand higher volume settings. An upside of this is that PMC has resisted any temptation to use low impedance to enhance the sensitivity. Although our measured minimum modulus of 5.1ohm is a little low for the nominal 8ohm impedance figure (which implies a minimum impedance of no lower than 6.4ohm), the EPDR – which takes account of impedance phase angle as well as modulus – dips to a low of 2.6ohm at 79Hz, which in the context of many competitors makes the fact.12 a relatively easy load to drive.

On-axis frequency response – measured, as specified by PMC, on the midrange driver axis – is essentially flat in trend to about 4kHz after which, typically of the marque, the response begins to rise [see Graph 1, below]. Off-axis listening will ameliorate this. Nevertheless the frequency response errors, 200Hz to 20kHz, were about average at ±4.2dB and ±3.9dB respectively for the review pair, and pair matching was first-rate at ±0.8dB. Our bass extension figure of 42Hz (-6dB re. 200Hz) should be regarded as an approximation as it took some juggling of the near-field driver and port outlets to achieve a credible response. Ultrasonic bandwidth is limited by the narrow response notch just above 20kHz. Apart from some low-level 'grassiness' in the treble, the cumulative spectral decay waterfall is clean [see Graph 2], with fast initial energy decay across the spectrum. KH



ABOVE: The forward response shows a presence / treble lift that's ameliorated by off-axis listening



ABOVE: Cabinet resonances are well controlled as are those associated with the cone and dome drivers

## HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	85.1dB/83.0dB/82.4dB
Impedance modulus min/max (20Hz–20kHz)	5.1ohm @ 13.2kHz 20.4ohm @ 22Hz
Impedance phase min/max (20Hz–20kHz)	-57° @ 65Hz 7° @ 3.4kHz
Pair matching (200Hz–20kHz)	±0.8dB
LF/HF extension (-6dB ref 200Hz/10kHz)	~42Hz / 24.4kHz/23.9kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.7% / 0.1% / 0.5%
Dimensions (HWD)	1110x168x420mm

**LEFT:** The rear panel of the fact.12 has links that allow bi- or tri-wiring/amping and user-adjustable switches for trimming bass or treble. The fact.12 is mounted on sturdy outriggers

the speaker also unveiled the silky quality of Marta's voice, and the way it's reinforced by the reverberant acoustic. It also allowed you to hear those background vocals on the chorus, leaving the feeling of a nicely-balanced performance that just sounded totally relaxed – you could imagine that this track marked a point where the musicians had got comfortable with everything around them so that the whole thing gelled. It takes subtlety in a speaker to convey this.

### A VINTAGE TO SAVOUR

Turning to classical music, I put on Heifetz in the Mendelssohn Violin Concerto [JMCXR-0010]. Here the speakers brought out tremendous detail in the violin sound – you could hear every nuance of Heifetz's fingering and get a real feeling of the resonance of his instrument, and also feel the ambience of the hall. You wouldn't say that the PMCs flattered the sound but its incisiveness was never unpleasant.

As for the orchestra, the bottom end was clean and quick, giving you a real insight into the great musicianship and discipline of those Boston SO players. In the midrange, the orchestral timbres remained a bit puddingy, as the recording revealed its age, but you felt that the PMC fact.12 was providing a sound that was vintage in the best sense: a sound to be savoured. ☺

### HI-FI NEWS VERDICT

With the classic PMC virtues of transparency and excellent imaging, a beguiling mid leads seamlessly to a fast, clean and powerful bass, even if it can't have quite the 'welly' of a big-driver monitor. Looking at the fact.12 for the first time, you might wonder at the price. But listening to it, you might wonder instead how a speaker this size can sound this way, and decide the price tag is justified. Well worth seeking out.

Sound Quality: 85%



# Claro Audio Clarity Dual

Claro Audio is relatively new to the world of turntable manufacturing, but well versed in quality mechanical engineering. Does the Clarity Dual turntable make the grade?

Review: **Adam Smith** Lab: **Paul Miller**

**T**he idea of a precision engineering company turning its hands to turntable manufacture is not a new one, with well-known UK examples including the likes of SME and Avid. However, it would appear that a new contender is establishing itself in this little corner of the market: Claro Audio, an offshoot of Claro Precision Engineering, based in Harrogate, Yorks.

The tale of how a company more famous for its tool making abilities and meticulous machining of items such as medical instruments, laser parts and even beer pumps, came to be making vinyl spinners is worthy of an article in its own right. Suffice it to say it was largely as a result of a commission where an initial customer order foundered [see boxout]. Claro Audio was the result and it seems that designer Peter Curran has thereafter developed something of a fondness for the wonderful world of hi-fi!

## UPDATED DESIGN

The Clarity Dual is the second turntable introduced by Claro and made its debut in 2012. However, it has undergone a recent raft of changes with the aims of performance improvement and design rationalisation. The basic recipe is unchanged in that the unit is formed from a billet of aluminium, carefully machined to a tolerance of  $\pm 0.01\text{mm}$ . This creates the main building block of the turntable, into which the bearing, main electronics PCB and twin motors are fitted.

The decision to use two motors dates back to Peter's original design, when he found it difficult to source an item that was quiet and smooth enough for his liking – when he did, it struggled to move the platter. Reasoning that if one motor was silent, then 'two times silence is still silence', he added a second and these drive the sub-platter via separate belts. As part of

the updates, the main motor circuit board has been tweaked, improving start-up torque further and so bringing the 95mm-thick Acetal platter up to speed more swiftly. The pulleys and sub-platter have also been lowered to improve stability and optimise torque transfer from the motors.

At the rear of the base are two arm mount locations (from which comes the deck's 'Dual' moniker). Arm pods consisting of an Acetal mounting flange topped by an aluminium spacer, machined to the user's desired arm base, are connected to these fixings. All standard mounting configurations are available so the Clarity Dual can accommodate two arms from 9in to 12in in length. Claro can also make up specials if your arm of choice has its own special fixing arrangement.

Most encouragingly, the fit of the arm mounts is superb – the pods locate on two

protruding dowels and are secured by two further bolts, but the dowels themselves are so finely machined that the pod feels perfectly secure once they have been pushed on. Finally, a Delrin record clamp is provided: the review sample was supplied with a smooth centre spindle and a collet type clamp, but a reverse-threaded spindle and an ingenious matching clamp is also available. This latter item is a two-part design and the halves separate when the optimum tightness is reached – it's a very neat solution.

## FINE SPEED ADJUSTMENT

Leaving the biggest change until last, we come to the off-board power supply. Although the deck can be used without it, the convenience of not having to wrestle with the platter and two belts to change speed makes this a great convenience.



**RIGHT:** Removing the sizeable platter reveals the sub-platter, bearing and twin motors. These have dual-stepped pulleys so the deck can also be operated without the power supply



Previously, the Dual's PSU came in a machined aluminium case that would have easily doubled as a doorstop. Ultimately, it was a bit too deep to sit neatly beside the turntable and also only offered fixed 33 and 45rpm plus a third variable speed.

The new PSU is equally superbly machined but is smaller, neater and rather more swish in operation, being based around a microcontroller with a continuous stepped rotary encoder control on the front. In normal operation this selects 33 or 45rpm but, when a small 'set' switch is pressed, it allows fine adjustment of both speeds independently, which can then be stored.

The operation of this is a little counter-intuitive at first as the speed changes in small steps and needs a second

or so to stabilise after each step. Winding it enthusiastically merely has the control electronics wagging a virtual remonstrative finger in protest by bringing the platter to a complete halt. The key is to be patient

and take it steadily – once you get the hang of it, the speed control is actually very fine.

#### **CAPTIVATED**

With the supplied SME V arm aligned (a £6200 package) and

my Ortofon Kontrapunkt B MC cartridge in place, I was ready to begin listening. I remembered my last encounter with the Dual being very positive and was delighted that time and further changes have not diminished its considerable talents one bit. It didn't take me long to conclude that this is a captivating performer, particularly

'It became a different beast when drums joined in the fray'

**ABOVE:** The platter dominates the Clarity Dual but is lighter than it looks. The solid, spiked feet are adjustable for levelling and all metalwork is immaculately finished

in the way in which it sets up such a convincingly capacious soundstage. I am well used to the way in which my regular Michell Gyro SE throws images wider than most, but the Clarity Dual was more than a match for this and added in a pleasing amount of extra depth and height.

Showcasing this perfectly was 'Blue Train' from John Coltrane's eponymous album [Blue Note BST81577], with the whole performance benefiting from that useful amount of extra space around the players. Coltrane's tenor saxophone held the attention perfectly, and the Clarity Dual also brought Paul Chambers' bass very pleasingly to the fore, underpinning the track with a firm guiding hand. The tonal colour of each instrument was seemingly spot-on and the Clarity made the song come to life in a foot-tapping way.

I had no doubt that the Clarity Dual could 'hold a tune', thanks in no small part to its very enjoyable low end performance. Bass notes dug deep and emerged with plenty of fine detail intact, meaning that there was a good deal of impetus and weight behind the music. A fine example of this was offered by Frankie Rose's 'Know Me' [Interstellar – Memphis Industries MI0211LP] which is a modern slice of 1980s-style pop that bounces along with infectious enthusiasm. Here the Clarity ➔

### ADOPTED CHILD

Claro's audio adventures started in 2009 with a commission from a customer to design him a turntable, of which he would buy 50 units. Sadly, much hard work and £30,000 later, the deal fell through. Managing Director Martin Doxey and designer Peter Curran bravely ploughed on with the new turntable, selling 20 units to John Jeffries of Lumley to market as the Heliosphere, smaller brother to the Lumley Stratosphere. The decision was taken to then market the remaining 30 decks themselves and the Clarity 09 was born. This could have been the end, however Peter requested feedback from buyers as to what could be changed or improved on the turntable. There were enough ideas for him to go back to the drawing board and come up with something new. The result was the original Clarity Dual, in 2012, subsequently updated in 2013 as reviewed here.



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## CLARO AUDIO CLARITY DUAL

Recently updated with an improved, though not entirely flawless AC power supply, the Clarity Dual turntable is still an exquisitely machined and finished example of engineering art. The PSU's output remains at 240V but at variable frequency for 33.3 and 45rpm and to facilitate fine speed adjustment. Absolute speed accuracy can be achieved within  $\pm 0.1\%$  provided you have the measurement tools available but there's still a deal of discrete  $\pm 6-7\text{Hz}$  wow most probably linked to Claro's use of two closely-coupled motors [see Graph 1, below].

Taken on face value, two motors might seem better than one, especially in deriving the torque to overcome the inertia of this 9.2kg platter, but unless the two motors are absolutely identical in performance then it's not impossible for an intermodulation, or *difference* frequency to be excited. In practice, the two motors would require precise pair-matching for this effect to be reduced (there are also likely to be differences in how the motors drift with time). Nevertheless, higher rate flutter is usefully low at 0.04% (peak weighted) while hum and noise, thanks in part to the supremely well-screened SME Series V, is reduced to just  $-61\text{dB}$  (re. 1kHz, 5cm/sec).

Rumble is very consistent, with only a slight advantage recorded through the silent LP groove *without* the clamp in place [unweighted, blue trace, on Graph 2 below]. A figure of  $-68.3\text{dB}$  is a few dB off the very best decks, but still good, while the through-bearing figure of  $-68.7\text{dB}$  is also creditable. Readers are invited to view a full QC Suite report for Claro Audio's Clarity Dual turntable by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** A very elegant machined enclosure houses the electronics for the deck's off-board power supply. One knob controls everything and LEDs show the unit's status

smoothly shifted up a gear and punched the track beautifully from my PMC loudspeakers. Drums were snappy, taut and precise and the bass line was tuneful and easy to follow. In absolute terms, it did lag a little behind the likes of the direct-drive Inspire Monarch and even the belt-drive SME 10A in terms of absolute start/stop precision at the low end. The result of this was that the tail edge of low notes occasionally stayed around a fraction longer than they should have, but the deck's overall clarity ensured that nothing became sluggish or wallowy.

### RISING TO THE CHALLENGE

In other areas, the gap between the Claro and the two competitors I've mentioned was very insignificant, and the Clarity Dual's main area of superiority was in its sheer dynamic range. Claro's careful selection and matching of materials, and fine engineering, mean that the player is very quiet when silent or very lightly modulated grooves are passing under the stylus but, when the action warms up, the Claro rises to the occasion with ease and a rush of joyous dynamism.

With The Damned's fine 12in single version of 'Eloise' [MCA Records GRIMT4], the Claro softly poured forth the quiet synthesiser-based introduction but became a different beast when drums and bass guitar joined the fray. Dave Vanian's rather over-dramatic vocals billowed around my room and by the time the marvellous onslaught was over, I felt rather like the man from the old 1980s Maxell tape advertisement: blown backwards in my chair, slightly breathless.

With the excitement dialled back to a sensible level once more, courtesy of Tanita Tikaram [*Ancient*

*Heart* - WEA WX210 243877-1], I was once more able to enjoy the Claro's more subtle abilities.

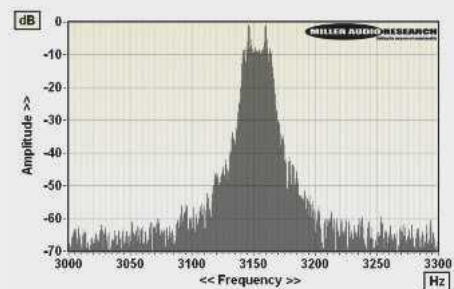
It has a very enduring way of cutting through to the heart of the music and presenting it in a highly appealing manner, but without ever glossing over any information that is present. Miss Tikaram's vocals poured forth into the room gloriously and although, as mentioned, the Clarity Dual sets up a surprisingly expansive image, everything within that presentation was crisply honed and placed to perfection. Even when a poorer recording found its way onto the platter, the Clarity Dual did a very fine job of making the best of what was available.

Yes, the voluminous scale was curtailed somewhat in cases like these, but the deck still managed to eke a cohesive and enjoyable performance from the material available. It was as a result of this that I found myself with several large boxes of 45rpm singles dating back to the early 1980s, all of which the Claro made more listenable than I had remembered. ☺

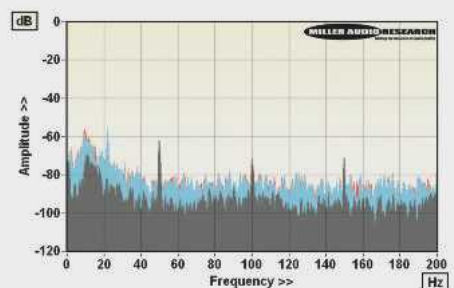
### HI-FI NEWS VERDICT

Continuous development through listening to buyers' feedback means that Claro has kept the Clarity Dual turntable on top of its game. The deck is exquisitely engineered and finished, and recent improvements have only served to refine it further. Given that the initial production run comes with a remarkable price reduction of nearly £1000 over the older variant, the 'new' Clarity Dual is an essential audition.

Sound Quality: 82%



**ABOVE:** Wow and flutter re. 3150Hz tone at 5cm/sec (plotted  $\pm 150\text{Hz}$ , 5Hz per minor division). Good absolute speed accuracy but note the low-rate wow



**ABOVE:** Unweighted bearing rumble from DC-200Hz (black infill) versus silent LP groove (with clamp, blue; without clamp, red) re. 1kHz at 5cm/sec

### HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.37rpm (+0.12%)
Time to audible stabilisation	6sec
Peak Wow/Flutter	0.07% / 0.04%
Rumble (silent groove, DIN B wtd)	$-68.3\text{dB}$
Rumble (through bearing, DIN B wtd)	$-68.7\text{dB}$
Hum & Noise (unwtd, rel. to 5cm/sec)	$-60.8\text{dB}$
Power Consumption	12W
Dimensions (WHD)	390x250x360mm

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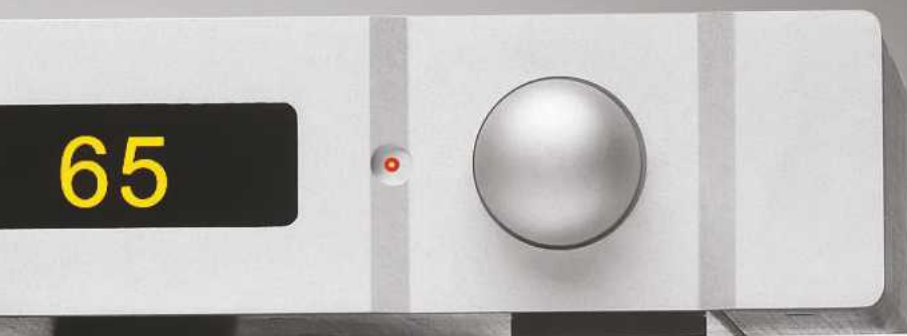
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# GROUP TEST

Tired of the prosaic sound of moving-magnet cartridges and craving the cachet of a 'coil? Then these five sub-£600 designs will all be on your shortlist – how do they compare?

## MC PICK-UPS £520-£599

### TESTED THIS MONTH

AUDIO-TECHNICA OC9 ML/III	£599
CLEARAUDIO CONCEPT MC	£520
GOLDRING LEGACY	£595
ORTOFON RONDO BLUE	£525
SUMIKO BLACKBIRD	£595



Cutting-edge gear, cherry-picked by the *Hi-Fi News* editor



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Six hundred pounds is a lot of money to spend on a cartridge, yet in the great scheme of vinyl things, it sits uncomfortably between cheap and cheerful moving-magnets and the true high-end moving-coil exotics.

On one hand you have budget MMs which give a rough approximation of the music with a nod and a wink, and on the other you have those select few MCs, costing several thousand pounds a pop, which sound achingly beautiful and remind one just why audiophile vinyl junkies get out of bed in the morning. At this price point, your money buys you more than a flavour of the latter, with some of the convenience of the former.

They reflect a wide range of design paths, some more general and oriented towards ease of use than others. Most have closed bodies, which protect the fragile generator assembly, but the Sumiko does not, and is therefore extremely easy to damage either when installing or in general use. All have enough output to drive a moving-coil input easily, while the higher output Sumiko will work with

most moving-magnet inputs too. All have high quality stylus tips with non-detachable stylus assemblies, so a retip will be required after several thousand hours of use. That can be real wrench if you've just graduated from an MM.

Then there are the respective sonics to consider. The order of magnitude of the differences between cartridges – even similarly priced ones such as these – is surprisingly large. Moving-coils are transducers that have a profound effect on the sound: the choice of generator material, the winding of the coils, the type of damper used, the cantilever material and the stylus profile all come together to make potentially huge sonic differences. Accordingly, this group has five very distinct performers – aimed, as it transpired, at very different systems and listeners...

#### THE REPLAY SYSTEM

Reflecting the sort of turntable a mid-priced moving-coil is likely to be used with, a well set-up Michell GyroDec turntable was employed for comparison purposes, as it has a clean and spacious sound.

A matching Michell TecnoArm tonearm was fitted: effectively a higher performance variant of the ubiquitous Rega RB301. Creek's fine sounding Destiny 2 solid-state integrated amplifier drove a pair of open and detailed Spendor D7 floorstanding loudspeakers.

#### SELECTED MUSIC TRACKS

Programme material for the group test covered a wide range, but centred around three specific recordings chosen to signpost key differences. First, Leftfield's *Not Forgotten* [Outer Rhythm FOOT3] is a crunching piece of early '90s techno with a wide bandwidth, powerful bass and a very clean precise midband and treble sound. Sonny Rollins' 'Alfie's Theme' [Impulse IMP-224] is a vibrant slice of 1960s jazz, with rich textures and a wonderful, lilting swing. The Dunedin Consort and Players' realisation of Handel's *Messiah* [Linn CKH 3 12] is a superlatively recorded boxed set from the Glasgow company, and is spacious and natural. ↻

REVIEWS BY NICK TATE  
LAB REPORTS BY PAUL MILLER

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# Audio-Technica OC9 ML/III

**L**aunched in the late 1980s, this attractive moving-coil looked futuristic back in the day, and boasted advanced features such as PC-OCC (Pure Copper by Ohno Continuous Casting) coil windings, when its '80s rivals used plainer types. Twin coils were used, and a high-flux samarium cobalt magnet for improved electrical efficiency – the 0.4mV (claimed) output was almost twice as high as the norm at the time. The cantilever is super-stiff gold-plated boron, and, 25 years later, now comes tipped by A-T's own MicroLine diamond – hence the ML/III suffix.

As you might expect from this Japanese cartridge and microphone specialist, the build quality is superlative; the black and gold painted body is immaculate, and the presentation is neat – complete with tools, fixing kit and individual frequency response plot. Thanks to its shape, this cartridge isn't the easiest to align in a headshell, but the stylus guard system is effective. It tracks happily at 1.5g ±0.25g (quite low for an MC) and the 8g body balances easily in most arms.

## KEEN AS MUSTARD

This cartridge still sounds modern, showing little signs of having aged in the intervening years – indeed, if anything, other MCs have moved closer to its tight, taut, detailed and explicit sound. Cue up some classic electronica courtesy of Leftfield's *Not Forgotten*, and the keen-as-mustard OC9 jumps into the music with authority, composure and grip. It's almost as if its life's mission is to eke out every last detail from the mix, and beam it out at you with laser-like precision.

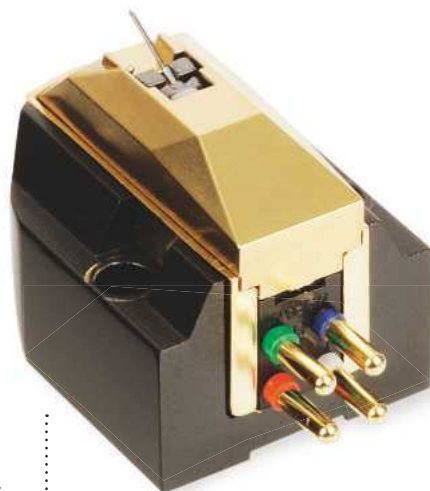
It's an adroit music maker, too. It isn't just the song's melody which it carries well, as it instantly trains its sights on the interplay between the bass drum, snares and hi-hats and pummels them out with glee. This gives a most propulsive feel to the proceedings, real edge of the sofa stuff. Even with the more louche

**RIGHT:** The mounting holes are long and untapped, so the OC9 is best used with lightweight, non-magnetic bolts

strains of Sonny Rollins' 'Alfie's Theme', the OC9 delivers the same formula: it finds the shortest route to the beat of the music and takes you there, regardless of how challenging the terrain. In this respect it is sublime, but pull the OC9 away from its comfort zone – hammering out rhythms and spraying out fine detail – and you begin to notice cracks in its armour...

Tonally, it's a little bright, not excessively so, but some vinyl fans will think it well-lit up top. It's certainly not one of those 'warm winter evenings by the fireside' type moving-coils, being far too explicit for that. Soundstaging isn't as wide as any of the others here, the OC9 preferring to locate instruments in the mix extremely solidly and rigidly but a little nearer to the centre. Also, the way it makes music isn't the most 'organic' of the group. It's great at drum work, but doesn't seem able to gel the accompanying pianos or strings into it effortlessly. The result is a sound that can have a subtly 'processed' feel.

Sound Quality: 75%

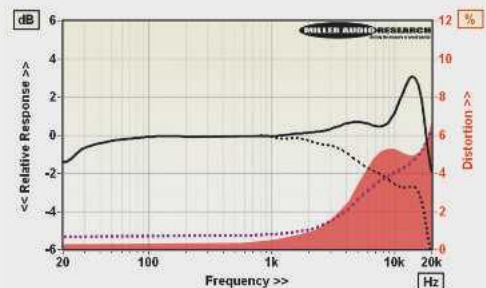


**ABOVE:** The OC9 has the only gold-plated boron cantilever in the group; the others are either boron or aluminium



## HI-FI NEWS LAB REPORT

This latest iteration of A-T's longstanding OC9 series of MCs now offers a higher 400µV output with a slightly poorer 0.5dB channel balance. The mechanical characteristics of the suspension have been altered to increase the compliance in both planes from 14cu/28cu to 17cu/39cu (vertical/lateral) while simultaneously improving its damping at resonance. Nevertheless the asymmetry in compliance is also reflected in its response with lateral cuts delivering a bolder presence/treble (+1.5dB/10kHz) and a stronger central presentation, while vertical cuts fall away (-2dB/10kHz) to soften perspectives stage left and right [see Graph]. The Clearaudio Concept MC shows the same disparity. Tracking remains excellent, the OC9 ML/III sailing through the top 80µm test band and betraying distortion of just 0.4% at 315Hz on the +18dB test track (re. 0dB/11.2µm). PM



**ABOVE:** Frequency response (black) vs. distortion (red); lateral (L+R, solid) and vertical (L-R, dashed)

Generator type/weight	Moving Coil / 8.0g
Recommended tracking force	1.8-2.2mN (2.0mN)
Sensitivity/balance (re. 5cm/sec)	398µV / 0.45dB
Compliance (vertical/lateral)	17cu / 39cu
Vertical tracking angle	16 degrees
L/R Tracking ability	>80µm / >80µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.50-8.1% / 0.35-6.7%
L/R Frequency resp. (20Hz-20kHz)	-1.8 to +3.6dB / -1.8 to +4.5dB
Stereo separation (1kHz / 20kHz)	41dB / 15dB



# Clearaudio Concept MC

Here's a German company with a passion for all things vinyl, and the massive product portfolio and prolific work-rate to back it up. The Concept MC here is its current 'entry-level' moving-coil [first reviewed *HFN* Apr '11], but doesn't give away its reasonably humble origins under close examination. The Clearaudio is well presented and sports a finely finished – albeit rather utilitarian looking – ceramic-coated aluminium-magnesium alloy body. The idea is to make it light but rigid, and indeed the cartridge weighs in at 8g. Inside, you find oxygen-free copper in the generator coils; it has a rigid boron rod cantilever and micro line-contact stylus.

With its neatly oblong body, the cartridge is very easy to fit, and there's a sensible and effective stylus guard (the process of removing or refitting these can sometimes put the 'needle' in more mortal danger than not bothering with one at all). The recommended tracking force is 2g ±0.2g; I found it worked best a fraction over the median figure. A two-year warranty completes an attractive, well crafted package.

## THE ALL-ROUNDER

Clearaudio cartridges have traditionally sounded transparent and incisive (the clue's in the name), although some have proved less engaging on a musical level than rivals. This could not be said of the Concept MC, which presented as a wonderfully well balanced device with an easy-to-listen-to yet revealing sound. Instead of doing one particular thing brilliantly at the expense of the rest, it proved the best all-rounder here. Tonally, it was warm and smooth and sported a generous soundstage with accurately placed images. Fat sounding analogue synthesisers on the Leftfield track had a real sense of body, for example, yet high frequencies were atmospheric and sparkled in a way that all but the OC9 couldn't match.

Moving to the Sonny Rollins track, and the Concept let the music

**RIGHT:** Traditional aluminium-magnesium alloy body design has threaded lugs and is easy to align

swing nicely, never impeding the progress of the song. It captured the subtle dynamic inflections of the saxophones effortlessly, and syncopated them beautifully with the double-bass and drums. The drum kit was rich and sonorous, those vibrant yet finely etched cymbals reminding me just how great jazz can sound on vinyl. And bass was tasty too, with a real sense of rhythm down south – the sound bounced along in a nicely fluid and mellifluous way. Here it bettered the OC9 by sounding more 'organic', while the Sumiko sounded forced and the Ortofon slightly bland.

Although not quite the widest here in terms of soundstaging, Handel's *Messiah* came over in a highly realistic way. The sense of perspective it brought to orchestral music was satisfying, the cartridge's innate detail allowing an excellent feel for the acoustics of the Edinburgh hall itself. Its fine treble gave excellent filigree detailing to massed strings, and brass had an authentic rasp.

Sound Quality: 80%

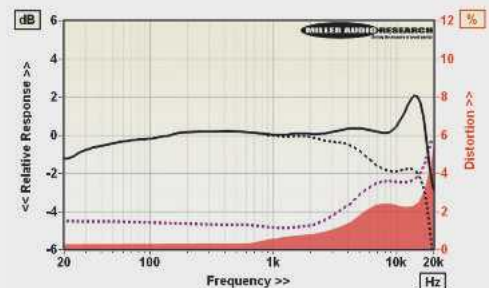


**ABOVE:** The rigid boron cantilever and Micro Line stylus are core features of Clearaudio's entry-level Concept MC



## HI-FI NEWS LAB REPORT

Clearaudio's Concept MC offers almost exactly the specified 420µV (0.42mV) output (re. 5cm/sec) at precisely the specified 0.5dB channel balance. The low 9cu compliance was not met, however, and the asymmetric 28cu lateral and 12cu vertical figures (the former with a +13dB resonance) are also reflected in similar variations in the lateral and vertical responses. The former, dictating the balance of central in-phase images, is impressively neutral with only a slight loss in low bass and a mere +2dB/15kHz peak while the latter, reflecting the tonal balance of the peripheral soundstage, shows a declining presence and treble (-2dB/10kHz). The micro line contact stylus is accurately mounted to achieve a 24° VTA and tracking is first-rate – left and right 80µm grooves were successfully navigated while distortion at +18dB/315Hz (re. 0dB/11.2µm) was a mere 0.6%. **PM**



**ABOVE:** Frequency response (black) vs. distortion (red); lateral (L+R, solid) and vertical (L-R, dashed)

Generator type/weight	Moving Coil / 8.0g
Recommended tracking force	1.8-2.2mN (2.0mN)
Sensitivity/balance (re. 5cm/sec)	425µV / 0.52dB
Compliance (vertical/lateral)	12cu / 28cu
Vertical tracking angle	24 degrees
L/R Tracking ability	>80µm / >80µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.30-5.4% / 0.25-9.2%
L/R Frequency resp. (20Hz-20kHz)	+1.9 to -2.9dB / +2.3 to -2.0dB
Stereo separation (1kHz / 20kHz)	30dB / 16dB



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# Goldring Legacy

The name needs little introduction – many analogue audiophiles will have started with a Goldring, probably one of the company's fine budget moving-magnets or even the early moving-irons. Its moving-coils are less well known, but the Legacy is the latest, most expensive and allegedly the best the company has ever made. It sports a low-resonance magnesium body, which is rounded and shaped more than the blocky Clearaudio, for example. Threaded inserts go into the cartridge body, which looks neat in the headshell. Inside, there are hand-wound coils with a powerful neodymium-based magnet. An alloy cantilever is used, with 'bespoke' rubber damping, and this is tipped with a Vital fine-line diamond stylus.

Overall finish is superlative: the cartridge looks and feels like a piece of expensive jewellery, and the packaging is brilliant in a cool, modern sort of way. The feel-good factor continues when fitting it: it is easy to handle with a decent stylus guard that slots securely into special body recesses, and at 8g is a good match for most tonearms. Finally, the Goldring Legacy seemed to track happily enough at its recommended 2g maximum.

## BALANCED RENDITION

This English moving-coil isn't as showy as some here, but proved sweeter than most and it plays music in an even-handed way. Closest to the Clearaudio in character, it tries – and succeeds – to give a balanced rendition of all musical styles, being a jack of all trades and master of some. There's a consistency across all types of music that cartridges such as the charismatic Sumiko and OC9 lack.

The Leftfield piece came over with great scale, the soundstage appearing a good deal wider than the OC9 for example, and just about the most expansive here.

Despite never sounding frenetic or forced, it actually gave a very emotive rendition of this hard-

**RIGHT:** Solid alloy shell and threaded inserts allow very firm mounting but the body shape makes alignment tricky

hitting dance music, relying on its innate speed and detail to get the job done.

There's lots of detail too – yet it doesn't sound as conspicuous as with the OC9. Instead, the Legacy gives a quietly intricate sound – you can hear the spaces between the musical gaps. The Sonny Rollins track was beautifully rendered, with shimmering harmonics from the brass, yet the cartridge never sounded especially bright.

Time after time, I found myself relaxing into the music and forgetting the cartridge's sonic characteristics, unlike the Sumiko or the OC9 which wear them on their sleeves. Still, the cartridge does sound a little 'soft', and some won't see that as a positive. Its bass isn't quite as physical as some others either, meaning you get less of a 'hi-fi' sort of sound. Treble, although very smooth and cohesive, doesn't quite have the perceived reach or extension of the OC9 or Clearaudio.

Sound Quality: 78%

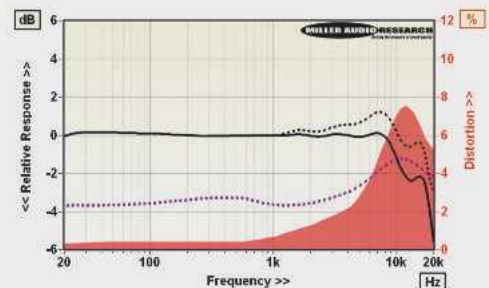


**ABOVE:** Hand-wound coils with a neodymium/iron/boron magnet meet an alloy cantilever and Vital stylus



## HI-FI NEWS LAB REPORT

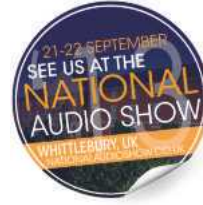
Originally tested at launch [HFN Jan '10], Goldring's Legacy MC has retained its low-output (220µV re. 1kHz/5cm/sec) and 16cu dynamic compliance, promising a 10Hz resonance with a 9g effective mass tonearm. Channel balance and crosstalk were slightly poorer at 0.5dB/23dB and while VTA is still high at 28°, its mechanical performance has been improved. The Legacy now shows no signs of intermittent mistracking at just +9dB (315Hz lateral cut, re. 11.2µm) at a 1.75g downforce and even carries right through to the maximum +18dB cut at 1.9g (0.4% THD). The frequency response is very flat through bass and midrange [see Graph] but shows a decline at very high frequencies, trading reduction in surface noise for 'bite'. There's reasonably good symmetry here as there is between lateral and vertical distortion, which is <1% up to 3kHz before peaking at 7-8% at 12kHz. PM



**ABOVE:** Frequency response (black) vs. distortion (red); lateral (L+R, solid) and vertical (L-R, dashed)

Generator type/weight	Moving Coil / 8.0g
Recommended tracking force	1.5-2.0mN (1.9mN)
Sensitivity/balance (re. 5cm/sec)	220µV / 0.51dB
Compliance (vertical/lateral)	16cu / 16cu
Vertical tracking angle	28 degrees
L/R Tracking ability	80µm / 80µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.40-7.5% / 0.40-9.0%
L/R Frequency resp. (20Hz-20kHz)	+0.8 to -5.6dB / +1.9 to -4.9dB
Stereo separation (1kHz / 20kHz)	23dB / 15dB

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# Ortofon Rondo Blue

The working title for this range of Ortofons was 'Wood', thanks to its novel use of powdered Japanese hardwood for the bodies, set in resin and sintered at very high temperatures. This is then lacquered using traditional Japanese techniques, and is said to make for a low resonance enclosure. The Rondo Blue – midway up in the range – sports a bespoke Ortofon generator into which the cylindrical aluminium cantilever fits. At the other end, there's a Fritz Gyger FG70 diamond stylus. This makes for a medium/high mass device weighing in at 10.5g.

The body itself looks exquisite, although the detailing rather lets it down. That unlovely stick-on name badge doesn't help, and the plastic flip-down stylus guard – visibly similar to the sort Ortofon were using in the 1970s – detracts from the visual allure. It can be removed of course, and this certainly doesn't hamper the sound if you do.

The Blue tracks best a little heavier than most here at 2.3g (2.5g maximum). Overall this is a nice package that's easy enough to fit, albeit not as lavishly presented as the Goldring.

### EFFICIENT BUT...

At first listen it's a pretty impressive design across the board, but extended listening began to mark out the Rondo Blue as rather bland. It does the basics well: it's a clean, explicit, detailed sounding cartridge with a solid bass, fine soundstaging and a reasonably musically enjoyable sound. But there's something about it that just doesn't quite draw the listener in enough to 'seal the deal'. The result is a 'good' sounding cartridge that never gets to be a great one.

The others have their strengths and weaknesses, but there's always one aspect to their performances which invites further listening – but not so with the Blue. For example, the Leftfield track came over with a thumping bass – more solid than with the Legacy – with punchy snare

**RIGHT:** Threaded lugs make for tight mounting but the beautiful body shell is spoiled by a cheap looking name plate

drum work and frenetic hi-hats looping up top. Yet the Rondo appeared as if just going through the motions. It couldn't have been more different from the Sumiko, which was histrionic by comparison on the same piece – the latter seemed to have had one too many espresso Martinis, whereas the Ortofon felt like it had been on the Horlicks!

The Sonny Rollins bounced along pleasantly, with a clean, crisp and spacious midband. The Blue imaged wider than the Audio-Technica, letting instruments hang in space in a secure and effortless way. It captured the rasp of the brass adequately, and gave a bright but even cymbal sound – although it wins no prizes for delicacy.

And again it was too ordered, without enough insights into either texture or the overall rhythmic flow of the music. The Handel was solid but showed how opaque the Rondo can sound across the upper mid and treble. Efficient but lacking in charm.

Sound Quality: 70%

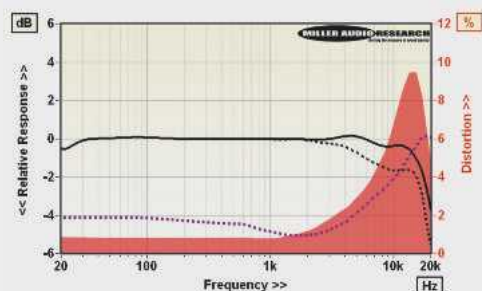


**ABOVE:** Most audiophiles will remove Ortofon's familiar plastic flip-up stylus guard, as illustrated here



### HI-FI NEWS LAB REPORT

Under close inspection, Ortofon's alloy cantilever and 'nude FG 70' diamond look a little bluff compared to the finer structures sported by the Sumiko and Clearaudio MCs but, at its hefty 2.3g downforce, the Rondo Blue tracks like a trooper from the +6dB band (0.4% THD) right up to our +18dB limit (0.9% THD). This is all the more impressive bearing in mind its low-ish 18/16cu vertical/lateral compliance. The stylus alignment is bang-on too, with an accurate 22° VTA. Unequalised distortion is low at 1.5% (1kHz, 5cm/sec). The response through presence and treble bands was stronger on the right channel with our sample (+2dB, 5kHz-12kHz) and stronger too on lateral cuts, suggesting central vocal material will have plenty of 'oomph'. Output is +3.5dB higher than Ortofon's specification at 750µV/200ohm and while channel balance is a little poor at 0.7dB this is within spec. PM

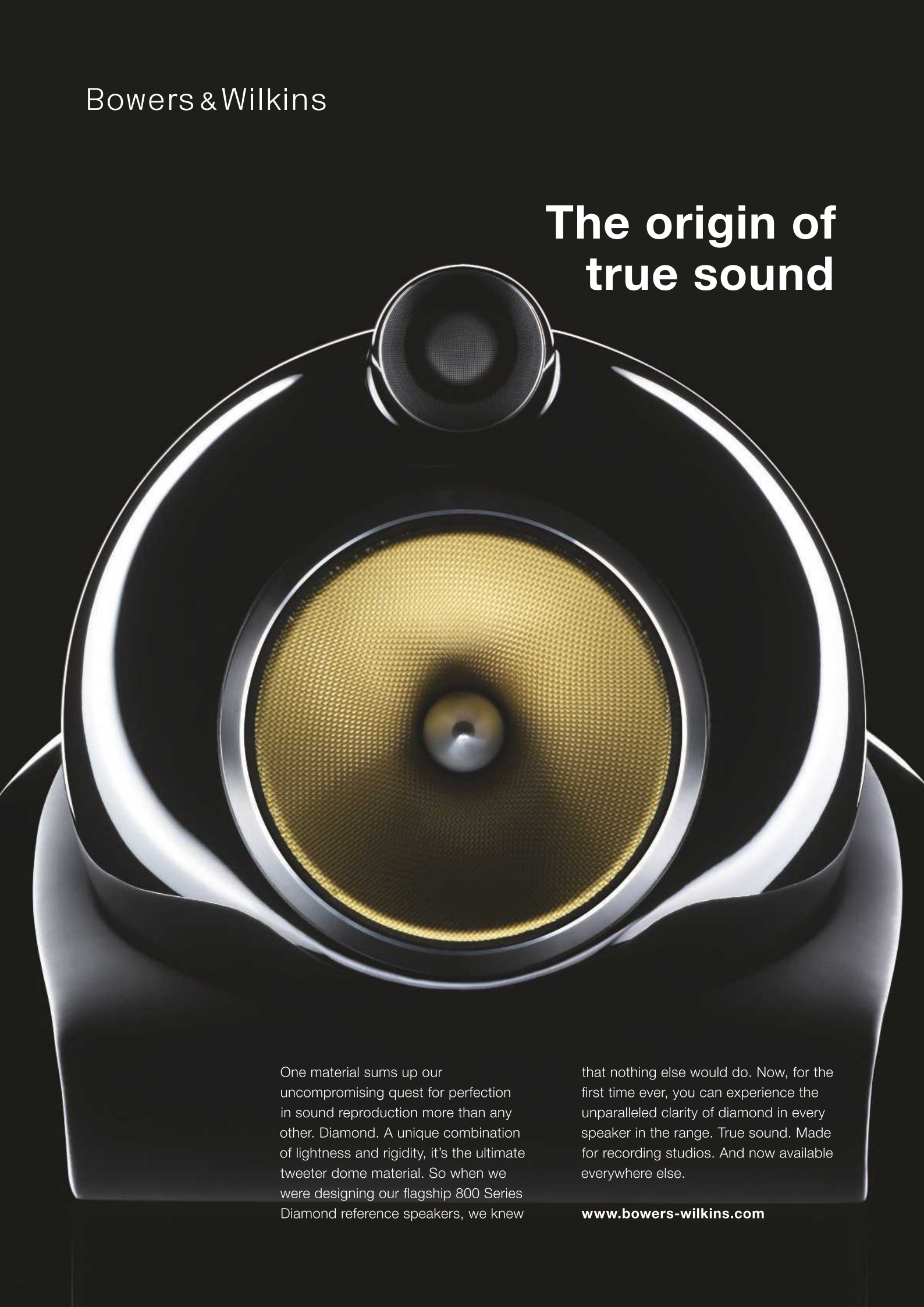


ABOVE: Frequency response (black) vs. distortion (red); lateral (L+R, solid) and vertical (L-R, dashed)

Generator type/weight	Moving Coil / 10.5g
Recommended tracking force	2.0-2.5mN (2.3mN)
Sensitivity/balance (re. 5cm/sec)	750µV / 0.7dB
Compliance (vertical/lateral)	18cu / 16cu
Vertical tracking angle	22 degrees
L/R Tracking ability	80µm / 80µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.78-9.4% / 0.93-6.2%
L/R Frequency resp. (20Hz-20kHz)	+0.2 to -3.7dB / +1.8 to -1.1dB
Stereo separation (1kHz / 20kHz)	35dB / 27dB

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# Sumiko Blackbird

**D**escended from the cult Blue Point Special, this is the only 'high output' moving-coil in our group – ie, it delivers more microvolts than standard MC cartridges. As such, it can drive many moving-magnet phono stages direct, without the need for an additional gain stage. The Sumiko is also distinguished by being the only 'naked' cartridge of the group: its cantilever assembly is completely exposed to the perils of the outside world. By not shrouding the generator inside an (inevitably) resonant cartridge body, sonic gains can be had, but the downside is that the Blackbird is potentially tricky to fit and may easily be damaged. This is made even more apparent because Sumiko does not supply any kind of stylus and/or body guard.

The body itself is metal, and the cantilever long-grain boron, which is stiffer than the aluminium used by some rivals here. Despite its lack of 'body', the Blackbird's overall weight is still moderate at 9.6g and in my system seemed happiest tracking at its maximum permissible 2.2g, although it can drop down by 0.2g should you so wish.

### AMAZING SPEED

There are obvious sonic differences between all the cartridges here, but none were as marked as with the Sumiko. It has a sound all of its very own, one that's amazingly fast, frenetic and feisty. So much so that it almost makes the others sound like they're on Mogadon – but whether this is good or not is up to you! Cue up Leftfield and it jumps into the track like a Dervish; the bass synthesiser pounds, snares blat like machine-gun fire and the hi-hats swarm like bees.

Indeed, the whole track seemed to have been magically speeded up, yet its pitch remained the same. This makes for an edge of the seat listen – the Blackbird isn't something to relax with after a hard day at the office or behind the wheel. It's so agile that it seems able to do double somersaults when the others can only muster a back flip – even

**RIGHT:** While the threaded inserts assist headshell mounting, great care must be taken with the exposed generator

the super-fast OC9 seems slow by comparison... Infectious, intoxicating stuff – cue up some smooth classic jazz such as the Sonny Rollins track, and the Sumiko simply can't help itself as the energy keeps flowing and the track romps along.

But you also spot a few weaknesses: although brilliant at firing the music's various transients at you, it is rather less capable at rendering the texture of the instruments in a realistic way. The Sumiko doesn't get deep into the 'feel' of the instruments, and I felt it unable to always give a realistic rendition of the recorded acoustic.

Spatially things seem forced to the left or right, and stage depth isn't particularly good. A lack of real bass grunt further compounds this balance. The Handel piece showed this too; the Sumiko is riotously good fun to listen to, but ultimately may not always satisfy with more subtle programme material. However, it's a cartridge that may well become smoother over months of use.

Sound Quality: 75%

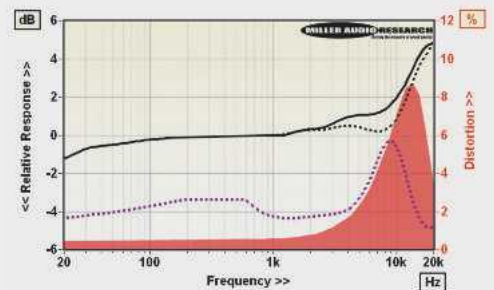


**ABOVE:** A proprietary 'special grind' profile stylus is fitted to a boron cantilever. Cartridge pins are well spaced



### HI-FI NEWS LAB REPORT

Fresh from the box, Sumiko's Blackbird has a fierce response, climbing from 1kHz to around +2dB through the presence band and still going strong at +6dB/20kHz. This is most obvious on lateral cuts, bringing some added 'pizzaz' to central vocals and percussion, while peripheral stereo information is a little more restrained. Nevertheless, any brightness will likely diminish as the MC's suspension 'relaxes'. VTA is slightly high at 26° but the diamond is beautifully finished and, despite the low-ish 17cu compliance, tracks like a dream, clearing the 80µm cut and holding firm on the maximum +18dB/315Hz track at just 0.4% THD. Distortion is low at <2% up to 5kHz and very symmetrical [see Graph]. Sensitivity is the highest of the group, the 3.1mV output achieved with a mild 0.35dB channel imbalance, the Blackbird comfortably driving a standard 47kohm MM load. PM



**ABOVE:** Frequency response (black) vs. distortion (red); lateral (L+R, solid) and vertical (L-R, dashed)

Generator type/weight	Moving Coil / 9.6g
Recommended tracking force	1.8-2.2mN (2.0mN)
Sensitivity/balance (re. 5cm/sec)	3.10mV / 0.35dB
Compliance (vertical/lateral)	17cu / 18cu
Vertical tracking angle	26 degrees
L/R Tracking ability	>80µm / >80µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.65-10.1% / 0.55-8.5%
L/R Frequency resp. (20Hz-20kHz)	-0.8 to +4.9dB / -0.4 to +7.1dB
Stereo separation (1kHz / 20kHz)	35dB / 24dB

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# GROUP TEST VERDICT

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One should never be surprised to hear marked differences between phono cartridges, not least moving-coils. There's a good variety of engineering differences in this month's group test candidates, and this played out in a wide range of different sonic characters – which gives useful choices for people of all persuasions, from classical music lovers to rock 'n' rollers.

Ortofon's Rondo Blue proved the least convincing here, simply because it was a jack of all trades and master of rather fewer. It was a decent enough device to listen to, but it regularly failed to tug at the emotional heartstrings, or substantially unearth the amazingly profound sound that the black vinyl record is capable of delivering.

Conversely, the Sumiko did do precisely this – but to the exclusion of a lot of other things it should have kept a grip of. The result was a wonderfully fast, frenetic cartridge which occasionally lacked subtlety and balance – indeed, if you alloyed its performance together with the Ortofon you'd have a giant killer! Anyone considering this cartridge simply must hear it first, although any fierceness will undoubtedly soften as the MC beds in.

## GIANT KILLER

The Audio-Technica is in some respects a slayer of more expensive designs, as its treble performance is superlative and it has amazing detail and delicacy at the price – there are far more expensive cartridges around which it would humble in these respects.

This continues down to the midband, in which you get fantastic

low-level detail rendition and a wonderful sense of atmosphere. 'Precise yet punchy' sums up the OC9, and this will appeal to those who like fast-paced yet detail-rich music – this type of listener will think it peerless at the price.

Once again though, its balance of abilities isn't *quite* round enough, leaving the door open for the following two pick-ups...

## ...BY A WHISKER

The Goldring has much in common with the Ortofon. The design brief was obviously similar: to make a fine all-rounder using high quality materials for a crisp, enjoyable sound with no special stand-out areas.

The difference is that the execution of the Legacy MC is better; from the packaging to the stylus guard design to the sound, it is classier.

While lacking the prima donna traits of the Sumiko and (to a lesser extent) the Audio-Technica, it still scores very highly across the board and does an awful lot right in a most self-effacing way. It covers its tracks well and doesn't bite off

more than it can chew – while at the same time being a powerful, musical and detailed device.

Please be upstanding for the Clearaudio Concept MC then – the worthy winner by a whisker. It has a strong and commanding sound, yet lacks the downsides that often accompany such a nature.

There's real subtlety here, oodles of detail, and a pleasing musical flow which pulls the listener in to the recording, letting you completely forget yourself, and enjoy the event instead. It never draws attention to itself – which is a rare talent when all the others in the group, to a greater or lesser extent, couldn't do anything but. It simply made the music come alive, in a subtle but engaging way. ☺

'There's real subtlety here, oodles of detail and a pleasing flow'



**ABOVE:** (Clockwise from top) the Goldring Legacy and Audio-Technica AT-OC9 ML/III offer superb performance while the Clearaudio Concept is just a whisker ahead

• CD PLAYERS • TURNTABLES • CARTRIDGES • HEADPHONES • STREAMERS • AMPLIFIERS • SPEAKERS • DACS •

# Yamaha CD-S3000/A-S3000

Yamaha's latest stereo offerings mark a move into new price points and are packed with technology behind the retro lines, but do they deliver the required performance? Review: **Ed Selley** Lab: **Paul Miller**

Yamaha is still most commonly seen as an AV brand: something that the company is in no hurry to dissuade you from thinking. After a few quiet years, the marque is once again vying to be the largest manufacturer of AV amps in the UK and some of the products announced of late suggest that the company has firmly recovered its mojo in this area.

There has always been a bit more to Yamaha electronics than home cinema amps, however. The company has never stopped producing stereo equipment, and five years ago unveiled the 1000 and 2000 series that represented an increase in the company's stake in two-channel. The models were an intriguing combination of interesting technology, the players were the first dedicated two-channel SACD models that Yamaha had produced, with an unashamedly retro appearance. Indeed, the 2000 series was sufficiently bold to grace one of our covers [*HFN* Apr '08]. And they remain in production today, which is an 'epoch' in Japanese audio terms.

## BEHIND THE RETRO FACADE

After five years we might have been forgiven for thinking that Yamaha was happy with its stereo portfolio but the two units here have put paid to that notion. This 3000 series is another step up in pricing terms and brings more technology, features and sheer volume of metalwork with it to achieve this. Like their smaller brethren this technology hides behind a retro facade but you don't have to dig too far beneath to realise that there is nothing old-fashioned about the design of this player/DAC and integrated amplifier.

The biggest step forward in capability is found in the CD-S3000. Like the smaller 2000 and 1000 series players, this is a stereo CD and SACD player but under the skin there are some key differences

**RIGHT:** Yamaha's two-part frame for the A-S3000 features a secondary copper-plated chassis supporting a substantial power supply. The MC/MM phono stage is separately screened

between the new model and the older designs. Yamaha has switched to the increasingly popular ESS ES9018 DAC in place of the Burr-Brown converter used previously while also adding a raft of digital inputs on the rear panel. These comprise the standard trinity of one coaxial, one optical and a USB 2.0 connection.

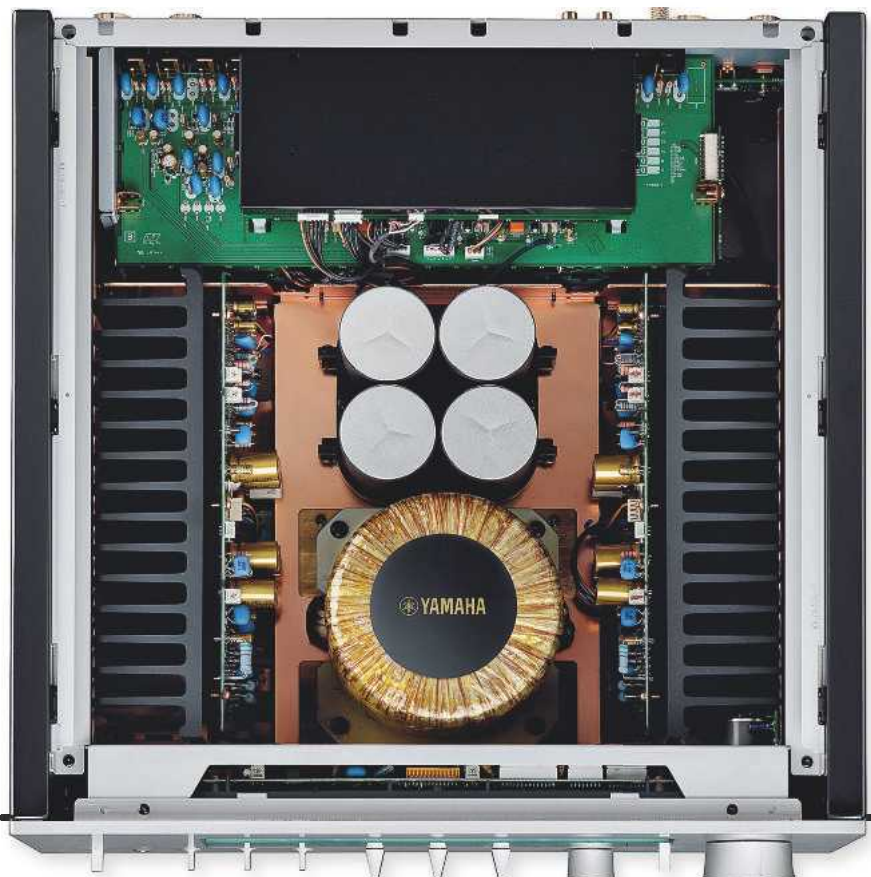
All inputs are 192kHz capable but the USB connection has a further party piece. Making use of Yamaha's proprietary 'Steinberg' software the USB input not only allows for asynchronous playback but also handles the transfer of native DSD files. This isn't new – some other DSD over USB implementations have already been tested in *HFN* – but it is the first player I can remember seeing where you can insert

an SACD in the front slot and DSD into the back panel and have native decoding of both. SACD might not have replaced CD but equally shows no signs of disappearing altogether and the CD-S3000 is (on paper at least) a convincing way of handling DSD however it might be sold in the future.

The front panel of the CD-S3000 is more conventional and is very similar to the CD-S2000. The CD-S3000 retains the 'Silent Loader' mechanism of the other players, which, it must be said, isn't actually as silent as

the mechanisms of some of the CD players that passed through in the recent group test [*HFN* Oct '13]. It also took umbrage with one of my hybrid SACDs: the *Peer Gynt Suites* with Järvi [DG 476 7853] could not be persuaded to play either layer.

'The USB input also handles the transfer of native DSD files'





The partnering A-S3000 is more conventional in technological terms but also makes use of some features developed specifically for the amp. The physical construction features a 'Rigid Streamline Design' that makes use of a copper frame within the external chassis in order to better isolate the transformer and other critical components from external vibration. The amplifier stage itself is both symmetrical and fully balanced with a floating power supply arrangement.

Interestingly the 100W rated power output of the A-S3000 is lower than the smaller A-S2000's and although Yamaha quotes figures down to 2ohm, as the Lab Report shows [p57], the A-S3000 isn't something you would readily use as a stand-in PA system. That said, the amp is unlikely to run out of steam in most domestic situations, and the attention to detail that Yamaha has expended on the components and layout is impressive. This extends to using a screw fixing on the top of the block capacitors as Yamaha feels it offers a better connection and signal path

with lower loss than a soldered fixing, while the cables themselves are kept as short as possible. The lack of visible wiring internally is deliberate: it runs in the space between the inner frame and outer chassis, and certainly makes for a tidy-looking amp internally. The connectivity is pretty good too. As well as a pair of balanced inputs, the A-S3000 is fitted with three RCA inputs, a tape loop and a switchable MM/MC phono stage. A pre-out and AV bypass input are also present.

As the smaller two-channel products from Yamaha are usually exactly built, it isn't much of a surprise to find that the 3000 components are very solidly assembled indeed. The lack of visible fastenings and minute panel gaps point to a considerable amount of care going into the construction of both units. The A-S3000 is made more visually distinctive thanks to the pair of VU meters on the front panel which add a bit of flair to the design and do nothing to hurt the retro credentials. As the Lab Report notes, they over-read in the manner similar to a

**ABOVE:** Clean lines of the CD-S3000 are shared with the smaller Yamaha players but there are additional controls for digital input selection  
**BELOW:** A-S3000 has a pair of 'retro' VU meters and there's a similarly extensive set of controls

car speedo – presumably to lend a little protection against someone who wants to bounce them off the end stops.

Other nice details abound. The tone controls on the amp are switched out of the circuit when in the 'zero' position but automatically switch-in when moved, with an audible click. All the other controls (and there are plenty) have a pleasingly solid feel and the connections around the back are also very substantial. Special mention must go to the speaker terminals which are both impressively solid and suitably spaced for spade terminated cabling. The remotes are also attractive and easy to use.

### DEPTH AND POWER

Starting off with conventional CD (and incidentally, by the standards of SACD players the CD-S3000 is pretty sprightly →



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**ABOVE:** CD-S3000 has balanced XLR and single-ended RCA outs (both at 2V) with optical/coaxial S/PDIF and USB 2.0 digital inputs. **BELOW:** Inside, Yamaha employs a custom CD/SACD transport, separate digital/analogue PSUs, an ESS ES9018 DAC and fully balanced analogue output stages

in terms of disc loading times) the performance with Aretha Franklin's *The Great American Songbook* [Columbia 783468] has elements of the brand's house sound. There was an effortlessness to the presentation that was instantly appealing. The output of the A-S3000 may be rated at 'only' 100W [see Lab Report, p57] but it never felt as if it was under any strain. On the other hand, I did get the impression that the volume control was quite heavily 'front loaded' and so this may have played a role in the amp's perceived 'oomph'. The upshot was that Franklin's vocals were given pride of place over a nuanced and detailed soundstage that offered a genuine reflection of front to back depth.

The more aggressive recording of Depeche Mode's *Violator* [Mute CD Stumm 64] also presented little challenge to the

civilising influence of the 3000s but it did show that there is a sense of urgency and drive to this partnership that means they avoid sounding safe or dull. 'Personal Jesus' was sprightly and underpinned by bass that had a depth and power that was dynamic and exciting and helped to draw you into the performance. Combining this with the more traditional Yamaha tonal sweetness makes for a partnership that can be driven hard with less than perfect recordings without stepping over into harshness or becoming overly bright.

There was, however, a lack of absolute definition with this amplifier that became evident when the CD-S3000 was used with other components. All of a sudden a degree of fine detail that was lacking with the A-S3000 became apparent: with music like the 24/44.1kHz recording of Scratch ↻

*'There was an effortlessness that was instantly appealing'*

## IAN GALLOWAY

Yamaha AV's UK Director, Ian Galloway, has been involved with the brand since 1981 when the company re-entered the UK market. It was Ian who oversaw the creation of Yamaha Electronics UK and introduced the company's first forays into multichannel audio.

'We are seen in the UK mainly as an AV brand,' he says, 'however, Yamaha has a long history in the two-channel business and has never moved away from it. We believe that our 3000 series will be seen as a very positive addition to the Yamaha line-up. And the CD-S3000 also demonstrates our continued commitment to SACD.'

'The 3000 components are definitely part of a wider theme for Yamaha Music sitting nicely within our "Sound Company" philosophy, and showing the commitment of our top design engineers involved with the products.'

'We will have launched at IFA in Berlin, during September, new flagship multichannel products – and also the long-awaited replacement for the Z-11, but this time in a two-box version.'

But given the existence of the NP-S2000, we asked, are there also plans to pursue UPnP streaming at this level?

'There is nothing on the drawing board at this time, but there is no reason we would not go back to it. If you take products like our CD-N500 and the new RN-500, also shown at IFA, you can say that we are committed to streaming products.'



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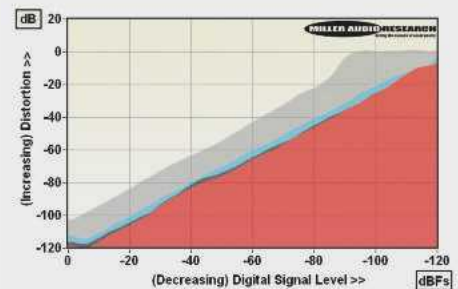


## YAMAHA CD-S3000/A-S3000

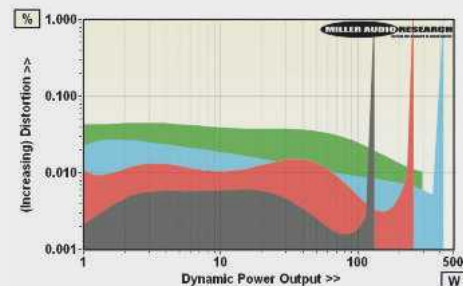
The performance of the CD-S3000 is largely governed by Yamaha's choice of the fine ES9018 DAC, offering a 109.5dB A-wtd S/N ratio, a maximum 2V output (XLR and RCA) and distortion as low as 0.00004% through midrange frequencies at -10dBfs. SACD's DSD bitstream is maintained with a full-bandwidth response out to -3dB/50kHz and -25dB/100kHz and low-level resolution good to an astonishing  $\pm 0.3$ dB over a full 120dB dynamic range. Jitter is vanishingly low at  $\sim 10$ pssec via SACD and S/PDIF inputs. Via Win XP, the USB input follows suit provided the Steinberg ASIO drivers are *manually* set to the native sample rate of the media files being played. Setting '192kHz' forces all lower rate files to be upsampled, with an increase in THD (0.00009% to 0.0005% at 1kHz/0dBfs) and a marked truncation in linearity to  $\sim 16$ -bits [grey trace, Graph 1].

The partnering A-S3000's rotary volume governs a stepwise attenuator (adjustment is not 'continuous') while the meters over-read slightly, the needle edging past the 1, 10 and 100W marks when delivering 1, 10 and 100W into 8ohm. In practice the A-S3000 delivers 2x120W/8ohm and 2x195W/4ohm with headroom to accommodate 133W, 255W and 425W into 8, 4 and 2ohm loads under dynamic conditions. Current is limited to 17.3A or 300W/1ohm [see Graph 2, below]. Like previous Yamaha amps, gain is high at +43dB (balanced) and the A-wtd S/N ratio extremely wide at 98dB (re. 0dBW) while distortion holds to within 0.0015-0.015% from 20Hz-20kHz (10W/8ohm).

Readers may view comprehensive QC Suite test reports for Yamaha's CD-S3000 and A-S3000 by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



ABOVE: Distortion versus decreasing 24-bit digital level at 1kHz via S/PDIF (red), USB (native 48k, black; 192k upsampled, grey) and CD (blue)



ABOVE: Dynamic output vs. THD into 8ohm (black), 4ohm (red), 2ohm (blue) and 1ohm (green) loads



ABOVE: The A-S3000 has two pairs of balanced inputs (with switchable polarity and sensitivity), matching balanced outputs on the CD-S3000. Three line, one phono, tape and pre in/out RCAs are included plus massive 4mm speaker cable terminals

Massive's *Communion* [Pschent] the sound seemed a little muddied at the very lowest registers.

Changing from my Neat Momentum 4i speakers to a pair of PMC fact.8s, which have no shortage of low-end ability, still left the quality seeming a little 'dense' and lacking the nuance that the A-S3000 shows further up the scale.

### DISC VERSUS DIGITAL

SACDs proved even better than CDs with these two Yamaha units. The immaculate if slightly soulless *Brothers In Arms* [Vertigo 9871498] was almost liquid smooth and the way that the vocals were reproduced was particularly impressive, with a texture and presence that was step forward over the CD version of the same album. The sense that the 3000 units can generate excitement as well as exhibit control continued too.

The aggression and attack of Nine Inch Nails' *The Downward Spiral* [Interscope 0602498647288] was captured extremely effectively. The Yamahas did an exceptional job of keeping Trent Reznor's anguished vocals in 'Hurt' locked centre-stage and arrayed perfectly over the disparate electronica underneath.

After installing the Steinberg software (which is specific to the CD-S3000 and not the same as the Pro Audio division version), the CD-S3000 proved easy enough to get talking to a computer. One operational note is that, in use, provided an ASIO connection was made, the Yamaha switched sampling rates automatically on a Windows 7 machine instead of requiring the manual adjustment needed on XP SP3 in the lab, but with non-ASIO connections, manual

adjustment was still required. The CD-S3000's performance via its digital inputs is not significantly different from disc replay. The system retains the same forgiving nature with less than perfect material, but give it something good and the lifelike tonal colour, coupled with the same open and airy presentation, make themselves felt.

With the 192kHz recording of *Meet Me In London* [Naim HD021] by Antonio Forcione and Sabrina Scuibba, there was the faintest sense that the intrinsically forgiving nature of the Yamaha's prevents it from being as forensically detailed as one might think ideal. But for those of us with music collections that include more than a few rough diamonds, this trade-off is likely to be a fairly easy one to make.

My DSD catalogue is extremely limited and the business of getting them to play on foobar is somewhere between 'complex' and 'hateful'; but the CD-S3000 did successfully replay Emily Palen's 'Light In The Fracture' (available free from DSD Guide). The performance showed just the same unflappable control and beguiling smoothness that it did with SACDs. ☺

### HI-FI NEWS VERDICT

There is a great deal to like about the 3000 Series. As a duo, they offer impressive functionality, solid build and an extremely handsome aesthetic. Sonically, these new flagships retain some positive Yamaha performance traits while improving in other areas. The CD-S3000 is the star of the pair but the unforced presentation and forgiving nature with rougher recordings makes for a very capable partnership.

Sound Quality: 82%



### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	120W / 195W
Dynamic power (<1% THD, 8/4/2/1ohm)	133W / 250W / 425W / 300W
Output imp. (20Hz-20kHz, CD/Amp)	500ohm / 0.061-0.10ohm
Freq. resp. (20Hz-20kHz, CD/Amp)	+0.0 to -0.15dB/+0.0 to -0.06dB
A-wtd S/N ratio (CD/Amp)	109.5dB (0dBfs) / 98.1dB (0dBW)
Distortion (20Hz-20kHz, CD/Amp)	0.00007-0.002% / 0.0015-0.015%
Digital jitter (CD/SACD/USB/ S/PDIF)	117pssec/<10pssec/35pssec/10pssec
Power consumption (CD/Amp)	18W/350W (65W idle)
Dimensions (WHD, CD/Amp)	435x142x464mm/435x180x430mm

# Musical Fidelity M6PRE/PRX

In price territory that's the brand's heartland, this balanced, phono-equipped pre and power are 'destination products' according to MF. So do you need to travel further?

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

**W**e've recently seen the rise and rise of the integrated amplifier, even to quite rarefied price levels. If the step-up to pre-/power used to be largely a matter of price, now it's really more to do with power. High-quality integrateds easily extend up to well over 100W per channel. But if you want 200W or more, and talking about conventional linear amplifiers, you'll likely be looking at separates, because it's no longer practical to shoehorn the whole shebang into a single chassis.

Musical Fidelity's founder and owner Antony Michaelson has long argued the need for power output *uber alles*. 'Do the maths!' he says, claiming that – given modern speakers of normal sensitivity – you need much more wattage than you might think, to get, say, an average listening level of 90dBa with peaks of 105dBa.

To prove his point, Michaelson launched the Musical Fidelity kW series with an amplifier that actually did deliver 1000W, while further models trickled down from this with 750W and 500W ratings. Then, as if venting his frustration with users who insisted on sticking with their puny 80W or 100W units, he dreamed up the novel 550K power amplifier [HFN Sep '07], to turbo an existing system by shoving more power into the speakers when connected to the *output* of an existing amp.

More conventionally, he's now covering all the bases with the M1, M3, M6 and M8 ranges, the names no doubt reflecting a long-term enthusiasm for fast cars built in Bavaria... The M8 power amp [HFN Jan '13] follows the kW series and the current Titan flagship, by offering a massive 700W per channel. But the M6 series, filling the key £2k-£3k price bracket, is a complete range, with amplifiers that still offer more than enough power for most people.

The most recent addition to the series is actually the £2000 M6 DAC [HFN Mar '13],

while the 200W M6i integrated amp costs around £2500. But heading the M6 series is the flagship pre/power amplifier combination, the M6PRE and M6PRX, reviewed here, each unit costing £3000.

## AIMING TO PLEASE, EITHER WAY

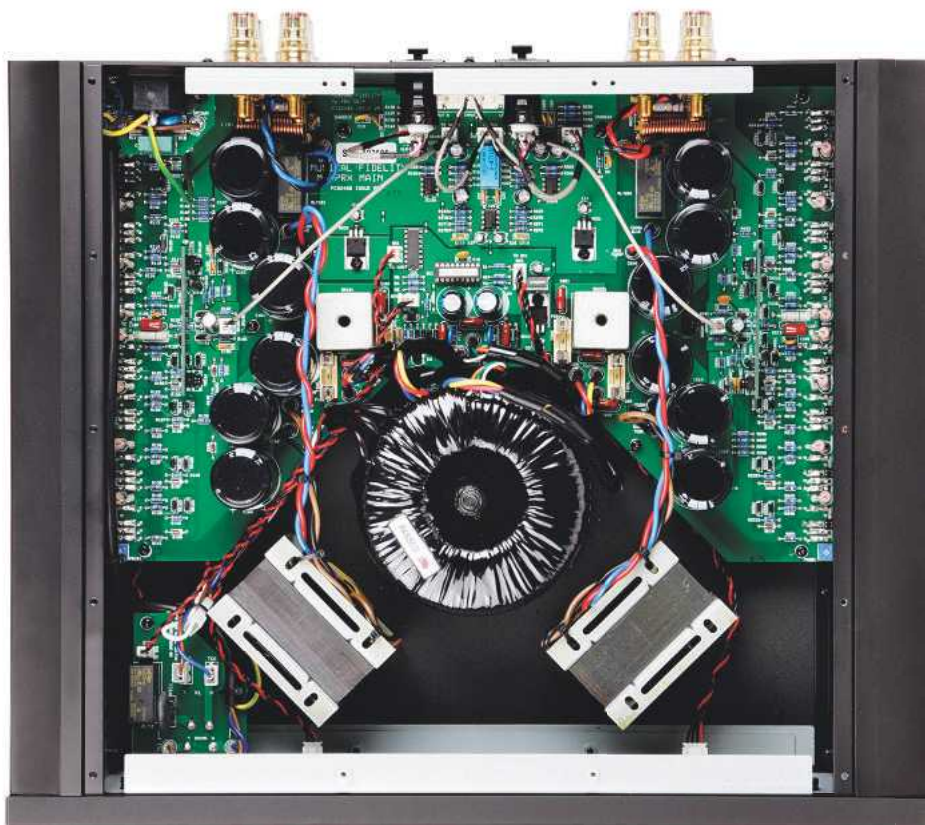
Needless to say, the M6PRE's front panel is dominated by the oversized volume knob that's become a Musical Fidelity trademark. It is a pleasure to use and modelled on an old-fashioned control that's far preferable to the endless twiddle of the usual modern rotary-encoder type.

If the volume control is almost ridiculously big, the source-select buttons are as small and understated as can be, and it's partly this contrast that makes the M6 styling so distinctive. It's cunningly crafted to catch you both ways. It'll strike a chord with buyers who, deep down,

want something big and bold, but need something that's looks understated, sober and classy in the home. (And, perhaps, looks more expensive than it is.)

Anyway, aside from the usual on/standby to the left, the buttons start with a tape monitor. After this we get – maybe in perceived order of importance – USB, Phono and CD inputs, followed by Tuner, Aux/HT and Tape. A final pair of buttons cover the two balanced inputs. Like the unbalanced Aux/HT input, Balanced 1/HT provides the option of 'HT' or 'theatre bypass' mode, selected by a switch on the back panel. In this mode, input signals from a home theatre processor can be passed straight through the M6PRE, unaffected by its volume circuit, so the volume control on the processor can be used instead.

On the back panel you will find two pairs of balanced XLR input connectors as



**RIGHT:** The two bifilar-wound choke regulators are easy to see either side of the M6PRX's PSU toroid. The symmetrical L/R power amps are based on MF's Titan and AMS50 models



well as an array of unbalanced RCA (phono) connectors. Along with the two small toggle switches for Aux/HT mode selection, balanced and unbalanced connections, there's another similar one, providing MC/MM sensitivity options for the phono disc input. Outputs are available balanced and unbalanced, and there's also a tape-record output pair.

### PHONO, XLR, OR BOTH

As the big daddy of the M6 range, the PRX power amp weighs a hefty 19.7kg (43.5lb). Internally, it's a dual mono design, the output stages using four pairs of power transistors arrayed along the heatsinks which outwardly form the sides of the casework. Front panel controls amount to just two small buttons and four LEDs. On the left, along with the power button, one LED indicates mains connection, while another ('mute') lights during power-up and goes out after a few seconds when the

amp is ready for use. To the right, another small button selects between the two independent 'A' and 'B' inputs.

While the 'A' rear input exists only as single-ended RCA phono sockets, for 'B' there are balanced (XLR) connectors as well as single-ended, with a slide selector switch. If you wish to use both single-ended and balanced sources, you can use the 'A' and 'B' inputs respectively, and conveniently switch between these two using the front-panel input selector. A third pair of RCA phonos provides a 'loop' output, which can be used for bi-amping, as it simply passes the line-level input signals out again.

### TELLING THE TRUTH

Listening to the M6 combination, it quickly became clear that this was a smooth,

*'This is a smooth, powerful and admirably self-effacing amplifier'*

**ABOVE:** A 'real feel' volume control makes the M6PRE nice to use; all functions are duplicated on the unfussy remote control. Source selection covers USB and phono as well as line inputs

powerful and admirably self-effacing amplifier. With some albums that I played, perhaps for the first time in a long while, it even seemed that the M6 was smoothing away sonic problems that had existed before. In a sense this impression was illusory, but it was still a tribute to the M6 combination's essential neutrality, low noise and

its ability to drive real-world loudspeakers. And it was seemingly truthful to the recording. On Esperanza Spalding's amazing *Chamber Music Society* [Heads Up HUI-31810-02], it seemed to me that the M6 accurately conveyed the slightly hard-edged quality of the mix, but at the same time it was open-handedly revealing, so that the complex effects and climaxes that Spalding creates were effective, carrying the music forward rather than making the listener's ear/brain give up in confusion.

It was also good, though, on the track with the least instrumentation. Here Jobim's 'Inutil Passaigem' is an intense vocal duet with Gretchen Parlato, accompanied only by Parlato's soft handclaps and Spalding's own beautifully recorded double-bass. The two voices were conveyed exquisitely and the bass had realistic power and life.

In fact, the bass performance was always very good. When it came to ↻

## OPENING THE CHOKE

In the quest for relatively affordable high power, Musical Fidelity long ago adapted a technique from valve amps, the choke-regulated power supply. Antony Michaelson explains, 'In a valve amplifier you got quite a high current pull on the very high-voltage HT, so you get huge power supply ripple. The problem in getting rid of it was that high-voltage capacitors were very expensive. And so a choke [inductor] was worked out as the answer. A typical choke for an amplifier of this size would be a four- or five-inch cube, pretty big. But you have a plus and a minus rail, which would mean two chokes, and as it's a dual-mono amplifier, you would have four chokes, each a five-inch cube! So, what we do – and Musical Fidelity was the first company in the world to do this, back in 1988 – is to put the plus and the minus rail together in one choke, which is bifilar wound. The plus and minus effectively cancel each other out, increasing the efficiency of the choke quite dramatically. We're also cancelling the magnetic field.'

# Signature



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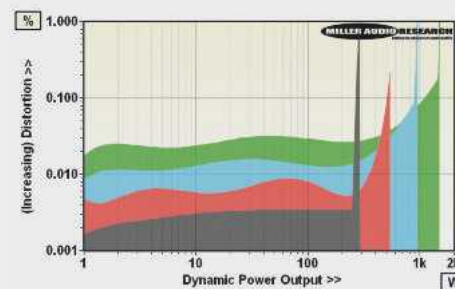
# LAB REPORT

## MUSICAL FIDELITY M6PRE/PRX

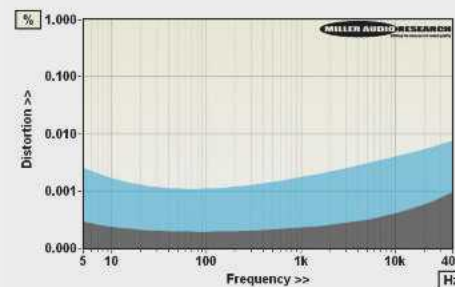
Let's start at the top, and the M6PRE's large rotary which feels 'smooth' but is a digitally-governed stepwise attenuator rather than a continuous analogue control. Gain (balanced in/out) is a generous 12dB, the A-wtd S/N a wide 93dB (re. 0dBV) and the maximum output a massive 18V (<1% THD) from a 66ohm (20Hz) to 46ohm (>200Hz) source impedance. Distortion [black trace, Graph 2] is vanishing low at 0.00015-0.00035% (20Hz-20kHz, 0dBV) and the response flat to -1dB from 3Hz-95kHz. The legacy USB 1.0 input is limited to 24-bit/48kHz, so 96kHz and 192kHz inputs are downsampled accordingly.

MF's M6PRX power amplifier is altogether more interesting! Richly biased, its sinks heat up to 55°C after 30 mins at 10W but, very unusually for this marque, its original 260W/8ohm specification (since changed, after my phone call, on its website to 230W) is not met under continuous output conditions - 2x2 15W/8ohm (1x230W/8ohm) and 2x320W/4ohm are the figures from my lab. Not that the M6PRX is under-powered, for it does achieve 290W, 545W, 950W and a substantial 1.5kW into 8, 4, 2 and 1ohm loads under *dynamic* conditions [see Graph 1, below]. Maximum current is a speaker-busting 38.7A, so the M6PRX will drive any sane loudspeaker without pause.

The excellent power supply filtering and regulation helps deliver a wide 92.2dB A-wtd S/N ratio (re. 0dBW) while there's sufficient compensation at work to squeeze THD down to 0.0006-0.005% at 10W (20Hz-20kHz) and 0.001-0.002% from 1-200W/8ohm at 1kHz. Readers are invited to view comprehensive QC Suite test reports for the Musical Fidelity M6PRE and PRX pre/power amplifiers by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Very load tolerant



ABOVE: THD vs. extended frequency; M6PRE (1V out, black trace) vs. M6PWR (10W/8ohm, blue trace)



ABOVE: Rear view shows the balanced options, including a switchable HT bypass. Balanced and single-ended sources can be used in the same system, selected on the front panel. MC and MM phono input settings are also selected by a rear-panel switch

acoustic double-bass, it could combine an appropriate weight and a free-breathing quality, which, on a straightforward natural recording, could go a fair way towards the sound of a real instrument.

Moving on to a very different female vocalist, the M6 duo really brought out the superb melancholy of 'Black Orpheus' on Cassandra Wilson's *Loverly* [Blue Note 50999 5 21690 2 1]. It was equally effective in conveying Wilson's eerie-sounding rework of the blues classic 'Dust My Broom,' which cunningly pits a deep, fat-sounding electric bass against a distant, keening slide guitar.

### ANALOGUE APPEAL

Turning to live recordings, I found that the M6 combination's capable bass and top-to-bottom neutrality could bring a good sense of the recording venue. It did a great job in conveying the dynamics of the orchestra in the LSO's Barbican recording of Beethoven's Fifth Symphony with Bernard Haitink [LSO Live, LSO 0590], as there was a convincing awareness of the concert-hall venue, but this didn't seem to imprison the music.

Stacey Kent's live album *Dreamer In Concert* [EMI 50999 68093228] once again showed command of the bottom end, both in the presentation of Jeremy Brown's bass and in the sense of scale given to the live acoustic of La Cigalle in Paris. The rest of it was good too, with the other instruments full of life and attack, while Stacey's voice came over in all its intimate detail, shimmering exquisitely (or infuriatingly, depending on your point of view, or mood) with her characteristic quick vibrato.

Listening to vinyl via the M6 and its moving-coil input proved

thoroughly enjoyable. There was an immediate feeling of transparency and neutrality, allowing the music to flow freely and fill the space between the speakers in an unstressed, lifelike manner.

This was apparent with the 1974 recording of Beethoven's Septet by the Ensemble of St James [Classics for Pleasure CFP 40059]. This demonstrated the almost magical way that two speakers can create a believable soundstage that remains stable while the various instruments do their respective thing.

I'd been impressed by the way the M6 combination seemed able to get out of the way of the music, and this became particularly appealing with analogue material. Listening to saxophonist Nathan Haines on his all-pure-analogue production *The Poet's Embrace* [Haven Music HAVENLP004/2564852 180] was like taking a trip back to a simpler place and time, especially on the outstanding title track. It gave a feeling that was a bit like the way peace descends on the house when there's a power cut. ☺

### HI-FI NEWS VERDICT

It's in this price class that Musical Fidelity now seems almost unbeatable, packaging good facilities and pleasing design with ample power and clean, neutral sound. For enthusiasts with deeper pockets there will be levels of musical nuance beyond what's achieved here, but this impressive combination offers excellent performance and good value. Many buyers may never need to spend more.

Sound Quality: 85%



### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	215W / 320W
Dynamic power (<1% THD, 8/4/2/1ohm)	290W / 545W / 950W / 1500W
Output imp. (20Hz-20kHz, pre/power)	66-46ohm / 0.037-0.09ohm
Freq. resp. (20Hz-100kHz, pre/power)	+0.0 to -1.3dB / -0.1 to -2.3dB
Input sensitivity (for 0dBV/0dBW)	241mV (pre) / 91mV (power)
A-wtd S/N ratio (re. 0dBV/0dBW)	93.3dB (pre) / 92.2dB (power)
Distortion (20Hz-20kHz, 1V/10W)	0.0002-0.0004% / 0.0006-0.0054%
Power consump. (pre/idle/2x200W)	9W/71W/665W
Dimensions (WHD pre/power)	440x126x400/440x125x390mm

# Naim Supernait 2

Never shy of going against the current tide, Naim's latest flagship integrated eschews digital connectivity for an emphasis on good old fashioned analogue amplification  
 Review: **Nick Tate** Lab: **Paul Miller**

**C**an you believe it? Naim Audio is now 40 years old – but no, it hasn't gone out and bought a Porsche or got a new girlfriend. Rather, it has revamped its popular range of Nait integrated amplifiers, one which has provided the company with a great many happy customers to date.

The original Nait surfaced in 1983, arguably a leftfield design from a (then) quirky company. It was rated at fewer watts than your average car sidelamp bulb, had a bizarre balance control that only worked on one channel and ran DIN sockets right through. Still, it sounded great in its own special way – somehow distilling everything that was good about 'the Naim sound' into one, half-pint sized container. It was energetic, feisty and fun – what it lacked in refinement it more than made up for in sheer brio and *joie de vivre*.

## FOLLOWING A PATTERN

That first Nait arrived when Naim had barely reached double figures – it was just ten summers young. Now though, in partnership with Focal of France, this latest generation of Nait sees the company in an altogether more serious place. You couldn't sell an amp like the Nait 1 these days: the market just wouldn't have it. The latest Nait's have to be more things to more men, and so they are...

The Supernait 2 is – as its name obligingly reveals – a souped-up version of Naim's basic integrated, and joins the Nait 5si and Nait XS 2 at the company's 40th birthday table. All follow the same tried and trusted formula, which is a relatively conventional Class AB amplifier circuit with short signal paths, laid out on high quality printed circuit boards that are properly earthed and populated with equally high quality components. Last but not least, there's a chunky power supply section featuring a large toroidal transformer.

**RIGHT:** The interior of the Supernait 2 is dominated by a huge transformer and multiple PSUs. The pairs of output transistors use Naim's heavy alloy casework for heatsinking

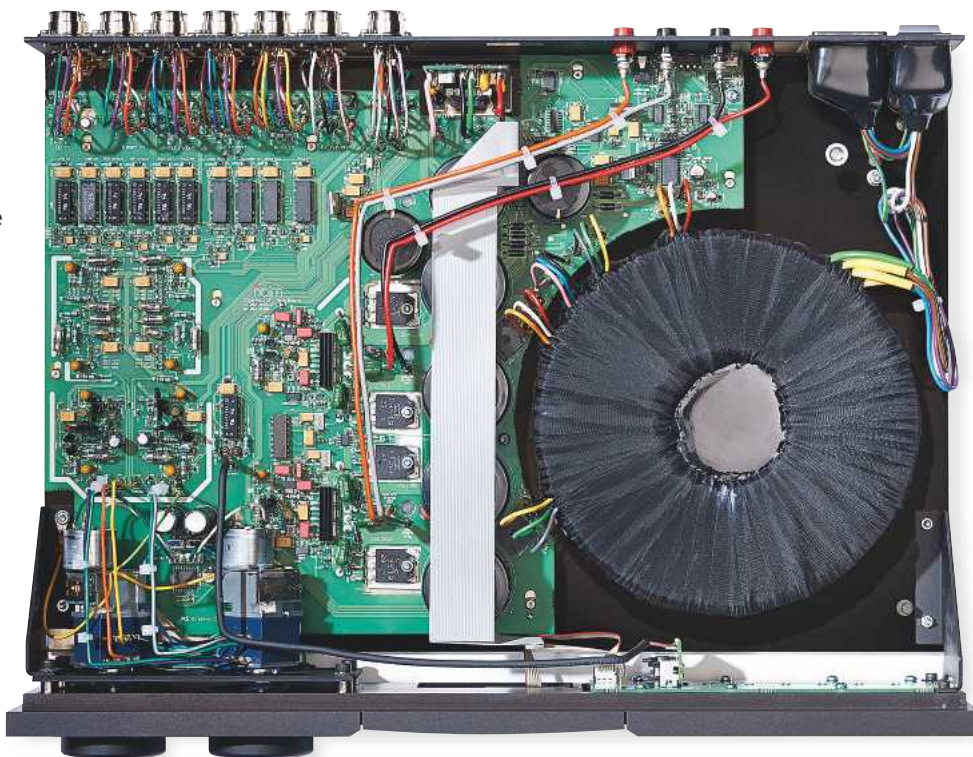
Interestingly though, whereas Naim's original Supernait sported digital inputs, this new version doesn't. A few years ago, this would have been seen as the only way to go for an amp, but now we are seeing ever more streaming products festooned with the things, plus the recent phoenix-like re-ascent of the DAC into everyone's lives. So Naim felt it would leave all the number-crunching to other devices and focus on perfecting its top analogue-only integrated amplifier sonically.

This can only be a good thing, as proportionally more of the budget is available for the amplifier itself, and Naim says that removing the digital section also allows the power supplies to be further optimised for the analogue stages.

The company continues to claim 80W/channel for the Supernait 2, but says the new model has greater dynamic capability thanks to its larger toroidal transformer with seven separate windings [see Lab

Report, p65], and the power supply for the preamp stage now uses Naim's Discrete Regulator technology. Components have been upgraded in certain areas: such as the power amp stage, where small signal capacitors have been changed to high quality film types; and the printed circuit-board layout and wiring loom have been improved, it is claimed. In recent years, the company has done a lot of work investigating the ingress of vibration into the case via the input socketry, and as a result all the inputs are individually decoupled to reduce microphony.

Digital inputs may come and go, but big Naim amplifiers such as this will always have a rear-panel-mounted upgrade socket for the company's range of power supplies – from the £1195 HiCap to the £3795 SuperCap (both with the new Naim Discrete Regulation). Running either effectively adds two larger, stiffer, regulated supplies to the preamplifier





section of the Supernait 2. No power supply upgrade was supplied with the review sample, but experience teaches me that they bring effective performance improvements – albeit at a price.

Visually, although it keeps its predecessor's external dimensions, the new big integrated is a sleeker affair than its somewhat cluttered looking predecessor. It retains the company's trademark black powder-coated aluminium chassis and brushed, anodised fascia, but loses a bank of buttons and the iDevice-friendly 3.5mm socketry. In its place are six input selector buttons and one mute, plus a single ¼in headphone socket (fed from a new Class A headphone amplifier). As ever, it's a lovely thing to use – with a crisp action to the backlit buttons and smooth volume and balance controls that befit its near £3000 price tag. At 13.4kg it feels a very solid product, and is extremely well assembled, as you'd expect from the Salisbury company. However, the plasticky supplied remote control rather lets the side down – Naim could do better here.

### QUINTESSENTIALLY NAIM

It is interesting to see a good amplifier denuded of convenience features, as this has potential sonic benefits irrespective of any other tweaks made elsewhere. So the challenge for the new Supernait was to

comprehensively outclass its DAC-equipped predecessor: anything less would be a disappointment. I'm happy to report that this is precisely what has transpired – this new, trimmer design takes the original's big, gutsy sound and adds a touch more finesse, insight and dimensionality.

First and foremost, the new integrated has a quintessentially 'Naim sound'. The very attributes that made the original Nait are all here, albeit writ much larger; that means it has a grippy and propulsive nature that gets right into the music's very core. Feed it some classic rock music such as Simple Minds' 'Someone, Somewhere In Summertime' [from *New Gold Dream*, Virgin VIN 45064], and you know you're listening to a Naim.

This is a wonderfully dreamy, ethereal track, underpinned by Mel Gaynor's metronomic, deadpan drum work. Whereas some other large integrations home in on those lovely washes of analogue synthesiser, the Naim goes straight for the drums, like a cat heading for the cream. It frames the whole song around the counterpoint between the bass drum, snares, hi-hats and the bass guitar line. It's as if the vocals and synths are

'It takes the original's big, gutsy sound and adds a touch more finesse'

**ABOVE:** The Supernait 2 gets a cleaner looking fascia with just a single row of buttons and full size headphone socket. The large volume and balance controls are retained

almost an afterthought, so 'down' is the Supernait 2 with the rhythm section...

The next thing to hit you is the dynamic contrast; the song starts quietly and builds via momentary crescendos on the chorus, before dropping down again for the verses and middle eight. The Naim captures this light and shade brilliantly – as the music gets louder this amplifier serves up more and more grunt, never losing the visceral impact of the strongly-struck snares or

the grumbling bass guitar. It's clear to hear that the Supernait 2 is built for this sort of music: it can flex its not inconsiderable muscles and show a complete mastery of its brief.

If you auditioned it only with music like this, frankly you'd wonder if a better integrated had ever been invented. You can run the gamut of your pop and rock tunes – from Grace Jones' classic 1980s *Slave To The Rhythm* [ZTT Grace 1 LP] and The Waterboys' 'Glastonbury Song' [Geffen GFST 49] to Elliot Smith's *Figure 8* [DreamWorks Records 450 225-2 04], and the Naim keeps on keeping on, showing its consistent ability to thump out pacy music with consummate ease.

Herbie Hancock's 'I Have A Dream' (from *The Prisoner*, Blue Note BST 84321), a lovely, meandering slice of late-'60s jazz/soul fusion, sounds great too, because the Supernait 2 is able to do precisely what it's been built for – to go in and find the rhythm, and punch it out so explicitly that you're left in no doubt about what the drummer and bass player are up to. The track duly gets a very energetic rendition, with pin-sharp rhythms and a wonderful sense of dynamic climaxes from the lead flute. The Naim shows itself as a finely

## COMPACT NAIMS

The first Naim Nait was launched in 1983, and was aimed at purists looking for a half-size integrated amplifier able to compete with smaller separate pre/power combos. A collaboration between the Naim production team and company founder Julian Vereker, it used many parts found in Naim's pricier separate amps, but with low cost controls and a smaller toroidal transformer. An essay in minimalism, its balance control was a crude trim pot that worked on just one channel and gave 3dB of attenuation, and there were precious few inputs. Naim never published power output figures for the first Nait, Naim defiantly remarking that 'we think power output to measure musical performance is bull\*\*\*\*'. The new Nait 2 (1988) had a useful power boost and a proper balance control. It also introduced the then new illuminated Naim logo and later the 'olive' corporate colour scheme. The Nait 3 (1993) was the first Nait without a phono stage but with a full-size case and more power – a far more mainstream sounding device.

**\*Offer ends  
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## INTEGRATED AMPLIFIER



**ABOVE:** Phono sockets for five line level inputs, repeated via Naim's beloved DINs, plus an additional Aux 2 in and 4mm speaker outputs. There are also connections for a Naim external power supply, a USB port for firmware updates and remote socket

etched machine with lots of low level detail, and it gives a lovely tactile double-bass sound that's supple but satisfyingly strong. However loudly you choose to play the piece, this amplifier simply serves up more and more urge with no sense of breathlessness. I also liked the vibrant treble sound – Naim amps seem to give hi-hat cymbals a real crispness and tactility that's lost on many others, which can often sound too fluffy.

### THE OTHER SIDE OF THINGS

Still, *The Prisoner* shows up the other side to the Supernait too. The recording is beautifully natural, yet the Naim seems to lend it a slightly 'processed' feel. There's nothing terribly wrong here, it's just that tonally the amp doesn't quite have a wide enough palette to paint from, and it's as if someone has turned the colour strength down a little.

This was also a trait the original Nait displayed all those years ago – and it was admittedly worse then – but just as this latest amp shows its DNA with rhythms and dynamics, so it betrays the breed's lack of absolute transparency. The Supernait 2 is one of those products that goes for an 'authored' sound rather than an accurate one. This is often extremely enjoyable, but it is nonetheless not entirely authentic.

This characteristic is both good and bad with classical, as the famous first movement of Beethoven's Fifth Symphony with the Boston SO showed [RCA Red Seal 82876-67898 2]. On one hand, it gives an urgency to the sound of the orchestra which is often lost by lesser amps. At full tilt, the Boston orchestra is a redoubtable experience, and the Supernait 2 captures this brilliantly. It comes over as massively powerful, almost explosive in the way it shakes your listening room, seemingly untroubled by the need to serve up vast amounts of power. Cellos have

a deep, menacing quality thanks to the visceral bass, and violins have a grippingly wiry sound that cuts through the air to give a very 'live' feel to the proceedings.

The Supernait 2 displays a good deal of depth here too – way better than the smaller Nait's – giving a satisfyingly spacious sound with very clear, well delineated image placement. But still the amplifier lacks that last degree of naturalness, of transparency – and this lends the recorded acoustic a somewhat artificial quality. It's never quite possible to break away from the sense that you're listening to a Naim amplifier, for better and for worse.

This, of course, is not news. Fans of the brand know all about the aforementioned 'Naim sound' and love it, whereas others find it a little too all-pervasive. Actually, I think the Supernait 2 is sonically more universally appealing than its predecessor, as it's just a *smidgen* more neutral and open, but still it's very much a case of prospective buyers auditioning this amplifier across a wide variety of music, and seeing if it appeals. At the price, it's a really strong performer in many ways – the question is whether those ways suit you. ☺

### HI-FI NEWS VERDICT

If you like the Naim sound, the new Supernait 2 can only be a good thing – because it gives you more of it, without all the clutter of separate pre and power amps. It is a meaningful improvement on the original, and all the better for not trying to be all things to all people. However, the sound still isn't for everyone, which is why a dealer demonstration comes as highly recommended as this fine amplifier itself does.

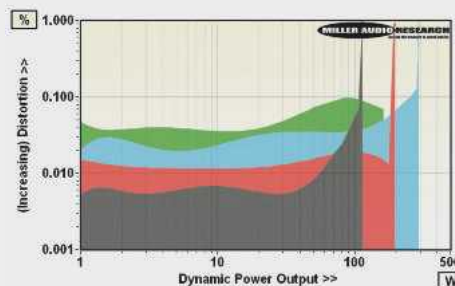
Sound Quality: 80%



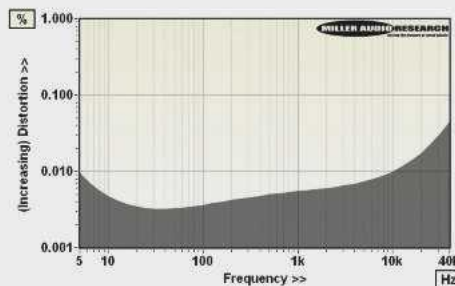
### NAIM SUPERNAIT 2

While audio product evolution typically encompasses increased functionality and complexity (such as modern CD players with digital *inputs*), Naim's Supernait has been improved with its core analogue performance in mind. All its original digital input and processing has been stripped away and the Class A/B amplifier fettle with superior components. The measured improvements of this Supernait 2 over the original Supernait [HFN Oct '07] are various. Power output has increased from 2x90W/8ohm to 2x95W/8ohm, despite the paper specification remaining at 2x80W, while its dynamic output has lifted from 104W, 177W, 257W and 80W into 8, 4, 2 and 1ohm loads to 115W, 195W, 295W and 160W (protected) respectively in the Supernait 2 [see Graph 1, below].

Sensibly, the overall gain has also been reduced from 49dB to 44.7dB here while the A-wtd S/N has improved from a relatively weak 74dB to 78dB (re. 0dBW) though, once again, the noise is 'white' rather than hum. The response and output impedance are broadly unchanged, the latter characteristically high for the marque at 0.22ohm while the former stretches from 4Hz-35kHz (-3dB points into 8ohm) and rolling away to -22dB/100kHz. Distortion, certainly at the frequency extremes, is barely unchanged at 0.003% (20Hz) and 0.02% (20kHz) but the Supernait 2 offers very slightly less THD through the midrange [see Graph 2, below]. Versus power, distortion increases very gently from 0.006% at 10W/8ohm to 0.011% at the rated 80W/8ohm. Stereo separation is good to >70dB from 20Hz-20kHz. Readers may view an in-depth QC Suite report for Naim's Supernait 2 integrated amplifier by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Dynamic power versus distortion into 8ohm (black), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads. Protection activates at 12.6A



**ABOVE:** Distortion versus extended frequency from 5Hz-40kHz at 10W/8ohm. Very similar to Supernait

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	95W / 160W
Dynamic power (<1% THD, 8/4/2/1ohm)	115W / 195W / 295W / 160W
Output impedance (20Hz-20kHz)	0.22-0.23ohm
Frequency response (20Hz-100kHz)	-0.1dB to -21.9dB
Input sensitivity (for 0dBW/80W)	17mV / 150mV
A-wtd S/N ratio (re. 0dBW/80W)	78.0dB / 97.0dB
Distortion (20Hz-20kHz re. 10W/8ohm)	0.0029-0.018%
Power consumption (Idle/Rated o/p)	13W/265W
Dimensions (WHD) / Weight	432x87x314mm / 13.4kg

# Stax SRS-4170 Signature

Rarer even than electrostatic speakers, electrostatic headphones are synonymous with Stax, who have been busy making material improvements to the classic Lambda Review & Lab: **Keith Howard**

Half a century ago the electrostatic transducer – in constant charge, push-pull form – was being talked up as the logical successor to the moving-coil drive unit. But the past five decades have been less than kind to the visionaries who proclaimed this utopian future for thin plastic diaphragms driven over their whole surface. Electrostatic loudspeakers remain quirky rather than mainstream, and the electrostatic headphone has fared even worse. AKG, Beyerdynamic, Koss, Jecklin, Micro Seiki and Sennheiser, to name the obvious examples, have all offered 'proper' electrostatic headphones at some time, while companies such as Audio-Technica, Rotel and Sony have sold lesser electret models that required no energiser. Today these companies are either no longer with us or no longer offer an electrostatic.

## BALANCED CIRCUITRY

Only one company has made electrostatic headphones, electrostatic loudspeakers and electrostatic pick-up cartridges, and remained true to the electrostatic principle throughout its history: Stax Ltd of Japan. It may not make speakers or cartridges any more, but it remains as synonymous with the electrostatic headphone – or, as it prefers to call them, 'earspeakers' – as it has been for much of the 53 years it has been selling them. Think electrostatic headphone and you think Stax!

Well out of my price range when I was a budding audiophile, electrostatic headphones have largely remained off my radar since. In fact apart from a brief and beguiling listen to a pair of Jecklin Float Elektrostats around 20 years ago and a review of the Stax Lambda Nova Signature for *Gramophone* in 1998, the electrostatic headphone experience has passed me by. Or it had until the Stax SRS-4170 system – comprising the SR-407 earspeaker

and SRM-006tS valve energiser – arrived for this review.

Part of the latest SR-Lambda series, the SR-407 has the familiar Lambda look about it but incorporates an important new development: a revised diaphragm material about which Stax is prepared to say little except that it is significantly thinner than its predecessor yet also more robust. In response to my request for further information, Stax declined to identify the material or its thickness but confirmed that it is a so-called super engineering plastic with high heat and chemical resistance and a low coefficient of thermal expansion. This suggests that it may be PEEK (polyether ether ketone), a robust semicrystalline thermoplastic, available in thin films, which boasts a melting point of around 340°C. By contrast, boPET (biaxially-oriented polyethylene terephthalate) polyester film, commonly referred to by the proprietary name Mylar – the 'traditional' material for such diaphragms – melts at around 260°C.

Stax says it has also made mechanical changes to the capsule design. Each electrostatic panel is now screwed into

the open-back, glassfibre reinforced resin moulding that supports it, which is claimed to improve the bass performance. Mildly wedge-shaped in plan view, the capsules angle the panels slightly relative to the ears but, intriguingly, in the opposite direction to that we've increasingly seen adopted in moving-coil competitors.

Because of the high polarising voltage required on the diaphragm and the high signal voltages necessary on the static plates, electrostatic 'phones have to be used with an

energiser. In electrostatic loudspeakers we've become habituated to the push-pull signal voltage being derived via a centre-tapped step-up transformer but valves lend themselves to direct drive of electrostatic panels, deleting the transformer from the signal path [see boxout, opposite].

Hence the SRM-006tS features a valve output stage and, given the balanced nature of the drive signal, uses balanced circuitry throughout to balanced inputs on XLR. Relatively little domestic hi-fi equipment offers balanced outputs to match, so unbalanced inputs on phono sockets are provided too, although

'The SR-407 is understated, reserved, and never gauche'

**RIGHT:** Neat internal layout is mostly on a single PCB, including the mains transformer. Russian 6CG7 double triodes deliver the high output signal voltages required



**RIGHT:** Lacking magnets, the capsules are light and comfortable to wear. Intriguingly, the electrostatic panels are angled relative to the ear – but not as you'd expect



– notwithstanding uncertainties as to the accuracy of this correction in reflecting a headphone's perceived tonal balance – you will see good reasons for this Stax sounding unlike any headphone I've previously experienced. The best word I can find to describe the experience is 'cerebral': this headphone is for people who prize cool refinement above hot-blooded emotion.

**A LACK OF BASS WEIGHT**

The 407's ratcheting back of presence band energy has something to do with this. If the Grado PS1000 is at one end of the scale – in your face but magically revealing on the right source material – the 407 is at the opposite extreme: understated, reserved, never gauche. I didn't still have the PS1000 to hand when listening to the Stax but it wasn't necessary for the contrast was obvious. Where, for instance, the PS1000 – all leading edges – had delighted me by unearthing previously unheard detail in the 24/96 download of Wings' *Country Dreamer*, the Stax rendering of the same track was altogether less brash. And by the same token, less informative and less exciting.

Also manifest from this track was the 407's lack of bass extension – another obvious feature of its frequency response. It just didn't have the weight I'm used to hearing from McCartney's bass guitar, and this characteristic was confirmed when I tried the opening double-bass solo of Brian Bromberg's 'The Saga Of Harrison Crabfeathers' [ripped from A440 Records 4001] – the lowest notes, while not reaching down into the lowest audible octave – were less than fully expressed.

As you'd anticipate from this, hard-driving music is not the 407's forte. Despite a finely resolved drum sound it flunked the energy of Gwyneth Herbert's 'Annie's Yellow Bag' [ripped from Naim Label naimcd135], and for all its clean vocal sound, Latin Quarter's scathing 'America For Beginners' ('even the ↻

apparently there is a small sacrifice in sound quality if these are used (as I had to). In order to keep the balanced circuit configuration throughout, the SRM-006tS's volume control is a four-gang design.

**A CEREBRAL EXPERIENCE**

Some things haven't changed since I last heard a pair of Stax headphones those 15 years ago. Bereft of magnets the headset itself is quite light (Stax says 340g without cable), the clamping pressure is modest, and the circumaural earpads, made of a breathable artificial leather, are large enough not to incommode most pinnae.

But I'm not at all sure that the sound is the same as it was. I noted of the old Nova Signature that its tonal balance was 'a touch on the lean side of neutral' and that 'a slightly more muscular delivery would be welcome – but not if it were to compromise the remarkable hear-through resolution'. These are not phrases that

sprang to mind as I listened to the SR-407. Audiophiles commonly don't like being told that frequency response accounts for what they'd prefer to attribute to more subtle design factors, but there's no gainsaying its fundamental influence on what we hear.

Take a look at the diffuse-field corrected response of the 407 in our Lab Report and

**DIRECT DRIVE**

When The Acoustical Manufacturing Company, better known as Quad, began selling its famous Electrostatic Loudspeaker in 1957 it was the era of the valve amplifier. So there was a faintly ridiculous situation – little remarked at the time or since – where the power amp (including Quad's own Quad II) incorporated an output transformer to step down the signal voltage, while the ELS had an input transformer to step it back up again. This crazy duplication still persists today where valve amplification is used to drive electrostatic speakers. In the world of electrostatic headphones, by contrast, it was realised that direct connection of a valve output stage made a lot more sense – and it could even be a DIY project. In 1968 articles by J P Wilson appeared in *Wireless World* describing a home-made electrostatic headphone with direct-coupled valve amplifier.

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# LAB REPORT

## STAX SRS-4170

The conventional notion of sensitivity doesn't apply to an electrostatic headphone because of the need for an energiser to provide both the DC polarisation voltage for the diaphragm and the high-voltage, push-pull signals for the fixed plates mounted on either side of it. But, of course, the energiser and headphone combined do have an input sensitivity that determines how loud the headphone can be played with a given signal source. With the SRM-006tS energiser and SR-407 earspeaker the maximum output attainable for an input of 1Vrms at 1kHz is 130dB, so there is ample gain available for use direct from, say, the analogue output of a CD or universal disc player, or from the tape output of a preamplifier. Note that this figure was established using a much lower input voltage than 1V, and no testing was conducted to determine whether energiser or headset are truly capable of operating at such an extreme output level.

Some years ago I suggested that reflections from external objects might pose a problem when measuring open-back electrostatic headphones, requiring them to be tested rather like loudspeakers, as far as possible away from adjacent walls, floor and ceiling. This turned out not to be an issue with the SR-407 – I was able to use the artificial ear as normal, on the floor and close to the measurement computer. The results of the frequency response measurements are shown in the two graphs below – averaged raw left and right capsule responses [Graph 1], with averaged third-octave raw, free-field corrected and diffuse-field corrected traces [Graph 2].

The results show a premature roll-off in bass output (–6dB re. 200Hz at a high 44Hz) below a peak at around 80Hz, plus a shortfall in presence band and treble output above 2kHz in the diffuse-field corrected trace. The capsule matching error of ±8.7dB principally reflects different acoustical interactions with the left and right artificial pinnae, which are not exact mirror-images of one another. KH



**ABOVE:** Flat cable carries DC polarising voltage for the diaphragms and the push-pull signals for the plates

swinglers are swinging right') didn't have the requisite propulsive drive.

### CAN BE REVELATORY

No, if you want to hear this Stax combination at its best – and that best can occasionally be revelatory – you need to respect its nature in your choice of music.

It worked well with the cool jazz sound of Fred Simon's 'Poetspeak' [Naim Label 24/96 download], despite the bass extension issue already mentioned, and particularly well on a selection of vocal tracks as varied as the Tallis Scholars' marvellously atmospheric recording of Allegri's *Miserere* [Gimell Records 24/96 download], tenor James Griffett caressing the heartrending English folk song 'The Turtle Dove' [ripped from Regis RRC1112] and

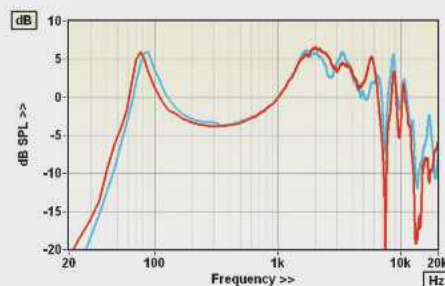
Todd Rundgren multi-tracking his voice to harmonise with himself in the poignantly self-loathing 'For Lack Of Honest Work' [ripped from Rhino R2 75761].

The atmosphere of the large recording venues was well captured in the first two, and there was a notable lack of sibilant emphasis, something that can be a problem with the Griffett recording in particular. Although it didn't contribute to the enjoyment of the latter the Stax also brought unusual transparency to the print-through that afflicts it. In the Rundgren case the acoustic is all made-in-the-studio artificial but again it was uncommonly well resolved. ☺

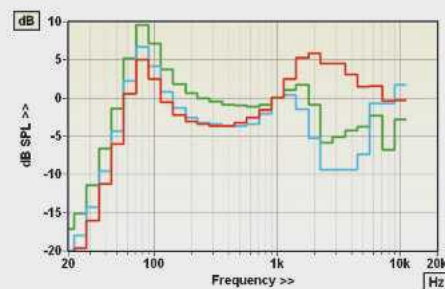
### HI-FI NEWS VERDICT

It's an easy cop-out for any hi-fi reviewer to recommend that you audition a product before you buy, and of course it is always good advice. But with some idiosyncratic examples, far removed from the mainstream, it really is essential – and this Stax combination falls into that category. It sounds so different from competing moving-coil designs that it will either delight you or hie you hence.

Sound Quality: 75%



**ABOVE:** The averaged left and right capsule responses show a loss in low bass output below a peak at around 80Hz



**ABOVE:** Third-octave freq. resp. (red = uncorrected; cyan = FF corrected; green = DF corrected)

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL at 1kHz for 1Vrms input)	130.1dB
Capsule matching (40Hz-10kHz)	±8.7dB
LF extension (–6dB ref. 200Hz)	44Hz
Distortion 100Hz/1kHz (for 90dB SPL)	<0.1% / <0.1%
Weight (inc cable and connector)	505g

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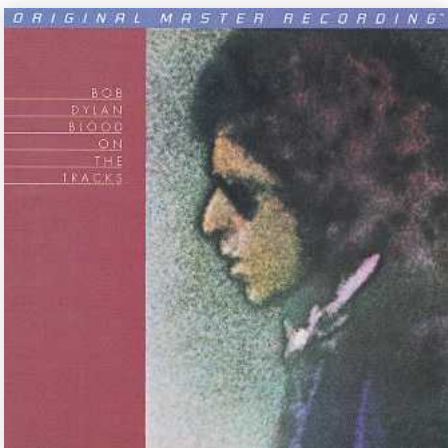
# Vinyl Frontier

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

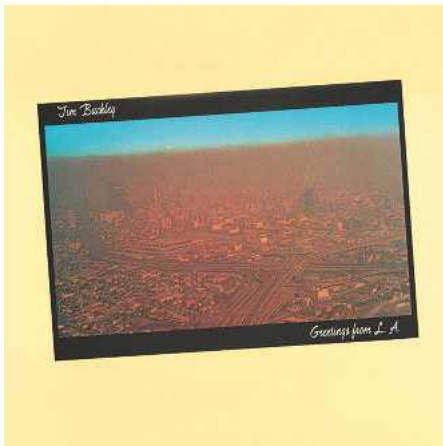
This month **Chris Heard** tucks into rootsy stew, gets a blast from Chicago, listens to some New York comedy and enjoys two new releases on his fave medium

Received wisdom is that *Blood On The Tracks*, Bob Dylan's 1975 pained reflection on love gone wrong, is second in breadth and scope only to his triumphant clutch of mid-'60s LPs. In reality though it's a one-off, ten years and a world away from the social and political powder-kegs that were going off around the making of *Bringing It All Back Home*, or the intense creative overdrive that nurtured *Highway 61 Revisited* and the speed-fuelled *Blonde On Blonde*. *Blood On The Tracks* – brilliantly titled, with an impressionistic portrait of Dylan in shades on its crimson blood-red cover – is widely believed to have marked Dylan's break-up with his wife Sara (though Dylan later dismissed this reading, saying it was inspired by Chekhov short stories).

At any rate, it is made up in part of some of the most affecting songs ever recorded about affairs of the heart. The use of little more than softly strummed, layered guitars and harmonica with low-key organ riffs and brush-stick percussion mirror the sensitivity of Bob's writing and the forlorn feel of the songs, making this a most cathartic listening experience. There are some upbeat moments – the jaunty 'Meet Me In The Morning' and the rollicking story-song 'Lily, Rosemary And The Jack Of Hearts' – but two songs in particular stand out even in this esteemed company: 'Shelter From The Storm', an impassioned howl of pain and regret; and 'Idiot Wind', here a bitterly powerful treatise on a wounded heart (and in great contrast to earlier bootlegs which reveal a warmth of tone unrecognisable



Dylan's *Blood On The Tracks* is now a Mobile Fidelity 180g vinyl title



Tim Buckley's *Greetings From LA* comes from his 'sex funk' period!

on the finished version). Like many a Dylan long-player, a fair amount of procrastination and confusion presaged its release, with the album being scrapped a few weeks before it was due for delivery as Bob hurriedly re-recorded some tracks with a new band in the Midwest.

Dylan had been seeking a more acoustic sound after the rock-band setting of 1974's *Planet Waves*, and he employed Eric Weissberg's folk group Deliverance for the sessions (although ultimately only bassist Tony Brown appeared on the record). After playing the record to his brother David, he was persuaded that some of the tracks sounded too thin and bare, so he re-cut them a few days after Christmas with a band of Minneapolis musicians.

Audiophile-calibre reissues of *Blood On The Tracks* have been around since the mid-'90s, but the 2013 vintage one is on Mobile Fidelity, promising listeners a high-end performance befitting this beautifully-played suite of songs. [See also *HFN* Jun '13, p86.]

## GREETINGS FROM BUCKLEY

The legend of cult US singer-songwriter Tim Buckley has continued to grow following the career and untimely death of his son Jeff, whose demise mirrored his father's own premature end. Buckley senior died following a heroin overdose in 1975, aged 28 (Jeff perished, aged 30, in an accidental drowning in Memphis).

Tim Buckley's recorded material varied widely across his nine studio albums,

## CHRIS HEARD

Chris Heard is a music journalist and a vinyl fanatic. He runs an online record store, Classic LPs, specialising in vinyl reissues and new releases, and a physical shop, Carnival Records, purveying 10,000-plus records amid the splendour of the Malvern Hills. Visit [www.classiclp.com](http://www.classiclp.com) and [www.carnivalrecords.co.uk](http://www.carnivalrecords.co.uk).



veering from the mid-1960s folk-rock stylings of his early career with Elektra, working alongside members of Frank Zappa's group, through avant-garde and free-form jazz, to funky rock in the early '70s. It was as part of the latter category that he released the album *Greetings From LA* in October 1972; it was one of Buckley's more accessible albums featuring just seven cuts and no shortage of suggestive lyrics on tracks such as 'Get On Top', 'Sweet Surrender' and 'Move With Me' (it's little surprise that this era became known as his 'sex-funk' period). *Greetings From LA* offers a relatively uncomplicated way into the work of this most enigmatic of artists.

The one constant during Buckley's erratic career (he never really made it in the traditional sense) was his near-operatic voice and its incredible range, which finds an unlikely home among the low-slung grooves of this album [Music On Vinyl, an 180g reissue].

## BLUES-ROCK BLAST

The self-titled 1965 debut album by Chicago's Paul Butterfield Blues Band [also Music On Vinyl] is among the most electrifying of its kind, a dizzying blues-rock blast from start to finish conjuring the raw live blues of Chicago's south side during the early part of the decade. In guitarist Mike Bloomfield, singer-harmonica player Butterfield had snared a rare talent: the decade's first real guitar hero (with Elvin Bishop making a fine back-up man on rhythm). Butterfield was something of a rarity himself in being a white man leading a blues group in the US. Throw in Howlin' Wolf's bassist Jerome Arnold and drummer Sam Lay, and you can imagine the splash the band made when Elektra's in-house producer Paul Rothchild took a plane from LA to watch them play in Chicago in 1964.

The album is a mix of blues-standards by the likes of Elmore James, Muddy Waters and Junior Parker ('Shake Your Moneymaker', 'Got My Mojo Working', 'Mystery Train') as well as songwriter Nick Gravenites' 'Born In Chicago' and some





➔ Listen to Matthew White 'a unique rootsy stew' on Domino

spirited fare from the pen of Bloomfield and associates. It's also noteworthy that the core of this band (minus Butterfield) backed Dylan at his controversial July 1965 show at Newport Folk Festival in which Bob went electric, shocking the hardcore folkie elements of his audience and changing the language of rock 'n' roll.

### CONTRASTED NEW RELEASES

While the vinyl revival of the last two or three years has been to some extent about deep catalogue releases, there is no shortage of exciting new material being pressed on vinyl. Two of the most engaging albums of 2013, in stark stylistic contrast to one another, are by the British post-punk foursome Savages and the US songwriter-producer Matthew E White. Savages, fresh from a well-received Glastonbury debut and a storming support-slot for Iggy Pop at the Royal Festival Hall, combine the cool arthouse posturing of a Velvet Underground or Sonic Youth with an ear for Siouxsie & The Banshees and early Cocteau Twins, and the studied black-clad aesthetic of the thin-cheekbone class of 1981.

Their debut album *Silence Yourself* is out on Matador. Meanwhile, Virginia-born Matthew E White's 2012 release *Big Inner* [Domino] has been a slow-burner, described by *Uncut* magazine as 'one of the great albums of modern Americana',



➔ New Yorker Andy Kaufman: hear his schtick on the Drag City label



although the alt-country tag doesn't really do it justice – think gospel and blue-eyed soul, too, as ingredients in White's unique rootsy stew.

Both records demonstrate in their own ways that high-grade vinyl remains every bit an integral part of the listening experience in our pro-download age.

### ROOTS CULTURE

A mouthwatering reggae reissue schedule has been unveiled by Universal, featuring some of the most notable LPs of the roots and classic-reggae era by acts including Burning Spear, Jah Lion, Toots & The Maytals, Black Uhuru, Aswad (brilliant in their early pre-pop incarnation), Junior Murvin and the great trombone session man Rico Rodriguez. There are more languid guitar-licks and blissful bass-notes here than you can shake a herbal cigarette at, but my choice would be *War Ina Babylon* by Max Romeo and the Upsetters, first issued by Island Records in 1976.

The LP was among a batch of Lee 'Scratch' Perry productions of this period, which more or less defined the era of Rastafarian-inspired spirituality as performed by the finest Jamaican musicians. The politically-themed title track and single 'Chase The Devil' represent a high water mark of mid-1970s roots culture, mellow and yet strident and defiant, with Perry's backing band The

➔ The Butterfield Blues Band's 1965 debut album is reissued by Music on Vinyl – it's 'dizzying from start to finish'

Upsetters playing loose and free, imbued with the ghost of Jah himself.

### PRANKSTER ON TAPE

Spoken word and comedy are perhaps under-represented in these pages, so how about this: the first ever vinyl long-player to document the work of Andy Kaufman, the legendary New York performance artist known for his routines on *Saturday Night Live* – and as the foreign taxi driver Latka in the '70s sitcom *Taxi*. Although Kaufman (subject of the REM song 'Man On The Moon') disliked the term 'comedian', and thought of himself more broadly as an entertainer, he was well-known for his elaborate hoaxes and Dada-ist pranks.

Some of these are collected on *Andy And His Grandmother* [Drag City], an album skimmed from more than 80 hours of micro-cassettes recorded between 1977 and 1979. Kaufman's schtick was to involve everyone from close associates to total strangers in put-ons, falsehoods and provocations, pushing people to the limits of their logic and beliefs, like a psychedelic *Candid Camera* or a surrealistic *You've Been Framed*. All of it was captured on tape, in the name of art, and now you can hear it for the first time. ☺

'Dylan just said he was inspired by Chekhov short stories'

# Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

## Warren Zevon: *Excitable Boy*

While best known for his late '70s novelty hit, a witty yet twisted lyricism stood him apart. **Steve Sutherland** on the 180g reissue of Warren Zevon's third studio LP

I swear I'm not on acid but I am, God's truth, sitting next to an alligator. Well, to be strictly accurate, I was sitting next to an alligator. I'm now standing. So is he.

He isn't really an alligator. He's a bloke dressed as an alligator. Or at least he's wearing a plastic alligator head. The rest of him's suited and booted. And up to five minutes ago, when he pulled the head from a plastic bag under his seat, rammed it on, stood up and started howling, he was David, a solicitor from Romford, who'd come straight to the gig from work with his mate Shaun, also a brief, but now transformed by means of a rubbery mask, into something vaguely resembling what I will come to know years later as Old Gregg off *The Mighty Boosh*.

Did I mention that it's Halloween? Well, it is and we're at Wembley Arena, it's 1990 and we're witnessing The Grateful Dead encore with a song that Dave, Shaun and all the other newly zombie-fied Deadheads

around me seem to know mighty well. Well enough, anyway, to howl along like a pack of coyotes serenading the moon whenever Jerry Garcia croaks into the chorus.

### LUNGS RIPPED OUT

I'm ashamed to say I'm not familiar with the particular ditty that's instigating all their baying but I howl along regardless and try to catch the odd phrase – someone called Jim getting his lungs ripped out, the actor Lon Chaney walking with the queen, something about Trader Vics, natty haircuts and running amok in Kent – enough to be enlightened the next day by Allan Jones, my editor at *Melody Maker*, a goodly man exasperated by my ignorance, that I must have been listening to an appropriately-timed rendition of a song called

### STEVE SUTHERLAND

Steve edited NME from 1992-2000, the Britpop years, launching NME.com and reviving the NME Awards. Previously he was Assistant Editor on *Melody Maker*. Among his many adventures he has been physically threatened by Axl Rose, hung out awhile with Jerry Garcia and had a drink or two with Keith Richards...



'Werewolves Of London' by some American bloke called Warren Zevon.

The name rang a bell. I knew he was part of the Asylum stable, a member of the singer/songwriter posse rounded up by David Geffen around Laurel Canyon in the mid-1970s to make big bucks out of pretty young dudes play-acting the gypsy cowboy. Buddies with The Eagles, a bit of a protégé of Jackson Browne but not as rich or famous as either of them. That's about as much as I knew. Allan, taking pity, made me a tape and that's what we're here to talk about.

The album he taped was called *Excitable Boy*, was originally released in 1978 and was, I subsequently learned, Zevon's third long-playing attempt to break into the bigtime. And what a revelation. Far from being populated by cocaine outlaws sagebrush serenading their senioritas under boulder skies, this was truly mad stuff – dark, psychotic and extremely funny.

Turns out Zevon was a witty cove, dangerous around firearms, awful around liquor, worse than most around drugs, riddled with insecurities, a complete liability, raging with jealousy at his compadres' successes and a damn sight too clever for his own good.

### MACHO BARITONE

Blonde, bespectacled, an LA scene hanger-on-er lately arrived from Chicago via bandleading for The Everley Brothers, he sang with a macho baritone and wrote songs like scary short screenplays teeming with freaks who may, or may not, have enjoyed a passing acquaintance with his own many demons. The theme song, for instance, is the movie *Carrie* role-reversed, a lad mutilating his classmates at the prom, the title being the way his jittery parents pass off his increasingly lethal psychosis.

Then there's 'Roland The Headless Thompson Gunner', a song Zevon co-wrote

'He wrote songs like scary short screenplays teeming with freaks'



Early Asylum Records promo shot of Zevon at the piano and the singer songwriter pictured in the late 1990s, just before the release of his tenth studio LP, *Life'll Kill Ya*

©ASYLUM RECORDS (DAVE PATRICK)



➔ Priced £24.99, the 180g re-release of *Excitable Boy* on Friday Music is available to order online from [www.classicips.co.uk](http://www.classicips.co.uk)

with a bartender he met in Spain about a fictitious Norwegian mercenary who plies his trade 'knee-deep in gore' expertly mowing soldiers down in the Congolese war until the CIA want him stopped, a job carried out by the treacherous Van Owen, a fellow mercenary who decapitates him only to be hunted down by his ex-comrade's ghost to a bar in Mombassa where he gets what's coming to him.

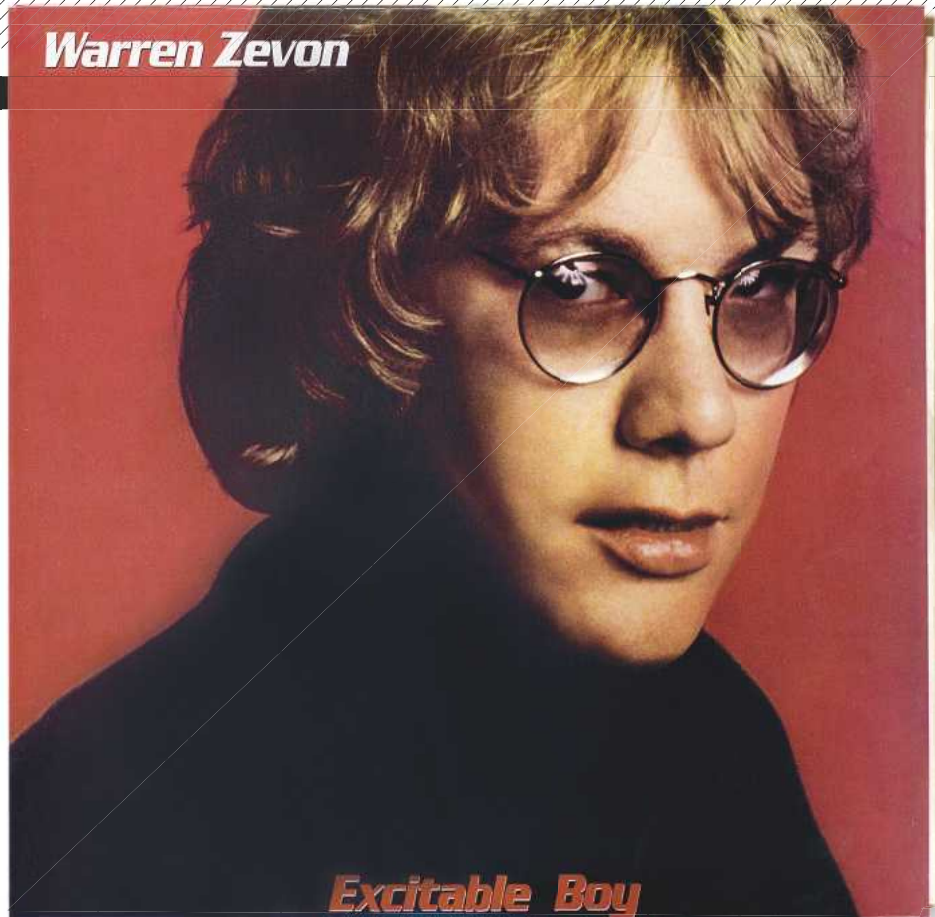
It's an act of revenge which, luckily for us and the rest of the song, does not satiate our headless friend Roland and he continues to 'wander through the night' communing with revolutionaries in Ireland, Palestine and Berkeley.

### UNSPEAKABLE FATE

So, as you can see, the aforementioned 'Werewolves' is in good company. 'Lawyers, Guns And Money' is another worthy bedfellow. A boisterous tune about an errant diplomat's son or some such with a weakness for gambling and the ladies, it's a telegram or the one phone call home to dad from some far-flung gaol where our raffish hero is about to undergo some unspeakable fate for crossing that line. 'I went home with a waitress,' it goes. 'The way I always do. How was I to know she was working for the Russians too?' Genius.

All the songs so far mentioned fair rollock along performed with finesse by a rhythm section hand-picked by producer Jackson Browne from the crack LA session elite. Russ Kunkel plays drums, Danny Kortchmar plays bass and Linda Ronstadt, who made Warren some dosh by taking his 'Poor Poor Pitiful Me' top ten in the States, lends some backing vocals.

It's consummate stuff, designed to slip effortlessly onto the playlists of the many AOR radio stations opening up across the nation. But Zevon's macabre way with a tale and his twisted protagonists troubled the programmers and the songs never got the exposure they were assembled for.



There are a few more conventional songs on the album: 'Johnny Strikes Up The Band' is a roistering rocker about nothing much in particular except playing roistering rock in a roistering band, 'Tenderness On The Block' is an ode to the sweet sexual blooming of youth, 'Accidentally Like A Martyr' is wonderfully self-pitying in the manner of his mentor Mr Browne while 'Nighttime In The Switching Yard' is a misguided stab at cashing in on disco.

But the rest I've mentioned are ace and so is 'Veracruz', Zevon's dramatisation of an obscure diplomatic spat between America and Mexico that led to a bloody US invasion of the port city back in 1914. It's a beautiful piano ballad perfectly drawn but hardly, it must be said, the good-times Huey Lewis & The News type stuff that mass America was chowing down on.

### HAMMER HORROR

And so to 'Werewolves', the song that, like the legendary Reynardine, slyly led us here. Apparently it was a pig of a song to nail in the studio and it wasn't until Fleetwood Mac's Mick Fleetwood and John McVie hove into view, allegedly even more drunk than Warren, that the loony Hammer Horror of a tune finally took its ghastly form. They nailed it beautifully on the second take but proceeded to insist on ploughing through about 60 more, such was the pandemonium in the studio.

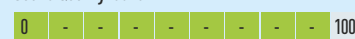
As it turned out, *Excitable Boy* was Zevon's most successful and highly regarded album for 25 years, until he made *The Wind* in 2003 with a little help from famous fans like Don Henley, Bruce Springsteen and Tom Petty.

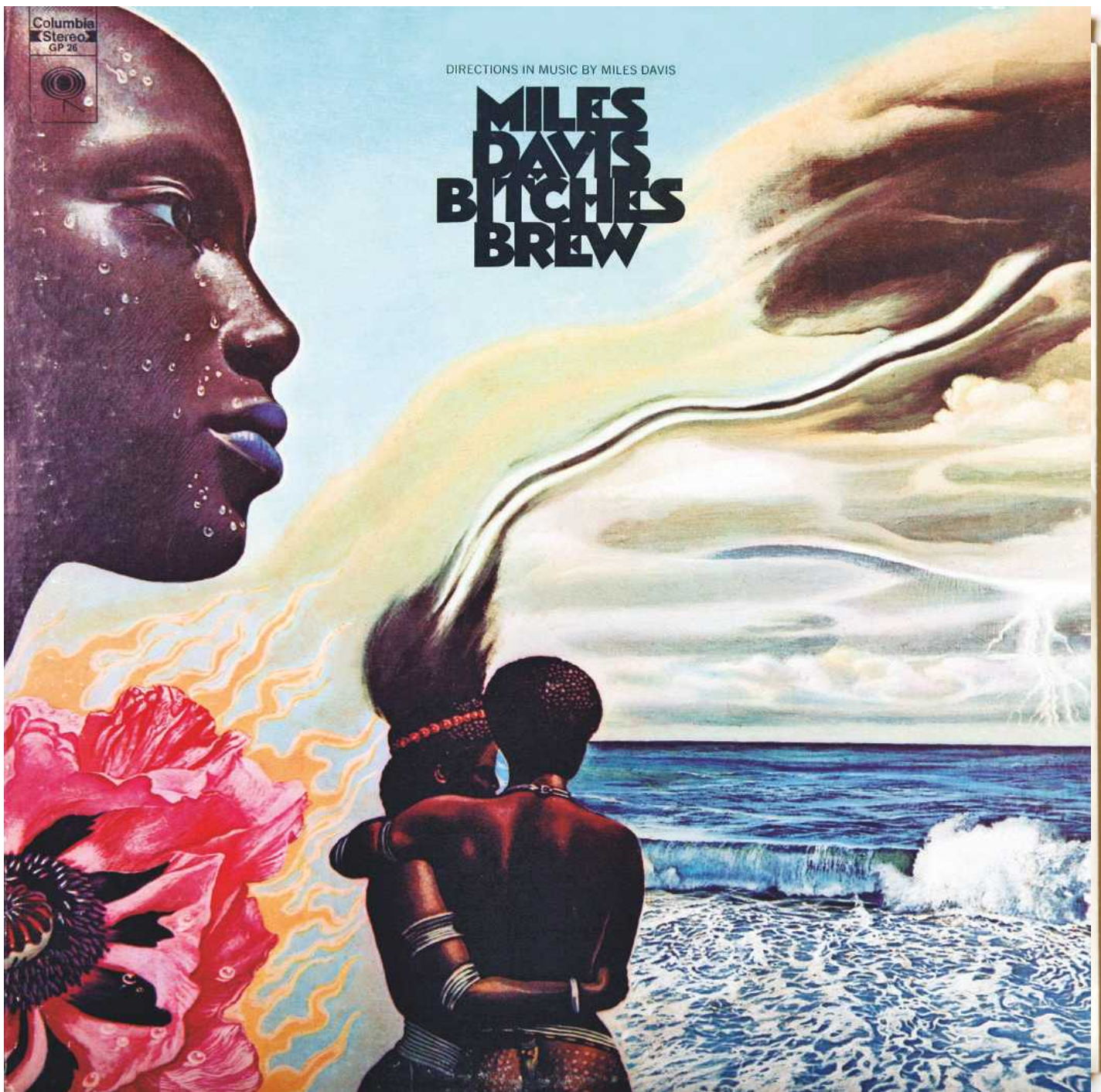
Zevon was dying of cancer and *The Wind* was his way of writing his own epitaph. He passed away two weeks after its release and it won him a posthumous Grammy for Best Contemporary Folk Album – a final black joke which Zevon doubtless would have much appreciated if he'd only been around for the laugh. ☹

### RE-RELEASE VERDICT

Originally produced by Jackson Browne and Waddy Wachtel, this 180g reissue sees the Elektra/Asylum tapes remastered at half speed by Joe Reagoso at Friday Music Studios and Ron McMaster at Capitol Mastering. The result is funky, earthy-sounding drums with piano and guitars that leap free of the mix. Meanwhile, Zevon's voice boasts whisper-in-your-ear presence. One of those rare LPs packed with tracks having hit potential, the LP features original graphics, lyrics and comes with a poly sleeve. HFN

Sound Quality: 85%





# Miles Davis *Bitches Brew*

Hitting the shops in 1970, *Bitches Brew* heralded the emergence of a new sound and style from the man regarded as jazz's single most creative individual. Yet, like so many a watershed album, it was derided and even feared on its release. Was it the death of jazz?

Words: **Chris Heard**

By the end of the 1960s, jazz was in the doldrums. Record sales had

fallen like a stone, and clubs were closing down or putting up their shutters until the weekends.

In an age of Sergeant Pepper, love-ins, psychedelic happenings and radical politics, jazz as an art-form had all but run out of steam as rock music became the currency, subject to critical focus and serious analysis.

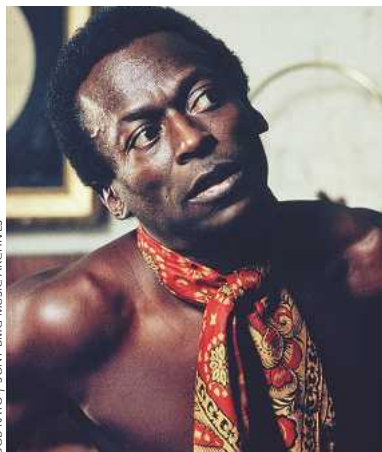
Then in August 1969, the day after Jimi Hendrix closed Woodstock with his legendary sunrise performance, Miles Davis went into Columbia's Studio B in New York City to start work on a new album. Boom! Modern jazz would never be the same again.

*Bitches Brew*, recorded over three days with Davis's core quintet and another seven key musicians, broke new ground in combining jazz with elements of rock in such a way that it created a hitherto unknown sound and style – one that would come to be known as 'fusion'.

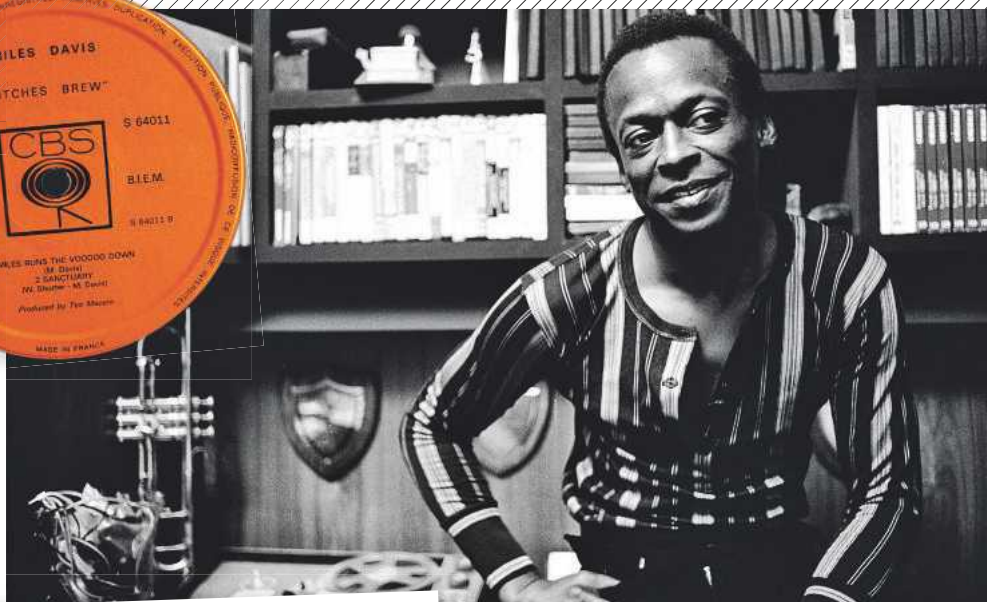
## FEAR AND LOATHING

By turns thrillingly exciting and densely impenetrable, the LP was hailed by many critics, but elsewhere it was greeted with derision and loathing as even some of Davis's long-standing supporters struggled with its forward-looking qualities.

Awarding the album a maximum four stars, the *Penguin Guide To Jazz* declared it to be 'one of the most remarkable creative statements of the last half-century, in any artistic form'. Then, in the next breath, it added: 'It is also profoundly flawed,



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DON HUNSTEIN



SANDY SPEISER



SANDY SPEISER

↑ B-side of the 1970 French LP release

➔ Davis pictured in 1970, the year the LP was released

➔ On stage in 1970 at The Cellar Door nightclub

➔ Davis with drummer Jack DeJohnette and bass player Dave Holland

➔ Davis in 1970 for a CBS press shot used to promote *The Cellar Door Sessions*

a gigantic torso of bursting noisy music that absolutely refuses to resolve itself under any recognised guise'.

In his original sleeve notes for the sprawling double LP, Davis's friend Ralph J Gleason, the former *Rolling Stone* editor who co-founded the Monterey Jazz Festival, was clearly enamoured with it, gushing: '[The world] will never be the same again now... how can it ever be the same?'

'It's all in there: the beauty, the terror and the love; the sheer humanity of life in this incredible electric world which is so full of distortion that it can be beautiful and frightening in the same instant.'

## HIP TO ROCK

Not everyone was so effusive. 'I saw it as part and parcel of the commercial crap that was beginning to choke [great jazz labels],' said *Jazz Journal's* Bob Rusch. 'I hear it "better" today because there is now so much music that is worse.'

*Bitches Brew* still sharply divides opinion in the jazz community, although its influence on rock and funk musicians is broadly recognised.

Picking up where Davis had left off on his previous album, *In A Silent Way*, *Bitches Brew* saw Miles continuing to experiment with electric instruments – notably the Fender Rhodes piano played by Chick Corea and Joe Zawinul, and

John McLaughlin's electric guitar.

Davis was hip to the rock scene that was at the heart of American counter-culture, so it was only natural that *Bitches Brew* was in part a product of this over-arching musical environment, informed to some extent by rock's conventions and aesthetics.

'The group was a group,' said US jazz musician and arranger Bob Belden. 'They travelled like a "rock" band; they dressed like "rock musicians" (although at a much ☺

'Even to this day, the LP sharply divides the jazz community'

## VINYL ICONS

### PRODUCTION NOTES

Harvey Brooks, a staff producer at Columbia whose office was situated next to that of *Bitches Brew* producer Teo Macero, recalled the album's demo sessions at the studios at 51st Street in the heart of Manhattan.

'We did have one rehearsal, probably a week before the session,' he said. 'Joe Zawinul would play some lines for us on the piano, and then we would watch Jack Johnson boxing films.'

Three days of studio time were reserved by Columbia, from August the 19th to the 21st, 1969, with the first session beginning at the unearthly (at least for jazz musicians) hour of 10am.

The players were called in at relatively short notice; Davis was seeking a spontaneous but focused performance, so that in most cases (there were some rehearsals prior to recording), the players had no idea what they were about to put down.

The album's multi-layered sound featured 'left and right' electric pianos; similar set-ups with two drum kits; and an upright bass blending with electric bass. Bennie Maupin's bass clarinet added a distinctive tone, while Don Alias and Juma Santos (aka Jim Riley) provided subtle percussion with shaker and congas. (Billy Cobham drummed on a later session in January 1970).

During post-production large amounts of editing were employed, while reverb chambers, echo effects and tape looping distinguished the electrifying opening cut 'Pharaoh's Dance' and the title track.

In the eye of this storm is Davis himself, aggressive and quick, explosively reaching the upper registers of his horn.



DON HUNSTEIN



SANDY SPEISER

more elegant level); they played loud; and the sound of the band was in tune with the times.'

Miles rejected traditional notions of jazz in favour of a looser improvisational style, using post-production edits to take his studio-craft in a different direction.

The band he assembled was made up of individuals who would go on to become some of the leading lights in the jazz-rock movement that *Bitches Brew* pioneered: among them, Corea, Zawinul, McLaughlin and drummer Lenny White.

### LONG TIME BREWING

Among Davis's chief inspirations was the Cannonball Adderley Quintet (featuring Joe Zawinul on piano and Fender Rhodes), which had been successfully mixing jazz, rock and soul since the 1967 album *74 Miles Away*.

The trumpeter was also impressed by the *Tony Williams*

*Lifetime*, whose debut recordings known as the 'Emergency' sessions (with guitarist John McLaughlin) were thought to be among the most daring in jazz. The group achieved a synergy between jazz and rock, and perfected a unique sound rooted in the blues-rock of Hendrix and Davis's own sonic experimentations.

'How could Miles not notice these things "brewing" from the tributaries of his initial source?' asked Belden, who oversaw a *Bitches Brew* reissue project for Columbia Jazz in the 1990s.

By the early part of 1969 the Miles Davis Quintet's fluid line-up had stabilised, with Corea on electric piano; Wayne Shorter on soprano saxophone; Dave Holland on bass; and Jack DeJohnette on drums.

Miles had begun introducing

material on the road that would appear on the album, such as Shorter's piece 'Sanctuary' and the dizzying 'Miles Runs The Voodoo Down'. When they reached the studio in August 1969, the musicians were given only basic instructions such as a tempo count, or vague details of chords or melodies. Davis would hint at a mood or tone for a particular piece, but he expected the players to work intuitively

without too much of a 'script'.

The first track attempted, on August the 19th, was 'Bitches

Brew', recorded in segments – some complete and some rehearsals or false starts. The track 'John McLaughlin' is actually an edit of parts three and four of the title track; while 'Sanctuary' is also two takes edited together, featuring re-interpreted elements of the classic love song 'I Fall In Love Too Easily', which Davis had first recorded in 1963 for his *Seven Steps To Heaven* album.

### NOT CLICKING

During sessions the following day, the group cut 'Miles Runs The Voodoo Down', a favourite of the ensemble. Essentially consisting of an introductory phrase which cues the group, followed by a piano transition and solos section, it was not clicking properly until

During 1969 the band began performing material live that would later appear on the LP

With its Afro-centric and psychedelic undertones, the LP sleeve echoed the political and progressive counter-culture movements of the time

*Bitches Brew* producer Teo Macero pictured in the studio with Davis. Macero produced many pivotal jazz records, including *Ah Um* by Charles Mingus and Dave Brubeck's *Time Out*

'Davis ordered some reworking of the drum parts and the tune took off'

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# Alternate Format Discography



TEPPEI INOKUCHI

## Davis caught on camera at the Newport Jazz Festival in 1969

Davis ordered some reworking of the drum parts, at which point the tune took off. After recording the piece in sections, the ninth take – a continuous, unedited performance – was used as the master.

On the third and final day in Studio B, the group cut 'Spanish Key' – similar in its use of scales to 'Flamenco Sketches' from Davis's 1959 opus *Kind Of Blue* – and returned to the unfinished 'Pharaoh's Dance'. When they walked out of the studio on that Friday afternoon, they had the nucleus of the record that would alter the direction of jazz and rock (and they were now ready for the legendary post-production phase of the album).

## CHANGED FOREVER

According to *Bitches Brew* expert Bob Belden, 'Jazz music was changed forever by the results of these sessions.' Referring to its legacy in nurturing a generation of jazz-rock giants, he said: 'What figure in the jazz world other than Miles Davis could lay claim to such an incredible family?'

Following a further session on January the 28th, 1970, at which Wayne Shorter's track 'Feio' (later issued as a bonus cut) was recorded, *Bitches Brew* was released in April 1970, selling more than half a million copies and becoming Davis's first gold record. In 1971 it won a Grammy for Best Large Jazz Ensemble Album.

For Duke Ellington, Miles Davis was the 'Picasso of jazz', while Ralph J Gleason summed up his achievement with *Bitches Brew* thus: 'What is so incredible about what Miles does is [that] whoever comes after him – whenever, wherever – they have to take him into consideration. They have to pass him to get in front. He laid it out there and you can't avoid it.' ☺

## ORIGINAL LP

This expansive double album in its vividly engaging gatefold sleeve with artwork by artist Mati Klarwein [UK S 66236/US GP 26] was marketed by CBS/Columbia in the same way as many rock acts on the label, with Davis's standing due to be bolstered as a result of his triumphant forthcoming appearance at the summer's Isle of Wight Festival in August.

With Davis's group acting for all the world like a rock band on the road, touring in a VW hippie-van (and with the credible guitar-hero McLaughlin in tow), Miles took his place alongside Columbia's other alpha big-hitters – Santana, Peter Green's Fleetwood Mac, The Byrds, Spirit, Leonard Cohen, Soft Machine – as a fully paid-up member of rock (fusion) royalty.

Meanwhile, the vinyl itself was high-grade in that turn-of-the-'70s CBS way, its wide grooves across two 12in records befitting the album's powerful yet intricate sonic excursions into previously unexplored territory. German-born painter Klarwein, a friend of the LSD guru Timothy Leary who studied with Salvador Dali, summoned his surrealist influences to conjure the memorable cover (he also worked on designs for Santana and Greg Allman).

*Bitches Brew* may not be the rarest album in the world, but original copies are relatively scarce in near-mint condition (for reasons cited above, the LP was given its share of wear and tear by a constituency of joint-rolling, party-loving post-psychers), and so you might expect to pay about £25 for a pressing that does justice to your beloved hi-fi.

## QUADRAPHONIC LP

A series of 'quad' versions – the original incarnation of 'surround sound' – were issued between 1971 and 1974 in the US and Japan, promising an enhanced audio experience for consumers via four speakers strategically placed at the corners of the listening space (otherwise known as 4.0 surround sound). CBS had pioneered the SQ [stereo

quadrasonic] matrix four-channel system for vinyl in 1971.

Early SQ decoders were unable to produce anything over a few decibels of separation from front to back, while 'logic' circuits did not perform well, despite boosting separation to a specified 20dB.

The big radio stations did not like quad, either, because problems with mono compatibility affected TV sets and monophonic radios.

In the end, quad was considered something of a market failure as a result of many technical problems. Quad audio formats (including eight-track cartridge) were also more expensive to manufacture, while punters needed to pay out for those decoders and extra amplification – not to mention the speakers needed.

Nevertheless, some of the vinyl 'experiments' that the system produced from a number of bands (Pink Floyd with *Dark Side Of The Moon*, Mike Oldfield's *Tubular Bells*, Deep Purple's *Machine Head*) are today highly prized by collectors.



## CD/REISSUE CD

*Bitches Brew* appeared in digital form for the first time in 1987 in Europe, the US and Japan. The album was released on a double disc in order to provide the maximum possible audio quality (the recording's running length pushes close to the capacity of a single CD, which equates to 80 minutes of uncompressed audio).

Released in Europe under the banner of the CBS Jazz Masterpieces catalogue, the CD was digitally remastered from the original analogue source tape. Five years later the disc was reissued in many territories, and then again in 1996, with relatively

little in the way of significant enhancements. In 1999 a Legacy edition appeared complete with an extra track (Wayne Shorter's nearly-12 minute 'Feio', recorded in January 1970); while higher-grade Japanese issues continued to be pressed throughout the noughties (culminating in an SACD in 2007).



## AUDIOPHILE VERSIONS

As with most of Davis's major works, CBS/Sony Columbia has shown the greatest regard and respect for *Bitches Brew* in its endeavours to present the public with the ultimate collectors' versions of this jazz landmark. The 40th anniversary

enhanced Legacy issues from 2010 contained alternate takes of 'Spanish Key' and 'John McLaughlin', plus extras in the shape of 'Great Expectations' and 'Little Blue Frog', as well as a 24-page booklet with exhaustive sleeve notes and rare photos.

Meanwhile, a third disc featured an entire DVD of a live show from Copenhagen in 1969 in which the Davis quintet had tried out much of the material that would finally end up on the record.

A further edition exists [pictured centre], containing all of the above plus a remastered double vinyl LP and another live CD, this time recorded live at the Tanglewood venue in Massachusetts in the year of the record's release (the concert in one of jazz's most hallowed venues is introduced by Bill Graham of Fillmore auditorium fame). It all comes in a very nice box, and if you're quick you can still grab one online for £40 or so – the bargain of the year, for sure!

# Apollo Theater, *Harlem, NY*

Hendrix, Holliday, Ella Fitzgerald... just a few of the future stars to take their first tentative steps on stage during Amateur Night at this now legendary Harlem theatre. **Steve Sutherland** continues his celebration of the world's iconic live music venues...

**H**is name is Norman Miller and he has pretty much the best job in the world. You may know him better by his nickname – The Executioner. His task is to wait in the wings, watch and listen as each act takes to the stage and at the first sign of audience unrest, rush out and clear the act off, pronto. He does this theatrically, usually with a broom, just like he's sweeping away the rubbish. Which, let's face it, is exactly what he is doing if you happen to be a member of that audience buying for blood.

## AMATEUR NIGHT

Norman also goes under the name Porto Rico and sometimes uses a shepherd's crook to round up those who have overstayed their welcome. But this is the 1930s and time flies, as they say, so pretty soon Bob Collins will inherit the role of Executioner, then Howard 'Sandman' Sims and then C P Lacy.

It's a total gas, ministering to the audience wishes at Amateur Night, an institution originally introduced at Frank Schiffman's Lafayette Theater by an actor called Ralph Cooper in 1933 and shifted as a Wednesday night attraction to the 125th Street Apollo Theater a



WILLIAM P. GOTTLEB

↗ The Apollo Theater as it appears today and (right) pictured sometime between 1946 and 1948. The venue has seating for exactly 1506 people

↖ On the 21st of November 1934, a 17-year-old Ella Fitzgerald took to the stage on Amateur Night. She won the competition

➔ Lena Horne, who appeared with The Count Basie Orchestra in the 1930s

year later. Pretty much an overnight success, it soon hosts a radio show, broadcast weekly live from Harlem across 21 stations nationwide, instantly the leading showcase for hopeful would-be entertainers who are mostly young, gifted and black.

## YOU GOT THE POWER

Unfortunately we don't happen to have a Tardis at hand to transport us back to those heady days so here's the next best thing...

The first words you hear usher smoothly forth from the lips of Mr Lucas 'Fats' Gonder, a keyboard player by trade and a rabble-rouser and raconteur by nature:

'So now ladies and gentlemen,' he announces, 'it's Star Time. Are you ready for *Star Time*?' One thousand five hundred voices scream back an affirmative.

'Thank you,' he says. 'And thank you very kindly. It is indeed a great pleasure to present to you at

this particular time, national and internationally known as the Hardest Working Man In Show Bidness, man that sing "I Go Crazy"...'

There is the blast of trumpets mixed with audience screams.

"Try Me". More trumpets, one tone higher. More screams.

"You Got The Power"! Trumpets, up one more notch. Intense screams.



CARL VAN VEGHTEN





HEINRICH KATZES

“If You Want Me”.’ Trumpets, higher. More screaming.  
 “I Don’t Mind”.’ Trumpets yet higher. Yet more screams.  
 “Bewildered”.’ Trumpets higher still. Screams louder still.  
 ‘Million dollar seller “Lost Someone!”.’ Trumpets shrill. Screams expectant.

‘The very latest release, “Night Train”!’ Trumpets blaring. Screams ecstatic.

“Let’s Everybody Shout And Shimmy”!’ Trumpets lost in pandemonium.

‘Mr Dynamite. The Amazing Mr Please Please himself, the star of the show... James Brown and the Famous Flames...’

And so begins what is inarguably one of – if not *the* – greatest live recordings of all time.

### HISTORY MADE

Recorded on the 24th of October 1962, *Live At The Apollo* was produced at James Brown’s own expense because his label, King Records, didn’t believe that a live recording of songs already on the market would deliver a worthwhile financial return.

Brown ploughed ahead despite the company’s misgivings and when the disc hit the stores, history was made. Molten soul showmanship captured at its highest pitch, *Live At The Apollo* not only spent 66 weeks on the album charts, peaking at number two, it saturated the airwaves. Such was listener demand that many R&B disc jockeys played the whole LP uninterrupted.

James Brown took one more funky step towards assuming the mantle of the Godfather Of Soul and, if it wasn’t already, the Apollo was recognised as where it’s at when it came to red hot acts performing to the nation’s coolest crowds.

The building in New York’s Harlem district, had been housing

↗ James Brown’s *Live At The Apollo* (top left) was recorded in 1964 at the singer’s expense. It spent 66 weeks in the album charts

↗ The one and only Billie Holliday, pictured in 1947

↘ Aretha Franklin appeared at the venue so frequently that on her return in the 1970s the billboards read simply: ‘She’s Home’



entertainment since 1914. Designed by George Keister in the neo-classical style and owned by entrepreneur Sidney Cohen, it was leased to a pair of businessmen, Benjamin Hurtig and Harry Seamon who rechristened it the New Burlesque Theater, a racy venue open only to whites, patrons and performers alike.

### A NEW CULTURE

And so it went until 1933 when New York’s future mayor, Fiorello La Guardia, a man firmly mounted on a moral high horse, had all the burlesques closed down. Cohen re-opened a year later and, in cahoots with Morris Sussman, remarketed the venue as the home of Harlem variety, redirecting their attention to the burgeoning urban African-American population which was making the neighbourhood of Harlem a new cultural phenomenon.

The lease passed on pretty rapidly to Frank Schiffman and Leo Brecher who traded under these new terms for the next 40 odd years, introducing the world to some of the most amazing talent in showbusiness history.

The Apollo in the ‘30s was home to whole new genres of entertainment breaking out



WILLIAM P. GOTTILIER

from the so called chitlin’ circuit to become mainstream attractions. Jazz and blues were big. Bessie Smith did a sold-out four week stint there in 1935, Billie Holliday debuted, later recalling: ‘I had a cheap white satin dress on and my knees were shaking so bad the people didn’t know whether I was going to dance or sing.’

Lena Horne and The Count Basie Orchestra also built up a

following playing to the Apollo’s enthusiastic clientele, as did comedians like Dewey ‘Pigmeat’ Martin, who recorded his routines for

‘And so begins one of greatest live recordings of all time...’

Chess Records and unnecessarily wore exaggerated blackface in the minstrel mode, a tradition discontinued soon after.

Popular tapdancers such as Bill ‘Bojangles’ Robinson often graced the boards and once the amateur nights had taken hold, the floodgates opened on new talent such as a nervous young 17 year old by the name of Ella Fitzgerald ↪

## CLASSIC VENUES



who took the stage on the 21st of November 1934 determined to dance her way to fame only to change her mind at the last minute and sing instead. She won the 25 bucks first prize that night and the rest, as they say, is fabulous.

### R&B ARRIVES

In the 1940s, with the Second World War going on, the Apollo held 35 tickets every night for soldiers to enjoy the shows, which included debuts by future legends Sammy Davis Jr and Dinah Washington.

A decade later saw the arrival of the original R&B sound with Johnny Otis' Rhythm and Blues Caravan bringing 13-year-old dynamite singer Little Esther Phillips into the spotlight. Scandalous favourite of the bohemian French, Josephine Baker sashayed through her show here in late '51, mambo fever took hold for a while, the great Sidney Poitier debuted drama on the Apollo stage, appearing in *The Detective*

## John Lennon dropped in with Yoko to do a benefit in 1971'



*Story*, and heavyweight boxing champion of the world Joe Louis did a very popular stand-up stint.

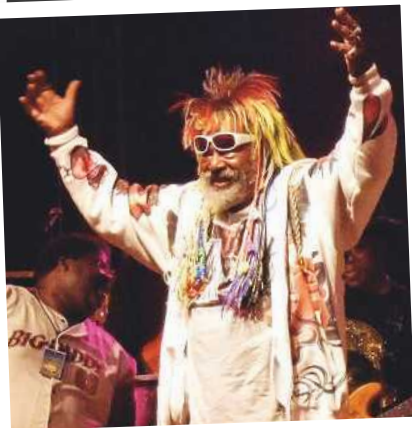
Amateurs who emerged under the watchful eye of The Executioner included future soul stars Dionne Warwick and Joe Tex while jazz hit its zenith with mind-altering performances by Miles Davis, Thelonious Monk and doomed sax legend John Coltrane.

The '60s saw the Apollo become the major New York showcase for the mighty Motown label out of Detroit, Smokey Robinson and his Miracles first appearing on a bill headlined by Ray Charles while the Motortown Revue debuted a show featuring The Supremes, The

Temptations, Marvin Gaye, The Four Tops, Commodores and little Stevie Wonder – pop heaven in excelsis!

The blues were represented on special nights starring BB King, Bobby 'Blue' Bland, T-Bone Walker, Sonny Terry & Brownie McGhee and Odetta, the Apollo's big '60s comedy find was Bill Cosby, and soul was transcendently performed by Wilson Pickett, Sam & Dave, Otis Redding and Aretha Franklin, who played there so often to such acclaim that when she returned in the 1970s the billboards read simply: 'She's Home'.

Winners of the '60s Amateur Nights included King Curtis, Ronnie Spector, Gladys Night, The Jackson 5 and Jimi Hendrix while, as we know, James Brown was immortalising the place with his live LP.



Sadly the '70s brought tougher trading. Philly did its best to keep the groove going, sending new soft soul chart sensations such as The Delphonics, Stylistics and O'Jays to play for the punters, and even John Lennon dropped in with Yoko to do a benefit show in 1971.

But by January '76 it seemed the gig was up and the Apollo's doors closed, re-opening briefly in '78 to accommodate Sister Sledge, James Brown, Bob Marley, Parliament and Funkadelic before shutting again.

### FIFTIETH ANNIVERSARY

A new era demanded a new strategy, which arrived with new management and the well-deserved status of state and city landmark being bestowed in 1983. A grand reopening celebrated the venue's 50th anniversary in May '85 hosting a *Motown Salutes The Apollo TV Special* while the old *Apollo Showtime* radio show was introduced to the goggle box.

From then till now, the Apollo has been run equally as a functioning venue, an historic treasure and a Foundation determined to archive for the benefit of future generations all the amazing things that have happened under its roof.

The claim it once made for itself – 'Where stars are born and legends are made' – rings as true to this day as it ever did. ☺

### 'Little' Stevie

Wonder, who appeared at the Apollo as part of The Motortown Revue. A week-long series of Revue concerts was filmed during December 1962, though the footage has never been released in its entirety

### George Clinton,

the singer songwriter behind funk bands Parliament and Funkadelic, pictured on stage in 2007

It was in the February of 1968 that The Jackson 5 were victors in Amateur Night. The group then returned to the venue in May that year for a one-week stint supporting Etta James

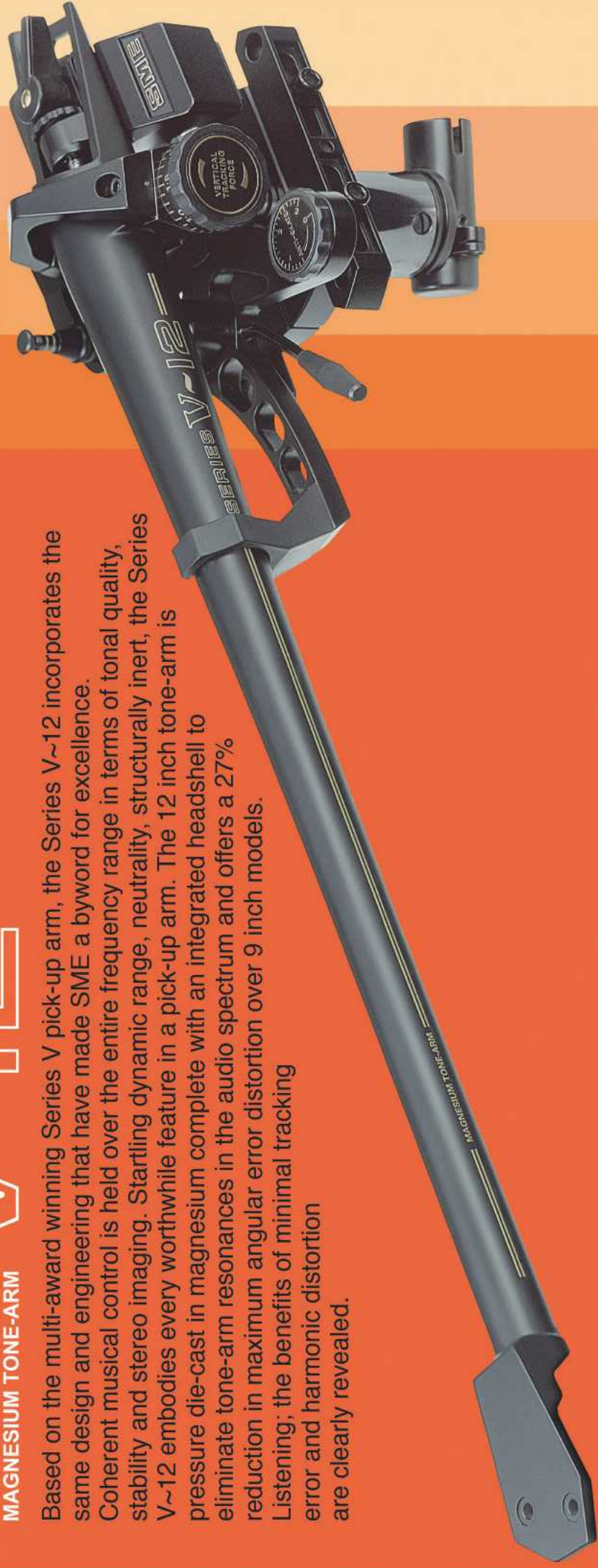
### Jimi Hendrix

took first place in an amateur musician contest at the venue in 1964. The event is still held every Wednesday

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copper braid which, like the central signal conductor, is super-soldered to Ecosse’s MACH2Ag RCA plugs. These non-compressing plugs are a work of art – machined from Monocrystal copper and deep silver-plated, they are the crowning glory of this king of the digital cable clan.

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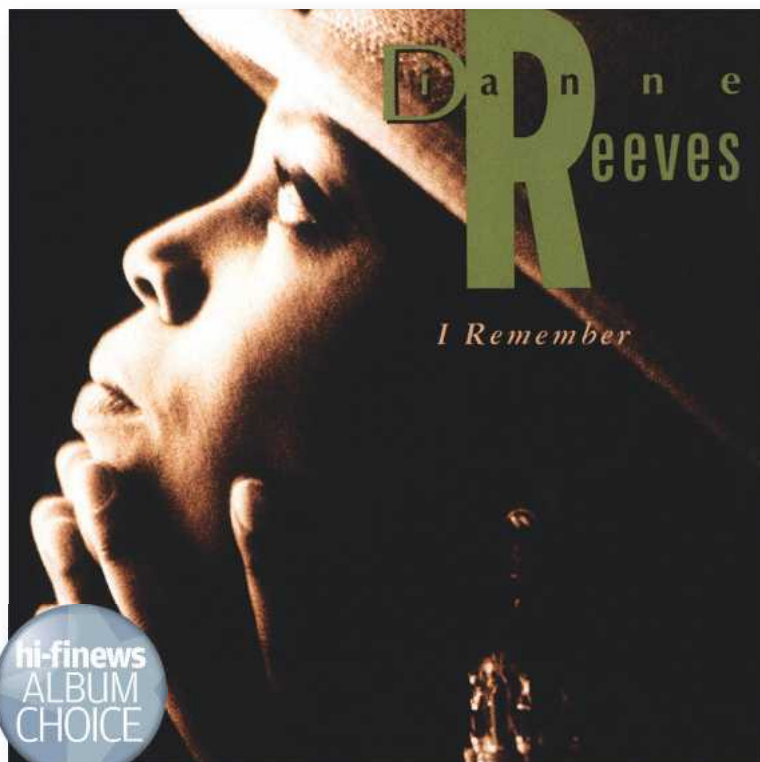
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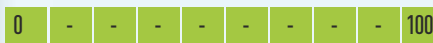
### DIANNE REEVES

#### I Remember

Pure Pleasure PPAN BST90264 (180g vinyl)

Around the time Reeves recorded those peerless duets with Lou Rawls, like the title track to *At Last*, she produced this set issued in 1991. Reeves is so versatile that she has defied generic tags, but she's most impressive when applying jazzy chops to the Great American Songbook. It's not like she avoids pop-styled readings of the standards, but this magnificent album of material from the likes of Sondheim, Carmichael and Porter, plus songs by more jazz-related composers, leans toward the latter. The resultant work defies being tied to any post-WWII period, despite exemplifying the way jazz vocalists have behaved since the 1980s. Her segue of 'The Nearer Of You/Misty' says it all. **KK**

Sound Quality: 91%



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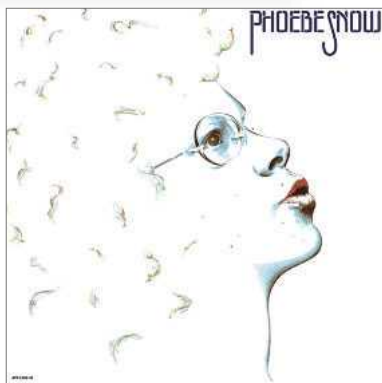
### DONOVAN

#### Wear Your Love Like Heaven

Sundazed LP5431 (mono, 180g vinyl)

Considering how difficult it was to find US imports in the UK in the 1960s, collectors must surely be thanking Sundazed for what seems more like a public service than a commercial venture: even Americans had a hard time finding the mono versions of US editions. Like The Beatles, The Hollies, Dylan and so many others, Donovan's US mono mixes differ widely enough from the stereo to make them must-haves if you're a hardcore collector. This 1967 release was part of the rare 2LP box set, *A Gift From A Flower To A Garden* (which was also sold as two separate discs), and is charming to the point where you might even wish it was still the Summer of Love. **KK**

Sound Quality: 88%



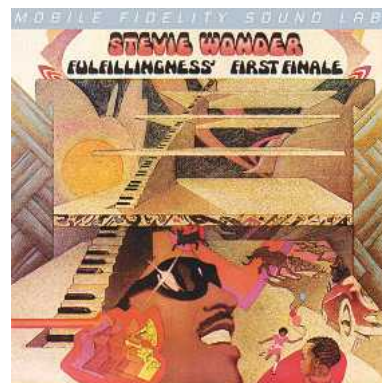
### PHOEBE SNOW

#### Phoebe Snow

Analogue Productions APP2109-45 (two 45rpm LPs)

This remarkable debut from 1974 is doubly poignant because Ms Snow passed away in 2010, and she was notoriously non-prolific – a dozen or so albums in 35 years. What this LP unveiled was a singer of remarkable versatility and impeccable taste, supported by superlative writing skills. At the height of the singer-songwriter phenomenon, she appeared with an album containing seven self-penned tracks, including the fascinating 'Poetry Man', while featuring three covers that revealed her ability to sing blues, soul and jazz. The sound justifies the 'heavy-vinyl at 45rpm' treatment, thanks in part to legendary guest musicians, including my faves, The Persuasions. **KK**

Sound Quality: 90%



### STEVIE WONDER

#### Fulfillingness' First Finale

Mobile Fidelity MOFi 1-017 (Silver Label)

Part of Wonder's most productive period, this 1974 LP was less political than its predecessor. With a warm, even romantic feel, it might have seemed that a lack of intensity would cause its credibility to suffer, the bar having been raised impossibly high, but Wonder produced exceptional songs not intended to deliver too heavy a message. Still, it contained 'Boogie On Reggae Woman', 'They Won't Go When I Go' and 'You Haven't Done Nothin'', and the guest list dazzles: Minnie Riperton, Sneaky Pete, The Jacksons, Paul Anka, James Jamerson and – again – The Persuasions. Where the guests appear, the results are magical. **KK**

Sound Quality: 89%





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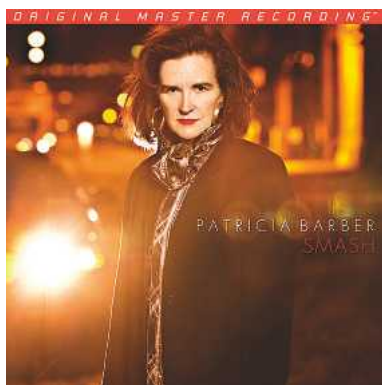
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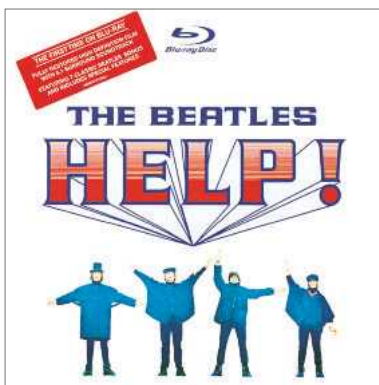
### PATRICIA BARBER

Smash

Mobile Fidelity UDSACD 2136 (stereo SACD)

Aaah! The audiophile backlash continues with a new release that didn't have to wait before appearing on SACD. Barber is, of course, an old school hi-fi show fave, and it's easy to hear why: the sound is so gorgeous and intimate that your system would have to be truly execrable for it to be anything less. This is also part of another 'old school': that genre of nightclub jazz which evokes black-and-white movies and an era when smoking was mandatory. Barber sings from the heart, the playing is peerless, but I realise that none of what I said matters if you're of the sound-over-content school. All of a sudden, it feels like 1992 and we'd never heard of iPods. *KK*

Sound Quality: 88%



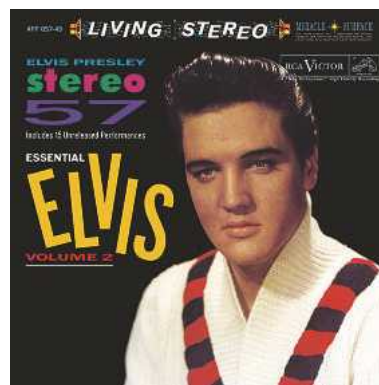
### THE BEATLES

Help!

Universal 0602537415861 (Blu-ray)

Because the DVD box released back in 2007 was one of the most over-the-top sets ever, and because it was costly, Universal wisely decided not to pillage The Beatle faithful's funds once more: the Blu-ray – which betters the DVD in every way – consists of one disc, all the video extras, but no book, no souvenirs. So, even if you splashed out for the DVD box, this is worth buying (at £12) for gains in visual and sonic quality. Purists noted the absence of the original mono soundtrack, which would allow sixty-somethings to pretend they were back in some dire cinema circa '65, but the DTS and PCM remastering are OK by me. A fun film, but no *A Hard Day's Night*. *KK*

Sound Quality: 87%



### ELVIS PRESLEY

Elvis Presley Stereo '57

Analogue Productions CAPP 057 SA (stereo/mono SACD)

Subtitled 'The Essential Elvis Volume 2', and dating from 1989, this set contains 20 tracks that range from gospel to rock 'n' roll, astonishing stereo takes that were supposed to have been erased or discarded. As luck would have it, they were saved, and this disc contains a set of liner notes you absolutely must read. The resultant versions of what is otherwise absurdly familiar material will leave you breathless (provided you're an Elvis fan – and shame on you if you're not). Thanks to studio chat, this is a glimpse of the past you never expected to share: true stereo, as good as it gets, from a time when mono still ruled. The mono bonus tracks are dandy, too. *KK*

Sound Quality: 92%



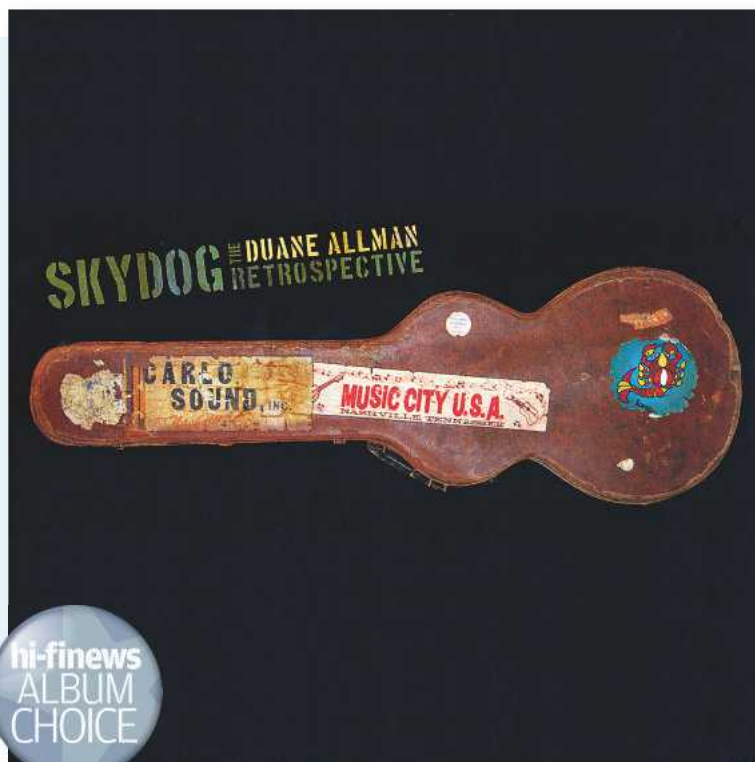
### DUANE ALLMAN

Skydog: The Duane Allman Retrospective

Rhino/Universal 116619137-2 7CDs

Those not around circa 1968-71 would be forgiven for not knowing a guitarist who easily ranks with Hendrix/Clapton/Beck/Page. Eric Clapton even described Duane Allman as 'the musical brother I'd never had but wished I did'. Allman died at the obscenely young age of 24, leaving behind as proof of his genius his work with the Allman Brothers Band – never out of print – but just as intriguingly, the vast number of sessions undertaken in a mere three-year period. This 7CD set covers his entire career and every band he was part of, including Derek & The Dominos, plus backing for Aretha Franklin, Otis Rush, Wilson Pickett, Lulu, Herbie Mann, Laura Nyro, Boz Scaggs and others. You will learn the meaning of 'fluidity'. *KK*

Sound Quality: 87%





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## Raidho acoustics



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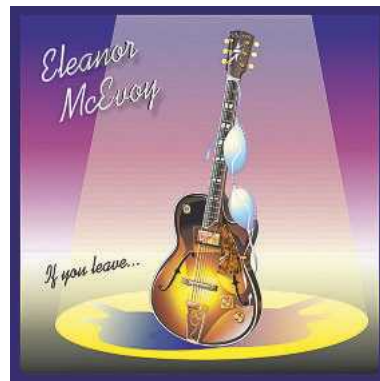
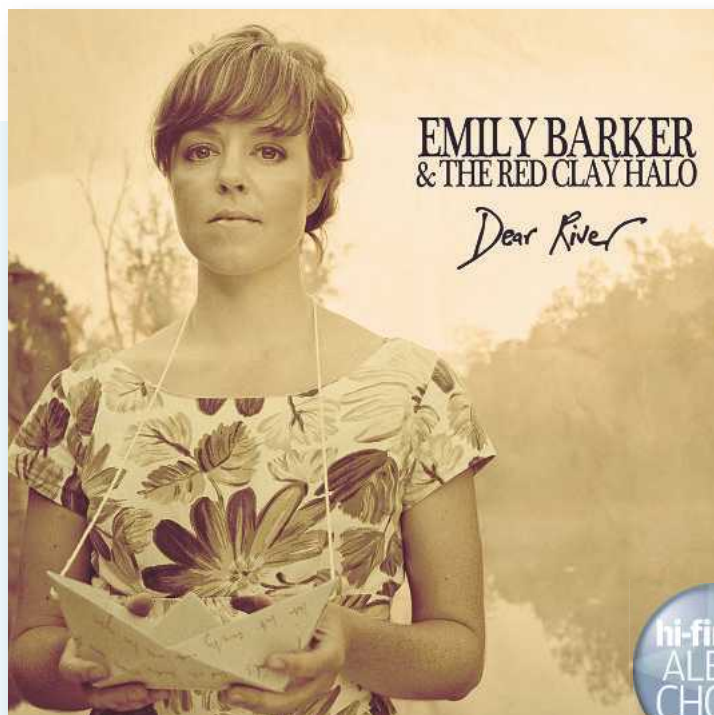
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Dear River (96kHz/24-bit; 'Studio Master' FLAC)

[www.linnrecords.com](http://www.linnrecords.com); Linn Records AKD 405

A natural for high-res downloads, Barker and band's fourth album is the first issued on a label they don't own. The one that they found to be *simpatico* is Linn, which paradoxically has embraced digital with similar force to its analogue worship (minus the politics). Barker explains, 'What really struck me more than anything... was their care and passion in creating incredible sound right from the very beginning.' Her material is delicate in the manner of what I call 'post-alt.country' with

lyrics that demand intelligibility and musicianship that merits space around the instruments, a natural acoustic and silky treble recovery, so this album justifies faith in FLAC. While the stereo element denies this 'sonic spectacular' status, as it's mixed to a near-mono lack of stage width, scarily 'real' moments like the *a cappella* opening of the last track, 'The Blackwood' will give you chills. *KK*

Sound Quality: 85%



**ELEANOR McEVoy**

If You Leave (96kHz/24-bit; ALAC/FLAC/WAV)

[www.naimlabel.com](http://www.naimlabel.com); moscd4010

It's not uncommon that a recording identified as compromised in the Lab Report might still sound quite marvellous to these ears. Here, however, something was clearly wrong, with distortion hovering at the edge of audibility, pressuring the peaks and affecting image clarity on busier tracks like 'Listen To Me' and the surprising bottleneck blues of 'Dust My Broom'. This dents what is a thrilling tenth album from McEvoy, tripping between styles in her lilting honey-dripping tones, and not shy of brave material including a touching take on Cyndi Lauper's 'True Colours' and a still sparser 'God Only Knows', a song rarely covered because it's so darned difficult. Attempted here with simple piano accompaniment, she nails it in gaspable form, the piano less so, a trifle underplayed. The whole is a delight in musical terms, with just that query over the sonics. *JF*

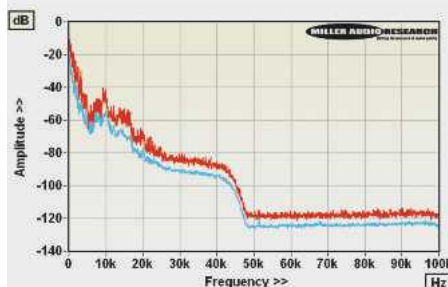
Sound Quality: 70%



**OUR PROMISE**

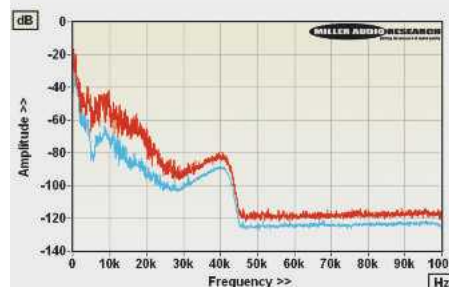
Following our Investigation feature [*HFN*, Jun '11] where we examined the claimed quality of high-resolution downloads, *Hi-Fi News & Record Review* is now measuring the true sample rate and bit-depth of the HD music downloads reviewed on these pages. These unique reviews will be a regular source of information for those seeking new and re-mastered recordings offered at high sample rates and with the promise of delivering the very best sound quality. (Note: asterisk in headings denotes technical reservation explained below.) *PM*

**LAB REPORT**



The relatively high level of ultrasonic noise at 20-40kHz seems directly linked to Ms Barker's vocal track as noise associated with the instrumental feeds is 20-30dB lower. Otherwise this rendering looks like a native 96kHz file. *PM*

**LAB REPORT**



Originally recorded at 96kHz, this album was subsequently converted to DSD before being asymmetrically downsampled down to 96kHz. Hence the swell of requantisation noise and obvious cut-off point around 44kHz. *PM*



COMPACT DISC



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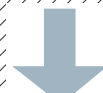
DVD



BLU-RAY



VINYL



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## YOUN SUN NAH

Lento (96kHz/24-bit; FLAC)

[www.hifiresaudio.com](http://www.hifiresaudio.com); ACT 9030-2

Recorded for the German jazz label ACT at the end of 2012 at Nilito Studio, Gothenburg, this is Korean singer Youn Sun Nah's third album (*Same Girl*, from two years before, is also available from [highresaudio.com](http://highresaudio.com) but so far not *Voyage*, from 2008). *Lento* takes its name from Scriabin's E minor Prelude, Op.16:4 and is the opening track. We reviewed the CD earlier this year [*HFN* May '13]. As before, she's with guitarist Ulf Wakenius, bassist Lars Danielsson and Xavier Desandre-Navarre on percussion, but also French accordionist Vincent Peirani. Nah's choice of material is eclectic, to put it mildly – she even takes on the mantle of Johnny Cash with 'Ghost Riders In The Sky', although this just about works. Nah's own songs are direct and appealing. You can see the complete booklet plus biographical notes at HRA's website. *SH*

Sound Quality: 80%



## ENTENDRE

Music by Halvorsen, Kodály, Ravel, Servai/Léonard and Sousa; Arianna Warsaw-Fan & Meta Weiss (192kHz/24-bit; FLAC)

[www.hifiresaudio.com](http://www.hifiresaudio.com); Sono Luminus DSL-92171

This debut programme by duoW begins, not with the great Kodály unaccompanied cello sonata, but with a less familiar duo for violin and cello (his Op.7); it ends with an arrangement of 'The Stars And Stripes Forever'. The Servai/Léonard extravaganza *Grand Duo de Concert* draws upon our own National Anthem and 'Yankee Doodle', while the Halvorsen is based on a Handel passacaglia – their 2011 music video of this, *Ghosts And Flowers*, was apparently a viral hit. The two gifted string players have Masters degrees from Juilliard and they aspire to bring classical music to a younger generation. This album is far too eclectic for that, although the playing is always alive to stylistic needs. You feel the violin and cello are set about five metres away, so plenty of impact within a resonant acoustic. *CB*

Sound Quality: 78%



## RACHMANINOV

Piano Trios 1 and 2 (ed. 1907); Vocalise; 'Dream'; Vladimir Ashkenazy, Zsolt-Tihamér Visontay, Mats Lidström (96kHz/24-bit; FLAC)

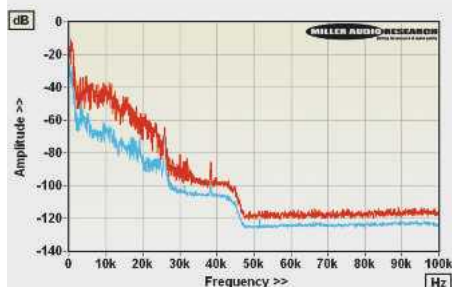
[www.hifiresaudio.com](http://www.hifiresaudio.com); Decca 478 5346

In 2007 Vladimir Ashkenazy decided to relinquish playing the pianoforte in public but has continued to make studio recordings. (That same year, at 24 Visontay became joint leader of the Philharmonia Orchestra.) Simultaneously released in Aug '13 as a CD and via high-res outlets, this programme realises his dream of recording all of Rachmaninov's music involving piano, which Ashkenazy began 50 years ago for Decca with the D-minor Concerto. The evergreen *Vocalise* is heard here in the original key of C-sharp minor with violin/piano, while 'Dream' is a transcription by the cellist from the Six Songs, Op.38. The sound – gorgeous in 'Dream' – blooms, with the trio decently set back with wide spread in Potten Hall. A must for the Rachmaninov lover. *CB*

Sound Quality: 85%

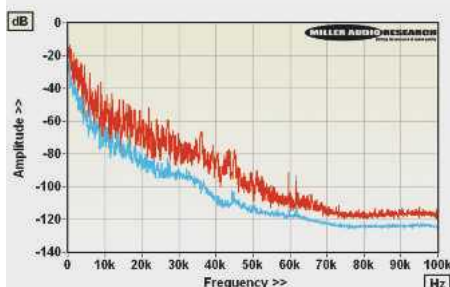


### LAB REPORT



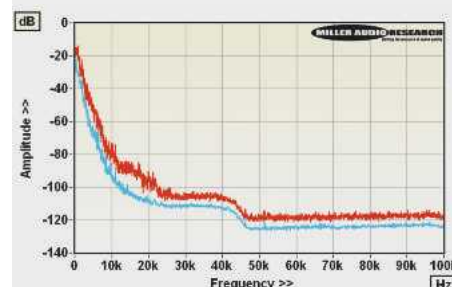
This ostensibly very simple, elegant recording is not especially 'clean' as the track 'Empty Dream' illustrates. Vocal harmonics (or distortion from the post-processing chain) extend well beyond 20kHz accompanied by some spurious. *PM*

### LAB REPORT

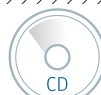


String harmonics are clearly seen penetrating beyond 40kHz in this 192kHz rendering but whether these are harmonics from the cello and violin or distortion from downstream components (limiters/mixers) is arguable. *PM*

### LAB REPORT



Recorded at 96kHz, the contrast in 'natural' harmonic bandwidth with the adjacent album could not be more obvious. Here we see powerful piano overtones extending no further than ~22kHz – a realistic range. *PM*



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SUPERAUDIO



DVD



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VINYL



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### KATHRYN WILLIAMS

Crown Electric

One Little Indian tlp1189cdp

Ten albums into a career that has seen her stick to her guns, smartly bridging the gap between folk and pop, Newcastle-based Kathryn Williams is unassailably one of the most precious jewels in our island's singer-songwriter pantheon. The path she has blazed has opened the way not just for dozens of yummy-strummy acoustic Katies but for a slew of Mumfords and Noahs – and yet still she's barely known outside of the cognoscenti. *Crown Electric*, named for the power company that employed the pre-fame Elvis as a delivery truck driver, is one of her most accessibly poppy albums, with memorable hooks, honest lyrics that anyone can connect with, sparkling acoustic picking and beautifully understated orchestrations. *JBk*

Sound Quality: 95%



### SOMEONE STILL LOVES YOU BORIS YELTSIN

Fly By Wire

Polyvinyl Records PRC-266-2 (Limited Edition LP PRC-266-1)

One heartening side-effect of the rise of the musician middle class in the wake of the slow death of the record business, has been the restoration of individuality and independence to young songwriters now unfettered by the biz. For their fourth album, SSlyby have returned to the house in Springfield, Missouri, where they recorded their debut in 2004, and it's been having a magical effect on me unlike anything else I've heard this year. This is pop/rock with the lightest of touches, as summery as anything by Vampire Weekend, but with just enough aching melancholy to make it feel utterly, thrillingly real. *JBk*

Sound Quality: 85%



### EMILIANA TORRINI

Tookah

Rough Trade RTRADCD685

Icelandic singer-songwriter Torrini has been critically lauded for years now without, so far, breaking through to the major audience her talent deserves. She has co-written and produced songs for Kylie, contributed her stunningly beautiful vocals to tracks by Paul Oakenfold, Thievery Corporation and others, and performed Gollum's Song in *The Lord Of The Rings – The Two Towers*. This album, her fourth, may be a shade too cerebral to sell in truckloads, but anyone willing to invest a little listening time should enjoy the Peter Gabriel-like groove of 'Speed Of Dark', the sensuality of 'Autumn Sun' and the fragile delicacy of 'Elisabet'. Her day will come, I'm sure. *JBk*

Sound Quality: 90%



### GARY NUMAN

Splinter (Songs From A Broken Mind)

Cooking Vinyl MORTALCD14W

Somehow, when I first heard Gazza, back in 1978, I never imagined that a time would come when his pioneering electronic sound would provoke nostalgia, but that day has dawned. After years in the synth-goth wilderness, Numan started his return to form in '94 and has steadily consolidated his position by relentlessly doing almost exactly what he did way back when. Whether delivering thrashy industrial dance-floor killers, subtly orchestrated slow burners or sinister cyber-punk nightmares, *Splinter* is a remarkable piece of work by a genuinely uncompromising and focused artist. It also illustrates why Bowie, Prince and Kanye West all rate him a genius. *JBk*

Sound Quality: 85%



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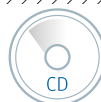
The new MC Anna from Ortofon sits at the highest echelon of Moving Coil cartridges. This state-of-the-art product is representative of numerous design elements and ideals pioneered by one of the world-leaders in analogue technologies. As a result, the MC Anna is truly capable of the highest degree of performance possible, and will provide a sound which is literally unsurpassed. The MC Anna is named after and inspired by the world-renowned operatic soprano, Anna Netrebko.

The stylish Xpression cartridge from Ortofon bridges the gap between SPU-type designs and High-End models like the MC Windfeld and MC Anna, which are designed for headshell mounting. The result is a high-performance moving coil cartridge with the convenience of a standard headshell connector. By using some of the best technologies available to them, Ortofon have made the Xpression into not just a convenient and attractive design, but also one of the finest sounding cartridges available on the market.

## Cadenza Series



The Cadenza series represents another example of Ortofon's constant push toward technological perfection. By taking various design characteristics acquired through market leaders, such as the MC Jubilee and Kontrapunkt series, Ortofon have developed Cadenza to elevate any decent Hi-Fi system to a whole new level. The range consists of 5 different models, including a Mono version, but they all adhere to Ortofon's core principles of accurate information retrieval and phenomenal sound performance.



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SUPERAUDIO



DVD



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### CHICK COREA

The Vigil

Concord Jazz 7234578

Somehow, Corea has come up fresh yet again, with a new band centred around some old friends. On reeds is Tim Garland, who toured with Corea's Origin band and did arrangements for *The New Crystal Silence* in 2009. There is even a vocal from Mrs Corea, singer Gayle Moran, who worked with the Mahavishnu Orchestra in the '70s, while the newest recruits are adventurous guitarist Charlie Altura and sparky drummer Marcus Gilmore. He's the grandson of the great Roy Haynes, to whom Corea pays tribute here in 'Royalty.' Then comes 'Peace Pledge', an extended live tribute to John Coltrane, with Stanley Clarke on bass and great playing from Trane's son Ravi. *SH*

Sound Quality: 90%



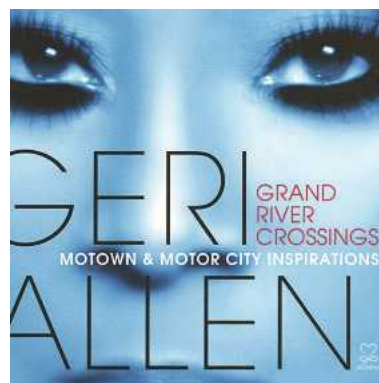
### JACQUI DANKWORTH

Live To Love

Specific Records Spec018

*It Happens Quietly* focused mainly on jazz standards, but the emphasis here is on meaningful originals, as the singer has written or co-written seven of the 12 songs. Co-composed with bassist Geoff Gascoyne are 'Malala,' which of course refers to Malala Yousafzai of Pakistan, and the stunning 'All Is Quiet,' on the subject of slavery. (This is also one of three titles that feature the Brodsky quartet.) Dankworth's core musicians, though, include husband Charlie Wood on piano, Rhodes and organ, the classy and sympathetic guitarist Chris Allard, and Ben Castle with his fluid sax. Fabulous singing, great songs, and an album to play again and again. *SH*

Sound Quality: 85%



### GERI ALLEN

Grand River Crossings: Motown And Motor City Inspirations

Motema Music 233768

Detroit-born pianist Allen has worked with many jazz greats and she's part of the formidable ACS trio with Esperanza Spalding and Terri Lyne Carrington. But this heartfelt release follows *Flying Towards The Sound* and *A Child Is Born* to complete a trilogy of solo albums. Its starting point is the Motown music Allen heard and loved as a child and, almost like ghosts from those great years, songs ranging from Smokey's 'Tears Of A Clown' to Marvin Gaye's 'Save The Children' blend with Allen's thoughtful, plangent originals. Guest soloists are veteran trumpeter Marcus Belgrave and saxophonist Dave McMurray. *SH*

Sound Quality: 80%



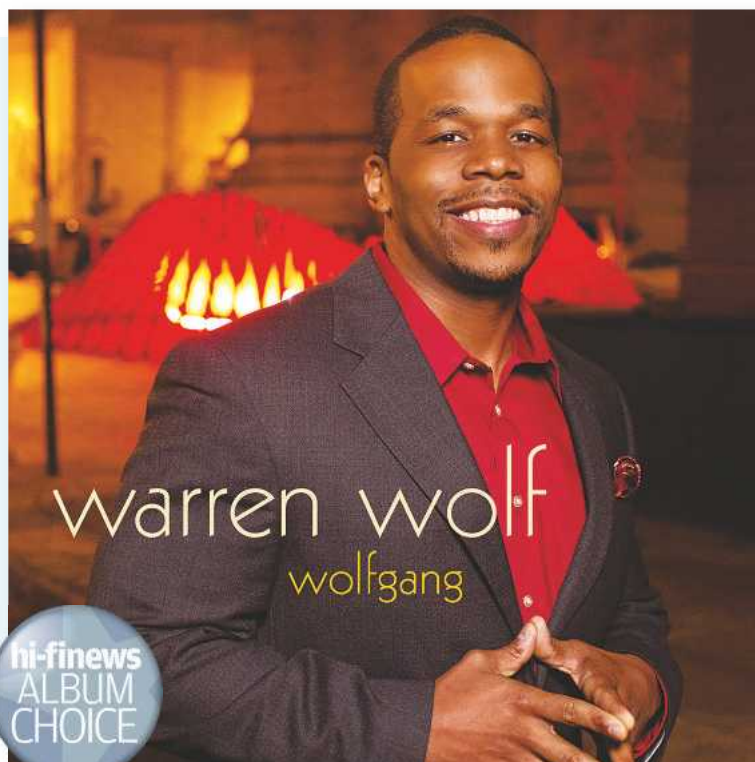
### WARREN WOLF

Wolfgang

Mack Avenue MAC 1077

Wolf's self-titled label debut in 2011 saw him leading a hard-swinging quintet and sextet. Since then he's worked with pianist Aaron Diehl, reclaiming the territory of the MJQ in *The Bespoke Man's Narrative*, but here he's showcased his writing skills. 'Sunrise' is a restful, tuneful opener while 'Grand Central' (not the Coltrane tune) is full of urban bustle, and the title track is a contrapuntal duet with Diehl. As for covers, there's an easygoing 'Frankie And Johnny' while Darryl Tookes adds a yearning wordless vocal on Ivan Lins' 'Setembro'. Most unexpected, though, is Wolf's vibes version of Arban's cornet showpiece *Variations sur le Carnaval de Venise*, a virtuoso finale for a varied and melodic album. *SH*

Sound Quality: 90%



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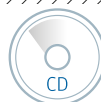


## Burmester 101 Integrated Amplifier & 102 CD Player News from the Classic Line

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Germany



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### BRUCKNER

Symphony 7  
LPO/Stanisław Skrowaczewski

LPO LPO-0071

Stanisław Skrowaczewski's first encounter with the music of Bruckner, as a small Polish boy, was – literally – shocking: see the interview at <http://www.digitalconcerthall.com/en/interview/1644-3/skrowaczewski-stabrawa>. He would become a (relatively unsung) lifelong champion, with records including a cycle with the Saarbrücken Orchestra and, with his old Minneapolis orchestra, a powerful Ninth on the audiophile Reference Recordings label. This magnificent Seventh was given at the RFH a year ago, when he was 89 – yet apparently he had the energy to add a few re-takes when the hall had emptied! The playing is sonorous and warm, the grasp of structure exemplary. **CB**

Sound Quality: 95%



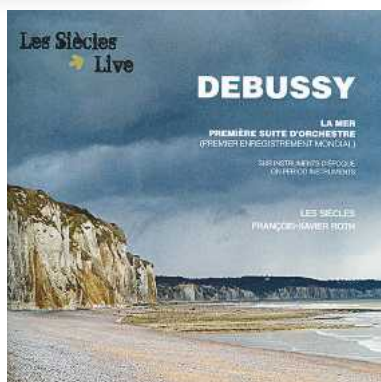
### BRAHMS/SCHUMANN

Piano Concerto 1/Cello Concerto  
Bruno Leonardo Gelber/Jacqueline du Pré,  
Berlin RSO/Gerd Albrecht

Audite 95.622 (mono)

Both Gelber and du Pré made their Berlin debuts at the same concert, in March 1963. Some will recall the Buenos Aires pianist's remarkable 1966 Munich recording of the Brahms D-minor for Pathé Marconi; it came out here in 1975. Here (almost 22) he impresses with a thorough technique – fearless in those double octaves. In this live performance of the Schumann du Pré included a cadenza in (iii), absent from her 1968 LP with Barenboim. It would become a signature piece for the cellist, but even at 18 there's a remarkable musical authority throughout what is an elusive piece. **CB**

Sound Quality: 70%



### DEBUSSY

La Mer; Première Suite d'Orchestre  
Les Siècles/François-Xavier Roth

Musicales Actes Sud ASM 10

How would Debussy's contemporaries have heard *La Mer*? This CD provides an answer with this live performance using period instruments, recorded in the Santa Cecilia concert-hall, Rome. It's not an ideal acoustic and climaxes are strident. Roth shepherds his players steadily through the music (he is no Cantelli!) and you can only conclude that modern orchestras better achieve the brilliance and colour of the scoring. Of more value, although very variable in quality, the 1882-4 *Première Suite* makes its recording debut in a completion – 'Rêve' only remains in piano-duet form – by Philippe Manoury. **CB**

Sound Quality: 65%



### MOZART

Symphonies 40 and 41  
Berlin Philharmonic Orchestra/Herbert von Karajan

Hi-Q Records HIQLP023

Besides his 1942 Turin versions (Polydor 78s), there were three Karajan recordings of these two Mozart symphonies: this remastering of ASD3732 is from 1970, part of a Jesus-Christus-Kirche Berlin set with Nos 35-41 which also included interesting rehearsal excerpts. Hi-Q's transfer seems to present no sonic gains, for once, while the 1977 DG set, engineered by Günter Hermanns in the Berlin Philharmonie, was more transparent and Karajan's later readings sounded relatively rejuvenated. Even more stylish was his 1962 'Jupiter' with the Vienna Philharmonic [Decca 448 042-2: a 9CD set]. **CB**

Sound Quality: 70%



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## Paul Miller Editor

Technician and writer on all things audio for some 30 years, Paul Miller took over the editor's chair in 2006. He invented the QC Suite, used across the audio industry

# The Show must go on

Time was when a UK hi-fi show was a major international happening with exhibitors, distributors and dealers jetting in from across the globe. **Paul Miller** wonders if the clock can be wound back

Anyone who regularly visited the big UK hi-fi shows of yesteryear will appreciate just how far we've toppled in the last decade or so. Today's exhibitions – with perhaps one or two notable exceptions – are a pale reflection of those from the glory days. The fact that *Hi-Fi News* covers a major hi-fi exhibition from somewhere else across the globe in every issue might suggest this is a uniquely British decline.

The grand Hong Kong Show [see p10] began life when UK shows were still at their peak, but remains a great success to this day. European events of this stature have now relocated to the continent, the grandest of all being the Munich High End Show in April and the huge consumer electronics fair – IFA – later in September.

The US has specialist shows like Rocky Mountain, a successful newcomer in hi-fi's geological scale, while the annual CES remains the world's largest consumer electronics trade fair. Even Portugal, the butt of financial news stories, has a high-end audio show held in appropriately affluent surroundings [*HFN* Apr '13]. And yet we have nothing like these events in the UK.

### NOT ANOTHER SHOW

It was against this backdrop that *Hi-Fi News* was contacted by numerous audio luminaries with a view to setting up a new audio show that reflected the very best that hi-fi had to offer – a chance to experience the cutting-edge high-end audio featured in our magazine every month, but for real. And so, late in 2012, The Hi-Fi Show was conceived even if – as with all difficult births – we were unable to announce its arrival to our readers until the spring of 2013.

'Hi-fi enthusiasts don't need another show, they need a celebration'



ABOVE: Where else are UK enthusiasts going to experience hi-fi like this? See p9 and p15

But what we don't need is just another 'hi-fi show', a staging bereft of imagination, populated by a surplus of brands we've never heard of and frequented by disillusioned audiophiles who feel obliged

to make the pilgrimage on the off-chance of hearing something vaguely interesting. No. What we – and by 'we' I mean the hi-fi collective who remain passionate about our hobby and are keen to share the experience

– desperately need is a *celebration*, a high-end audio 'happening' where we can experience the world's most awesome systems under one roof. And that, in a nutshell, is what The Hi-Fi Show is all about.

### SUITES NOT BEDROOMS

The huge conference suites at the Beaumont Estate venue knock the average 'hotel bedroom' into a cocked hat. Many of the suites are 10m long, giving us plenty of room to accommodate the grandest hi-fi systems available along with seating for our visitors to enjoy and absorb the presentations given by world-renowned engineers and experts prior to each

listening session. This is part and parcel of the 'celebration'. These suites will house the *crème de la crème* of hi-fi to which no self-respecting enthusiast would do justice by momentarily popping his (or her) head around the door.

With over 12 individual high-end system demos fronted by some of the biggest names in the business – plus live concerts – taking place simultaneously throughout the day, The Hi-Fi Show should be an experience the like of which we've not enjoyed in the UK for years.

### AFTER THE PARTY

Visitors will need some 'chill out' time, of course, so we've a separate open house venue where like-minded enthusiasts can enjoy various free-form demos, hear the best in headphone exotica or take a look at our partner magazines from over 14 different countries. Ever wondered what a Serbian, Norwegian or Spanish hi-fi magazine looks like? Well now's your chance! And when you're finally overcome by hi-fi heaven, there's always our private bar and eaterie where you can relax and compare notes. We may never wind the clock back, but this event marks the point where UK audiophiles can start looking forward again. ☺



## Barry Fox Technology journalist

Barry Fox trained in electronics with the RAF and worked as a patent agent, but he gave that up to enter journalism. He is one of the world's top technology writers

# Gee, ain't we good to you...

With four pilot trials under its belt and the promise of one free filter per household, the body set up to handle potential 4G radio interference problems is feeling confident. **Barry Fox** isn't...

Colleague Jim LeSurf has explained the technical reasons why both digital radio and TV reception can be wrecked by the new 4G mobile broadband services [see *HFN*, Sep '13]. In short, 4G in the 800MHz band is close to Freeview in the 700MHz band, and a powerful 4G signal from a nearby mast may swamp receiver front-ends and communal aerial amplifiers.

So I will concentrate on the practical problems of seeking help from the official body, called at800, which the mobile operators were forced to set up to tackle interference problems. All is not quite as hunky-dory as the publicity would have you believe.

### A MUST READ...

Before at800 (the catchy name for Digital Mobile Spectrum Limited, DMSL) was up and running, regulator Ofcom estimated that 2.3 million homes would be hit. It was then that at800 mailed out literally millions of postcards which warned bluntly: 'If you watch Freeview, you need to read this... New 4G mobile services are coming to your area soon. They operate at 800MHz, a similar frequency to Freeview, and so may cause problems to your Freeview service such as loss of sound, blocky images or loss of TV channels.'

But at800's message, and advertising, then changed to 'there's a small chance' of 'disruption'.

'We need to tone down the press,' Simon Beresford-Wylie, at800 Chief Executive, told me when I asked why his organisation had not organised any press briefings of the type that Digital UK come up with to explain the details of the Digital Switch Over project.



**ABOVE:** The postcard sent to millions of homes by at800 that warns of interference from 4G

'Ofcom's original estimate was that 2.3 million homes will be affected. But after four pilot city trials in March we think it may be 90,000. We expect problems will be rare in London.'

What matters now is how at800 handles problems. And it's not looking good. Despite all the guff about free filters for everyone, only one is available per household. This is absurd. How many people have only one Freeview receiver for radio and TV?

at800's warning cards tell block residents to ask their 'landlord, property manager or residents' association' to contact at800 about fitting a single filter to the communal aerial. But, even though the filters cost little (around £10 trade price) at800 will not provide one to a landlord for fitting to a communal aerial unless an individual resident has complained to at800, and at800 has investigated. Meanwhile reception stays lost.

Simon Beresford-Wylie has ensured that landlords cannot short-circuit at800's vetting system, by getting a token resident to complain to at800 as soon as they receive a warning card. 'We are sending the cards out ahead of masts switching on,

and only we know when the masts do switch on,' he says.

The DSO project was a crooks' charter with allegations that some landlords and local councils charged tenants for wholly unnecessary work. For instance, some insisted on installing IRS – a multi-wire aerial and dish system that gives access to both Freeview and satellite signals.

Digital UK advised on fair costing, in case unscrupulous landlords or cowboy fitters tried to overcharge for work done. But I had to explain the risk to at800, who then said it would look at providing a guide price scale for filter fitting. At the time of going to press, no guide has appeared on the at800 website.

### STRATEGY FLAWED

By coincidence, I was watching TV at a block of flats in North West London when Freeview reception was suddenly and completely wiped out. Channels disappeared or were obliterated by picture break-up and glitched sound. I tested both communal and separate aerials to prove it was not a communal system fault. After two days the interference ceased abruptly.

at800 insisted 'the problems with Freeview you are experiencing will not be due to the rollout of 4G services at 800MHz... we can confirm that there have been no 4G at 800MHz signals broadcast in that area. There will be no unauthorised testing performed by any of the Mobile Network Operators... Mobile Network Operators have nothing to gain by activating masts without authorisation... we can rule out 4G at 800MHz... 4G at 800MHz cannot be causing your difficulties.'

What at800 didn't appear to consider was that the flats are high on a hill and the weather was warm, so 4G signals might have come from far away. If at800 is not taking such basic facts of signal propagation into account, its consumer protection strategy is flawed. ☹

'What matters is how at800 handles problems. And it's not looking good.'

# M2 SERIES



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## Barry Willis

Journalist for top American audio-video publications

While his main interest is high-end audio, Barry Willis also writes about the culinary industry, visual art and theatre for a huge variety of US newspapers and magazines

# The gender gap

What is it with women and hi-fi? Why do they thumb through furniture catalogues cooing at oversized sofas yet balk at big-box speakers in the home? **Barry Willis** treads dangerous ground...

Some years ago I was an unlikely guest at a dinner party given by a major record label. The lone outsider at a table full of mid-level marketing executives – all but two of whom were female – I couldn't resist asking what sort of audio equipment they had at home.

This proved a less innocuous question than I had imagined. The label's regional manager, an ebullient guy in his early 50s, was all about valves and vinyl. I listened as he enthusiastically recited his personal hi-fi history, including a bargain purchase of some semi-legendary electrostatic loudspeakers.

### ABSURD AND MEANINGLESS

I fed his enthusiasm with my own, but as the conversation progressed I couldn't help noticing discomfort among his colleagues – a group of smart, hip ladies whose livelihoods were music-dependent. One on my left bristled at my question, as if it were the most absurd and meaningless thing she'd ever heard.

'What sort of audio gear do I have?... I don't know... I listen mostly at work, I guess... Why does it matter?... I mean, it's just another appliance, like a toaster...'

Her associates shared this attitude. The males that evening were keenly aware of every piece of electronics in their possession – or that had ever been

in their possession – while the women were blissfully and intentionally ignorant of everything involved in creating music in their homes.

This incident came back to me recently during a chat with my friend Brad, whose wife of many years had finally succeeded in getting him to part with his beloved B&W DM6 10 speakers. Despite their relatively diminutive size (at least by audiophile standards) and the fact that he had them tucked away as unobtrusively as possible atop some cabinetry, their presence in the family's living room was an irritant she couldn't endure.

'Too big, too ugly,' she decreed, in concession permitting him to buy a very nice-sounding and amazingly versatile Sonos Playbar, a huge improvement over the sound of their flat-panel TV.

But the Sonos too was a technological extravagance she couldn't understand.

She dismissed Brad's defence of it – inarguably better bass, clearer articulation, superior dispersion – as hopelessly geeky.

We might imagine this woman as anti-music, but nothing

could be further from the fact. She's a huge fan of musical theatre, has two college-age daughters pursuing degrees in the performing arts, and has committed to memory every musical ever written. She loves live performances, but with recordings is content with the thin wimpy sound of her laptop computer.

### IT'S A MAN'S WORLD...

My own brother, whose wife has spent her entire career in the music industry, has faced ongoing domestic issues over his ownership of a beautiful pair of rosewood Silverline Sonatas. Something about audio gear annoys many women, very much the way something about the sight of an adult



ABOVE: 'Too big, too ugly...' the pair of B&W DM6 10s the author's friend said goodbye to

on a bicycle induces inexplicable rage in most motorists. They simply hate the thought of it.

In my 30-plus years of experience in every aspect of the audio world, I have met thousands of audiophiles – almost all of them men. Of the dozen or so female gearheads that I've encountered, eight worked in the industry, leaving four who could possibly be counted as true-believer audiophiles.

Three acquired systems via divorce, leaving one woman actively involved with the music-making devices in her home. That's just one woman with monoblocks and fancy cabling of her own choosing. This pathetic statistic means either women approach musical technology in a completely different way from men, or there is something inherently wrong with the designs the industry trots out year after year.

Despite their characteristic fondness for massive armoires and oversized sofas, women will never embrace big-box loudspeakers, massive amplifiers, and everything related – no matter how it's presented. Until we understand this thinking, we'll never reach the better half of the population. ☹

'Is there something inherently wrong with the designs the industry trots out?'



ABOVE: The Sonos Playbar – domestically acceptable but still 'hopelessly geeky?'

# Sometimes you just can't see the wood for the trees when you're buying hi-fi

Buying a hi-fi system is all about you and the emotional connections you make with the music. What you buy depends upon what you need and what you want from your music.

And you can only find the answer to those questions by experiencing the options available at your local expert retailer. You can't audition a hi-fi system or make comparisons between different models online, by mail order or at a department store. But at your local Clarity retailer you'll be able to take your time and relax in a dedicated listening room, listening to a variety of equipment and a variety of music. Audition and study each piece of equipment, get to know it and see how it makes you feel.

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## Jim Lesurf Science Journalist

Jim Lesurf has spent a lifetime in audio, both as an engineer at UK hi-fi company Armstrong and reader in Physics and Electronics at St Andrew's University

# Progress, filters and dressings

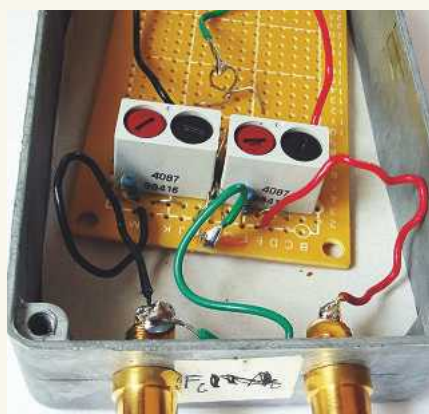
The simple laws of supply and demand mean that if something is no longer wanted then soon it will no longer be made. **Jim Lesurf** bemoans market forces as he searches for fresh audio parts

**Y**ou can't buy what they won't sell you' is a phrase that has come to mind regularly in recent years. Indeed, I found myself muttering it to myself only this morning as I went from shop to shop in search of walnut oil. Walnut oil? As I write this we are enjoying an extended spell of hot weather which, in the Lesurf household, means eating more salads.

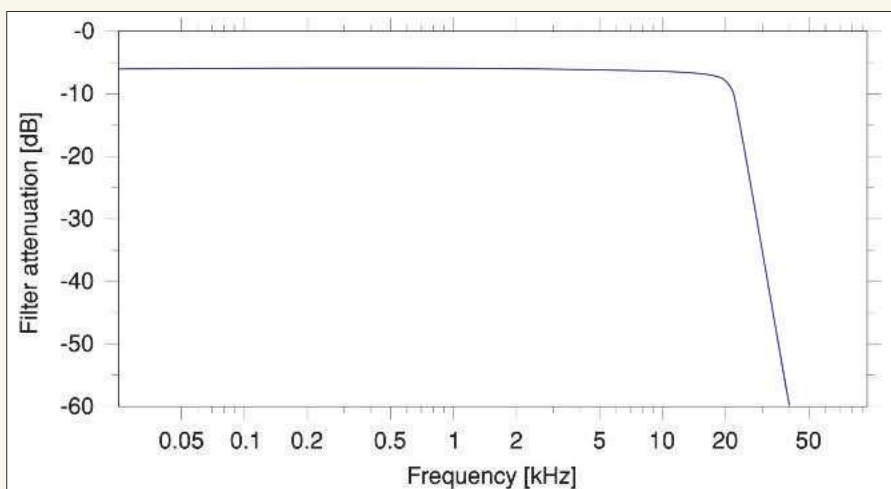
I like to make up my own dressing. Cider vinegar, plus walnut oil, with a dash of mustard powder and a little demerara is my preferred recipe. Alas, in one shop after another I was told they no longer stocked walnut oil, the reason being that as it now costs so much people no longer buy it.

### AUDIO EQUIVALENT

When it comes to audio, the same problem crops up in a different guise. A few decades ago if you bought an FM stereo tuner the chances were that it would have used a passive low-pass RLC filter-block sold under a brand name like Toko. The same was true of some CD players and DAT recorders. The old Armstrong FM tuners used them and they worked like a charm, passing the audio band you wanted while blocking any



**ABOVE:** The author's volume control circuit with twin Toko 4087 analogue filters in place



**ABOVE:** Graph showing response of Toko 4087 filter – flat to 23kHz before 'dropping like a brick'

ultrasonic hash you didn't want reaching your power amp, let alone your ears. Mass produced, these analogue filters were both precisely specified and reliable.

Having worked in electronics for decades I have a house that has all kinds of small boxes, containers, and drawers stuffed with assorted packs of components. So when I wanted to build a combined low-pass filter, amplifier, and volume control to use with a new computer

I dug out a couple of my old Toko filters. I chose the '4087', which has a DC to 23kHz response that is as flat as a ruler before dropping like a brick, killing any higher frequencies. Having satisfied myself that my hand-built circuit worked nicely I began searching the web to see if I could find a vendor selling Toko filters.

Oh dear! I did find some odd US and Far-Eastern sites that listed them but couldn't find any based in the UK. And emails to Toko were totally ignored. So having decided my small circuit works well

and wanting to publish the details for others to try it and see what they think of it, the simple fact is that no-one can if they can't get the filters.

The way around this is to design a filter for myself built from individual

components. But this will be bigger, cost more, and will probably not work as well as the Toko designs as these were tweaked to do the job perfectly every time. But you can't

“Progress” meant manufacturers no longer needed to use analogue filters’

buy what they won't sell you.

### WAY OF THE DODO

They once made thousands of these filters every hour. But 'progress' led to the development of digital oversampling filters, which meant manufacturers no longer needed to use a good analogue filter. So they went the way of the dodo. Unless someone reading this can unearth a UK supply. Meanwhile, I'm using olive oil for my salad dressing. It's not quite the same, though... ☹

# max

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MA01/09

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## Bergmann Le Contoure 47 Laboratory

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## Steve Harris Contributing Editor

Steve Harris edited *Hi-Fi News* between 1986 and 2005. He loves jazz, blues music, vinyl and vintage hi-fi and anything that makes good music come to life

# An innovative freebie...

In the month that Ronnie Scotts streamed its first ever free live show on the internet a name famous in audio circles passed away. **Steve Harris** takes stock of jazz, music, and life after Bose

**W**ell, 1000 free songs! This tempting offer came by email from *Paste*, once a print magazine but now reinvented online by the owners of Wolfgang's Vault, supplier of downloadable concert recordings and rock memorabilia.

You might not think even a moving picture says as much as 1000 songs, but for me what came up next was a more exciting and innovative freebie. With the great Wynton Marsalis and his quintet booked for three nights (six shows) from the 22nd of July, Ronnie Scott's announced that at 10.30pm on Thursday the 23rd, the set they played would be available, free to anyone visiting the famous jazz club's website, as a live HD video stream. Panasonic provided the cameras, and the event also featured on *The Guardian* website.

### STREAMING MAGIC

Said managing director Simon Cooke: 'We are keen to give those who can't make the journey into London's Soho or simply those who can't get a ticket, the opportunity to enjoy the Ronnie Scott's magic for themselves and are delighted that an artist of Wynton's stature, arguably the most influential jazz musician of the last 40 years, has agreed to feature in our very first broadcast from the club.'

It's to be hoped that there'll be many more. Early estimates suggested that at least 22,000 web visitors enjoyed the live streaming event, but it probably deserved more publicity than it got. The one audio-related event that did make the headlines in the national press that month was the passing of Dr Amar Bose, who died on the 12th of July at the age of 83.

Dr Bose was, of course, the founder of the most successful audio

company ever. In recounting its technical achievements, most obituaries cited noise-cancelling headphones, but didn't mention the Bose product that surely remains the most well-known among audiophiles.

### REFLECTED GLORY

Launched originally in 1968, the 901 was, I think, the only hi-fi product ever whose maker sued magazines on both sides of the Atlantic over subjective comments in their reviews – *Consumer Reports* in 1970 and *Hi-Fi Choice* in 1976.

With the 901, Bose promoted its 'Direct/Reflecting' loudspeaker concept. Having discovered that most of the sound reaching your ears in a concert hall is reflected rather than direct, Bose created a speaker containing nine small drive units, with eight pointing to the rear and only one facing the listener.

It certainly sounded different. Yet the approach was completely fallacious from a hi-fi point of view.

The recording already contains the reflected sounds of the concert hall, and these don't need reflecting again, in the listening room.

Even so, the 901 has its devotees.

I recently

came across an internet-posted picture of a system, captioned 'Got some old Bose 901 speakers and I love 'em'. The writer explained that he'd got great sound without using the Bose equaliser, which is an essential part of the design because of the small drive units.

Looking at the picture again, I saw he'd just put the speakers back to front, with eight drivers facing the listener instead of one!



**ABOVE:** Advert for the free Wynton Marsalis event – see [www.ronniescotts.co.uk](http://www.ronniescotts.co.uk) for more

Whatever you think of the so-called 'Direct/Reflecting' theory, there was no doubting the ability of Bose speakers,

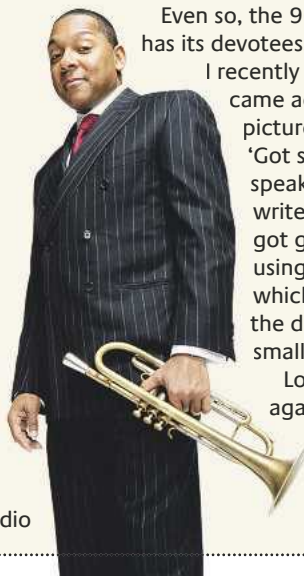
so often mounted near the ceiling in restaurants and other amenity spaces, to throw the sound around and 'fill' the venue. Back in the last century, long before the major

refurbishment of 2005, Ronnie Scott's used Bose speakers in its PA system.

### LIVE AND UNPLUGGED

Today, like many other thoughtful musicians, Wynton Marsalis tries to play unplugged whenever he can. In the relatively intimate space of Ronnie Scott's, he was able to play some sets without amplification. For this, as much as for the generosity of the live streaming evening, he deserves our gratitude and applause.

Because Wynton has proved that there will always be jazz, music – and life – after Bose. ☺



## COMPETITION WINNERS

# Readers' Reviews

We invited you to write an article about your great-sounding hi-fi system or favourite stereo separate and you certainly rose to the challenge. Here we begin printing the best entries...



*Hi-Fi News* readers are an experienced lot, so we thought we'd test your mettle by asking you to review your own systems for the benefit of fellow enthusiasts. We were amazed at the breadth and depth of content and sheer volume of you who put pen to paper, with submissions from valve, vinyl, hi-res digital and headphone aficionados as far afield as Norway, the US and Australia.

Over the coming months we'll be printing the best, with entries on display at our forthcoming Hi-Fi Show [p9] on the 25-26th October.

but have just fitted a new Grado (MM) cartridge, which sounds great.

But to really impress, you just have to hear the visceral sound of my half-track Tandberg TD20A reel-to-reel – also in mint, ex-factory condition – running at 15ips! It's simply fab – and is also guaranteed to get a big laugh from all the kids. In case you are wondering which planet I'm broadcasting from though, I do also run lossless iTunes files on my iMac, which to my ears sound pretty groovy too.

### BURIED TREASURE

But overall it's the sheer class and musicality of my system that I love – not to mention its 'wow-factor'. Interestingly, many friends have picked up on its sheer competency and it's true that it's as at home with Beethoven as it is with Herbie Mann.

It seems that most people today simply settle for pushing highly compressed MP3 files through a poor-sounding but very expensive iPod-compatible speaker dock or 'lifestyle' system. Oh dear, heard this way most tracks sound exactly the same to me – thick and flat. Ok for a first date, but not to spend your life with. Also, the TDLs are big enough to be buried in. Now there's a USP!

## The wrong sort of offer...

MARK ANDREWS ON HOW HIS MINT TDLs HAD HOUSE HUNTERS IN A HI-FI TIZZ

It's a funny old world. I recently put my house in London up for sale. After several viewings I received three offers. What really surprised me though, was that the offers were for my hi-fi system. One ecstatic enthusiast wrote: 'I noticed your wonderful system. You simply don't often see quality such as this. Would you sell it? I would be so proud to display it in my living room!'

Call me old-fashioned but I, too, am rather proud of my system and so all offers were refused. My pride derives partly from my speakers – a pair of TDL Studio Monitors – which, truth be told, are titanic.

### REAL BASS

It is rare to see a pair in such mint condition. They have real-world bass-extension to about 16Hz, can play loud then louder than *really* loud and never lose their composure or sound harsh. And yet... Are they outmoded? Am I outmoded? Well, frankly, who cares? Friends with the very latest gear have come to sit at the feet of the TDLs and leave highly impressed. To begin with, they all say 'but where's the bass? My system is pumping about now.' The answer is that there isn't any of the usual plummy-thump that passes for bass in some quarters today.

Quite simply, when the bass comes in, you are left in no doubt as to what real bass sounds like. While there is masses of detail and delicacy throughout the midrange and treble, all the interest is found in the bass registers, which are cleanly separated and do not interfere with the rest of the audio

spectrum. The result is that all harmonics and rhythms are resolved with astonishing and exciting immediacy and clarity.

Of course, amplification plays a very big part in all this. In the beginning, it was quite a problem finding something to drive the TDLs properly. I tried a surprising number of highly recommended (and pretty expensive) products to little avail. However, KJ West One in London came to the rescue. On its recommendation (and after a great demo from KJ featuring several other really 'hard-to-drive' speaker models), I settled for the Audio Research SP15 tube preamp and D200 solid-state power-amp, with the company's PH3 all-tube phono stage.

This trio exercises real tough-love over the speakers, which means real control. The TDLs can soak up some power and don't take kindly to any shortfall in delivery. They also respond well to a refined and sophisticated quality of output, much like the older Quad range is capable of delivering (although my 606 simply ran out of puff!) rather than simple brute force.

I tried some bigger all-tube amps, but they simply couldn't deliver the grip of the D200. The D200 has a pretty big current-delivery capability and this seems to be the key, plus the balanced pre/power amp interconnects make a big difference.

The turntable, a Mitchell Gyrodec, is simply sublime. I picked it up from the company's factory at Elstree myself. For some time I've had a Goldring MM pick-up on a Rega RB300 arm, which sounded fine,



ABOVE: The TDL Studio Monitor from 1971, a transmission line design with an 8in bass unit

## The joy of hi-fi

DAVID LORD ON THE DIVERSITY OF AUDIO

Being the lucky owner of a dCS Verdi/Purcell/Elgar front-end, I know just how good digital sound can be. But while I often listen to CDs, I still derive a great deal of enjoyment from my collection of LPs. This is not because I consider vinyl to be superior to digital or vice versa; rather it's due to the several ways in which I have come to appreciate what hi-fi has to offer.

First and foremost, hi-fi is about the enjoyment of music. But I think we should be honest in recognising that there are other aspects of our hobby that also give pleasure and this is particularly the case when it comes to analogue audio.

My present record player is a Michell Gyrodec, which I have equipped with an SME IV arm and Ortofon Cadenza Bronze cartridge. I recently replaced the power supply included with the deck with a Michell HR Power Supply. To my slight surprise, this has notably improved an already very impressive performance. I would describe it as pulling a picture into sharper focus on an SLR camera: the sound images are much more clearly delineated.

I can truthfully state that I've never heard my LPs sounding so good. As many of these date from the 1970s or even earlier, that is not only very satisfying but also gives me huge pleasure when listening to old favourites.

### LOOKS GOOD, TOO...

I bought this set-up because it sounded better than the other turntables I tried. But there's no denying it looks good too. Even my wife thinks so, which is high praise indeed. Added to this, it is ergonomically very satisfactory – unlike some of the other record-playing equipment I have owned in the past. If you have ever used a unipivot arm or over-bouncy sprung sub-chassis turntable, you will know what I mean.

Also, the high standard of workmanship of the Gyrodec and SME arm is a joy to behold. I do not think we should be shy about acknowledging that there is aesthetic pleasure to be had from such attributes, as well as from the quality of sound produced. Our society tends to draw a dividing line between art on the one hand and science and engineering on the other. I would argue that there is much art in the technology, engineering and design of the likes of the Gyrodec and SME IV, which can be appreciated on its own merits. The connoisseur of fine art appreciates the beauty and quality of an object or painting,



while the collector of such items derives pleasure from their ownership. Part of the enjoyment of hi-fi also comes from appreciating the 'engineering art' of well-designed components.

### DON'T FORGET DIY

Another area where I personally derive much stimulus and satisfaction is from building some parts of my system. Nowadays this aspect of the hobby seldom receives a mention in the mainstream hi-fi press, whereas once it was the lifeblood.

I am in the lucky position of being able to buy some excellent equipment ready-made, but I still get a kick out of making things myself. In the digital age it isn't really practical to indulge in DIY electronics, but if you are into analogue – like many an audiophile – then it's still possible and, moreover, worthwhile trying your hand at building certain components.

When I bought my SME arm, I purchased a spare five-pin plug to go into the base of the arm in order to be able to make up a lead for a balanced line connection between the cartridge and the phono preamp. Phono preamps with balanced inputs are pretty rare and expensive – surprising given that the low-level signal from popular moving-coil cartridges would seem to indicate that balanced operation could offer real advantages and because it is not difficult or costly to incorporate. So, the obvious route to giving this a try was to build my own preamp.

My first effort was based on a design using integrated circuits, which appeared in *Hi-Fi News* in 1984. I arranged for this to be switchable between balanced and unbalanced operation. Sure enough, there



ABOVE: Reader David's Michell Gyrodec with SME IV arm and Ortofon Cadenza Bronze cartridge (left) and DIY valve-based preamp

was a very marked reduction in hum and background grunge when the connection from the pick-up was balanced.

This preamp also sounded pretty good, but subsequently I have built a valve-based unit with a balanced transformer input that I think sounds even better. As fellow readers can see from the picture of my latest effort [above], DIY hi-fi tends not to be as pretty as well-designed commercial kit. But then you can't have everything!

### YOUR OWN RECORDINGS

There is yet another way that aiming for high quality sound reproduction can bring

enjoyment and that is by making the recordings you listen to yourself.

I did do some live recording back in the 1980s and '90s. I bought some decent AKG capacitor

microphones and a Revox B77 tape machine, and built my own mixer. I had a great deal of fun with this, although I won't pretend that the results were always worthwhile. But I learnt a lot, and when things did go well it was worth the trouble. If you have ever heard a well recorded open-reel master tape running at 38cm/sec, you may wonder why people get het-up about the differences between digital and vinyl. In my opinion analogue tape can better both of them.

This hobby of ours has many facets. You can just buy the kit, sit back and enjoy the music – and good for you if that is all you require. But as I've tried to explain here, there's much more to be gained if you wish.

'My first DIY effort was based on a design that appeared in *Hi-Fi News* in 1984'

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## YOUR VIEWS

# Sound Off!

Correspondents express their own opinions, not those of *Hi-Fi News*. We reserve the right to edit letters for publication. Correspondents using e-mail are asked to give their full postal address (which won't be published). Letters seeking advice will be answered in print on our Sound Off pages, but due to time constraints we regret we're unable to answer questions on buying items of hi-fi or any other hi-fi queries by telephone, post or via e-mail.

## THIS HI-FI TWEAK SUCKS! DOMESTIC CHORE RESULTS IN BETTER SOUND

I'm sure I am not alone in not allowing my other half to vacuum too closely around my precious equipment and speakers. So recently, after much goading, I decided I would have to do it myself. After assessing the task ahead, it appeared that the easiest option would be to unscrew my rather heavy speaker cables at both ends (Kimber Monocle XL), remove them, and then vacuum around the speakers and amp.

After re-attaching them and having retightened the binding posts, I was surprised to hear greater low-level detail than was evident before.

As an electrical engineer, I remember measuring low voltage resistance in rotary switches and relays having gold-plated contacts. A very small voltage showed an ohm or two of resistance but then reduced to a fraction of an ohm as the voltage increased. Could something similar be happening

here, as the act of removal and retightening created a lower resistance contact point?

In the case of interconnect cables where the load is normally above 10kohm the effect would be negligible. But with a nominal load of 4ohm (I have Sonus faber Cremona floorstanders) fed from a very low output impedance amp (in my case a Parasound A21), a low signal resistance of even 1ohm would matter.

From now on I am more willing to vacuum clean the lounge whenever asked, but my wife doesn't understand why!

*Martin Phillips, via email*

Keith Howard replies: Regular cleaning of all the electrical contacts in a system is an old 'tuning tip' but easily forgotten or easy to become lazy about. Some people claim that simply breaking and remaking all the contacts is sufficient, and will almost certainly improve those that have a wiping contact like phono connectors, XLRs and 4mm speaker connectors.

Spade terminals are a different matter and will likely benefit from the application of a contact cleaner to remove oxidation and/or general grime. Indeed, regular use of a contact cleaner throughout the system is often advocated. You can buy common or garden spray contact cleaner online for about £5 a can or choose a more advanced solution like DeoxIT for around three times the price.

Take care not to let silicone polishes anywhere near your hi-fi equipment as silicone can play havoc with electrical contacts. Don't forget to include the pins of system mains plugs in the cleaning routine. To remove a large build-up of oxide here, I find the small soft sanding blocks intended for cleaning impurities from Veroboard prior to soldering very useful.



**ABOVE: Sonus faber Cremona – better sound after cables were re-attached**

Send in your views to:  
Sound Off, Hi-Fi News, AVTech Media Ltd,  
PO Box 718, Orpington, BR6 1AP or  
email your views to: [letters@hifinews.com](mailto:letters@hifinews.com) –  
please use 'Sound Off' in your subject field

## On Vitaphone and *Casablanca*

**'SAM' WAS NO PIANIST, POINTS OUT READER**

I have just read Barry Fox's excellent article, 'Hooray for Hollywood' [see *HFN* Sept '13] and have two points to make. The first is that the Vitaphone 16in vinyl system was invented by a Yorkshireman and first used for the 1924 Olympics. Secondly, on p21, Barry makes the common mistake of referring to Dooley Wilson who played Sam in *Casablanca* as 'singer and pianist'. In fact he was a singer and drummer and could not play the piano. In the movie he was dubbed by Elliot Carpenter.

*Ross Hunter, via email*

Barry Fox replies: I stand corrected. And many thanks. I enjoy learning something every day.



**ABOVE: Dooley Wilson as Sam. Elliot Carpenter was on set and Wilson could see and copy his hand movements**

## Still crazy...

**PHOTOS TRUMP GRAINY YOUTUBE VIDEOS ANY DAY**

It was a delight to read Steve Harris's Opinion piece in the October issue on the Audio Lounge and the music photography of David Redfern. His final comment, however, that no still image can beat a grainy movie of a musician on YouTube, was wide of the mark. Happily for music photographers, people do love to have striking images of great performers on their walls.

*John Watson, via email*

Steve Harris replies: Despite my enthusiasm for YouTube, I think everyone should visit [www.davidredfern.com](http://www.davidredfern.com), which gives an idea of the sheer scope of Redfern's work. There you can also order his book *The Unclosed Eye*, first published as a paperback but later expanded as a lavish hardback, with over 400 of his pictures.

## Current, but too high-end?

TWO TAKES FROM READERS ON THE COMPONENTS FEATURED IN *HI-FI NEWS & RECORD REVIEW*

I've been an avid reader of *Hi-Fi News* for many years and was as pleased as anyone when the yellow border made a welcome return to the cover. However, I'm becoming a little concerned about your seeming rush of blood towards the 'high end'.

For example, the March 2013 issue carried reviews of the Wilson Audio Alexia at £49.5k, Nagra Jazz/MSA at £15.2k and the Audio Research REF10 (£27.9k). Meanwhile, the April 2013 issue featured the Light Harmonic Da Vinci (£20k), TAD C600/M600 (£79k!), GamuT M'inenT M5 (£8.5k) and Tron Seven Phono GT (£9.9k). The May 2013 issue? Cyrus 30th Anniversary System at £17k, Chord DSX1000 (£7.5k) and Audio Research Reference CD9 (£12k). And there were many more examples.

Come on guys, I don't mind a bit of a daydream now and again but can't we please have a little more editorial space given over to products we mere mortals can actually aspire to owning one day? If this carries on I'll be driven to think about having to purchase an alternative mag each month to feed my addiction!

*Steve Carter, via email*

I just wanted to drop you a quick note to tell you how much I enjoy *Hi-Fi News*. It's always current and relevant. The magazines here in America seem to be not months but years behind the times. I was amazed to see your July issue had a review of the Marantz NA-11S1. It had only just been launched (and I bought one)!

Your article on USB cables was both timely and relevant as computer

audio is exploding in popularity. I just love the fact that your magazine is always current with reviews of hot products and that you don't have to wait months before obtaining components to test.

*Michael Bovaird, via email*

Paul Miller replies: In many respects, Michael's observations address Steve's concerns. *Hi-Fi News* has always represented the cutting-edge in audio and, thanks in part to our renowned review and testing program, is regularly chosen by manufacturers worldwide as the best 'platform' to launch their flagship stereo products.

Thus, audiophiles the world over gravitate to *Hi-Fi News* for the first reviews from famous high-end marques even if, as a sign of the economic times, these range-toppers are now accompanied by equally fabulous price tags. Of course, our Group Test products are typically more accessibly priced and, from the December issue, KK will be fronting a new series of 'budget esoterica'. So watch this space!

Naturally, there's more to *Hi-Fi News* than our exclusive hardware reviews and I'm more than content for our minimum 140 page issues to be compared with any other publication in the world. Frankly, where else can you find this mix of international show reports, investigative features, cutting-edge technical reviews, comprehensive music features (Vinyl Icon and Classic Venues), tests of high-res downloads, expertly researched vintage reviews and buying advice plus the best columnists in the business every month for just £4? Our mission remains to bring you the best of the best, every month.



ABOVE: The Marantz NA-11S1 – reviewed by *HFN* as it was released onto the market and, at £3500, a more affordable cutting-edge product for the aspiring audiophile

## Lanes On Your Entertainment Superhighway



RJ/E Forest



RJ/E Cinnamon



RJ/E Vodka



RJ/E Diamond



Cat 600 Pearl



Cat 700 Pearl



Cat 700 Forest



Cat 700 Carbon

Since its origins in the early 1980's, Ethernet, and the Local Area Network (LAN) systems it enables, has become the copper plumbing of the digital age. Originally deployed only over coaxial cable, the Ethernet protocols (IEEE 802.3) now also apply to fibre-optic and "Category" (Cat 5, 5e, 6, 6e, 7) cables. These 8-conductor (4 twisted pairs) Cat cables are the 8 lanes which stream or transport your digital entertainment to equipment a foot away or several rooms away.

AudioQuest refers to its pre-terminated leading-edge Cat 7 cables as the RJ/E Series ... RJ for the RJ45 connector standard to the application, and E for Ethernet. For AudioQuest, the highest Cat 7 standard (with all 4 pairs using correctly differentiated twist rates and individually shielded) is only the solid foundation to which AQ then adds better materials and unique-to-AQ additional technologies.

The particulars of the RJ45 connectors have also received extreme attention. The plugs used on the Vodka and Diamond models (and available for use with bulk Cat 700 models), feature a unique patented transition-compensating system which reduces reflections caused by the impedance mismatch where 4 twisted pairs meet a straight line of 8 plug contacts.

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## Making sense of lab tests

DO COMPONENTS THAT FAIL CERTAIN LAB TESTS NECESSARILY SOUND INFERIOR?

I'm a longtime reader of *Hi-Fi News* and have always enjoyed the Lab Reports. Sometime ago I found Paul Miller's lab test of the Metronome Technologie Kalista Integrated player [*HFN*, Jan '09] and more recently, the T3A CD transport [*HFN*, Feb '13]. Both units failed your tests. The first was because it had a very high level of jitter, the second was due to it having an impedance level at 170ohm rather than 75ohm. This was also the case with the latest Audio Research REF DAC, which you tested in the January issue this year.

I'm a Metronome user and like the company's products for their 'organic', smooth sound. In the past I have had the opportunity to compare its players and DACs with those from high-end rivals such as dCS, EMM Labs and Burmester and have always found Metronome to sound more natural. It is a presentation that really appeals to me, whereas I find the sound produced by dCS gear to be a little bit clinical, despite the fact that it measures very well.

How much importance should I attach to your measurements? Do they mean that both the Metronome and Audio Research products are bad? Or are they just badly engineered but sound good?

*Kamil Lempe, via email*



ABOVE: The Kalista Integrated CD player from Metronome Technologie in France

Paul Miller replies: I believe Kamil is referring to our comprehensive QC Suite test report downloads [click on the red 'Download' button at [www.hifinews.co.uk](http://www.hifinews.co.uk)] rather than their interpretation published as the lab reports every month in *Hi-Fi News*. The small print on the test report website explains that 'Pass or Fail status flags refer to test limits set to reflect the average result expected'. Of course, the subjective impact of any one particular test rather depends by what degree a product has 'failed' this test, and how this result weighs against those of every other test in the sequence.

No experienced test engineer should be extrapolating sound quality on the basis of bread-and-butter measurements like frequency response, distortion at 1kHz and power output into 8ohm, and yet this practice still persists in some quarters. Our downloads reflect the huge numbers of tests that we perform, each a piece in the jigsaw that builds to form a picture of the sound. Here's the key point: an obviously wayward result may serve to indicate why a product sounds the way it does, but this doesn't mean it will necessarily sound 'bad'.

In particular cases, a single piece of the jigsaw *will* overwhelm all others and help 'define' the overall sound. The network input of the Audio Research REF DAC [*HFN* Jan '13] incurred ~5000psec of low-rate jitter and this fundamentally influenced the perceived resolution and focus of stereo images. The performance of every other parameter – and we measure more than anyone else – was identical via its S/PDIF and USB inputs except for jitter which was 10x lower. As a consequence, the *sound* via S/PDIF and USB was palpably sharper, cleaner and fundamentally more robust. It showed us how the REF DAC could really perform!

By contrast, the AES/EBU digital output of the Metronome T3A CD transport was 'failed' on test because its characteristic impedance was closer to 170ohm than the standard 110ohm. In practice, the impact of this will depend on the impedance of the receiver and how the risetime, overshoot and level of the transmitted data is modified [see our July '13 USB cable group test by way of illustration]. For my part, I never heard my Devialet D-Premier sound better with CD than when driven via the Metronome T3A.

## WIRELESS FRONTIER?



Not only are wires still very much the lowest-distortion highest-performance way to send both analog and digital audio information, but when it comes to sending power, "wireless" is just a nifty science project, not part of a home entertainment rig.

The challenge of not adding distortion as AC power goes from the wall to the electronics, and the challenge of not adding distortion as audio power is sent to a loudspeaker, are almost the same. The amount of energy transferred through these cables, and the size of the associated magnetic fields, puts them in a different class from all other audio and video cables.

Speaker cables need to maintain perfect integrity across the audio band and then some, while AC cables only have to try to be perfect in a narrower band. AC cable design is therefore a subset of speaker cable design because AC cables are subject to almost all the same distortion mechanisms, and benefit from almost all the same damage minimizing techniques.

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# Shure's all-time great MCs

THE V15 RANGE WAS LAUNCHED IN 1964, YET FOR MANY IT'S STILL SORELY MISSED

Jim Lesurf's August Opinion column closely matched my own thoughts, especially when it came to the love of the Shure name. Back in 1974 when I bought my first Thorens turntable and the mandatory SME 3009/11 Improved tonearm, all reviews suggested the Shure V15/III cartridge be used, thanks to its high trackability. I recall that it then came with the conical stylus.

Using that deck I would keep my precious LPs in pristine condition by only playing them once, copying the music to 7½in two-track open-reel tape. I had been fortunate to find an almost endless supply of American Soundcraft LP tapes, with NASA certification, at the closing sale of an American air base. Having bought more than 4000 10in reels for just £50 (as much weight as my friend's lorry could carry), 'memory capacity' wasn't a problem. Physical storage was a different question!

That first V15/III with its VN15 stylus gave total satisfaction until I noticed an advert for the first elliptical stylus, the VN35E. Progress was fast and by the time I ordered one it had become the hyper-elliptical VN35HE version.

As for the cartridges, I didn't upgrade while the V15/IV was being marketed, but did fall for the specification of the V15/V. I remember that this was supplied with its own recommended stylus. Was it the V15VMR?

I thought the micro-ridge profile gave a crisper and less distorted sound and used it continuously until just a few years ago, when I decided to upgrade my turntable. I was half-considering keeping the V15/V cartridge, so decided to install the old V15/III with my one remaining new VN3 5HE stylus. When I fitted it, I was puzzled to note once again a marked improvement in sound quality, though perhaps not quite as much as when fitting the V15/V.

In the event, I got a good offer for my old TD125 and when the buyer noticed the V15/V in its box, he made me an offer I couldn't refuse for that as well. I offered to install it while he waited and when he heard its freshly aligned performance, he said I could keep the V15/III. Perhaps it didn't want to leave home after all! The conclusion I drew was that I was probably asking my styli to last too long.

Other readers may be interested to know that a very good quality equivalent to the VN-35 HE is still available. Mantra Audio [[www.mantra-audio.co.uk](http://www.mantra-audio.co.uk)] offers its Ref.459 for the VN-35 HE along with the Ref.457 for the N97-HE.

To complete the Shure story, I think the M-97 is probably the only cartridge for ½in mounting routinely imported to the UK at present, but there is a model for the universal T4P mount used by many of the Japanese turntables. This is the M-92E, and I bought a couple to try on some nice Technics decks I was servicing. The M-92 comes at what I consider to be a very good price at around £45 for the cartridge.

When I asked about spare styli, Mantra surprised me a little by saying it did not think the styli were at present licenced for supply to the UK from the USA. I didn't think such embargos still existed in the present day! However, following further enquiries on Mantra's part it transpires that the Swiss firm does supply an equivalent. The stylus is, as I thought, elliptical, with a favourable price around £20.

For the last four years I have supported a local charity shop by servicing audio separates. This has allowed me to try a few different makes of cartridge and styli too. Among others, I particularly like the Ortofon 2M series (even the affordable Red is a lively performer) and Goldring 1042.



ABOVE: Shure V15/III cartridge seen here mounted on an SME 3009 tonearm

The only problem we have in the charity shops is when I have to convince someone who has paid around £40 for a turntable that the same amount is reasonable for a new stylus or, heaven forbid, a cartridge!

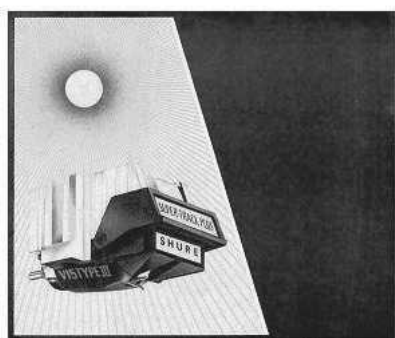
There's certainly lots of life in some of the old gear yet, not to mention the big black software!

Brian Sandall, Alfreton

Jim Lesurf replies: I really wish Shure had not abandoned the V15 series. I count among my blessings that my old V15/III and a pair of HE and MR styli still work well. For me, the ultra-low tip mass and high compliance were major advantages. Indeed, I suspect they are one of the main reasons why the cartridges (and my LPs) have survived so well! When I sent my ancient examples to be checked by The Expert Stylus and Cartridge Company the verdict was that they were still fine, and didn't need any replacement work. Impressive, given that I have owned and used them over a number of decades.

I can understand that Shure felt it had good business reasons for abandoning the cartridges, but given that vinyl hasn't vanished, I suspect it may regret the decision now. Newer cartridges, like the company's M2 series, are very good, but in my view don't quite match the V15s. Superb modern stylus profiles, yes, but not a match when it comes to tip mass and so forth. Wouldn't it be wonderful if someone were to stumble upon a crate of a few thousand 'new old stock' V15/IIIHEs and MRs?

I've long suspected that some of the differences in sound people notice when they change cartridge and stylus may be due to changes in tip mass, and profile. But as LP walls wear and a stylus wears in, the result may well be that changing back to a previously used cartridge can also result in an improvement in sound quality.



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ABOVE: Original ad for the Shure V15/III from the August 1973 issue of *Hi-Fi News*

# Which Devialet firmware?

WERE LATEST FRENCH AMPS COMPARED TO AN ORIGINAL HAVING UPDATED SOFTWARE?

In his review of the Devialet 170 amplifier in the September issue, Paul Miller says he found it to have 'better bass control, more insight and transparency' than the Devialet D-Premier amp.

These are exactly the same improvements I have experienced in upgrading my D-Premier firmware from 5.7 to 6.0. Was Paul comparing the 170 to a D-Premier with 5.7 or 6.0 firmware?

*Leigh Hibbins, Australia*

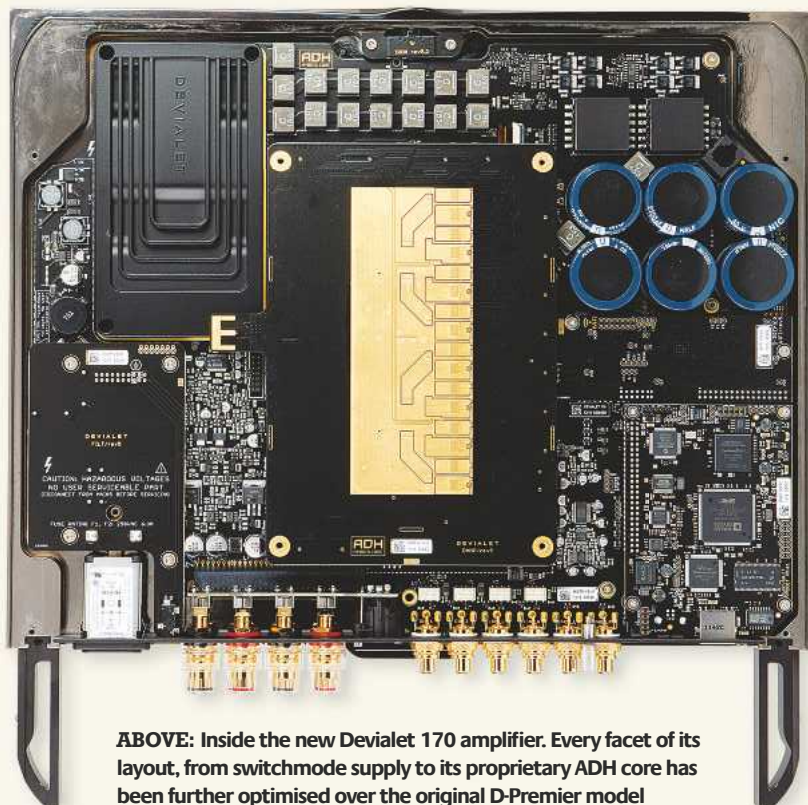
Paul Miller replies: Like Leigh, it has also been my experience that Devialet's various firmware revisions, ostensibly addressing functionality as much as raw performance, are often accompanied by an improvement in sound quality. Nevertheless the new 170 model also incorporates the same generation of firmware and yet enjoys a uniformly superior sound.

Re-reading the review, my remark about 'better bass control, insight and transparency' was meant as a deliberately glib response to the question 'is the 170

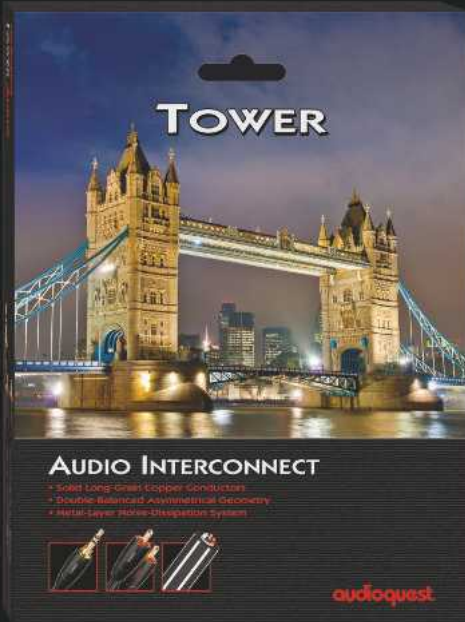
better than the D-Premier'. In practice, the 170 is so much more, offering a slightly darker but smoother and even more intimate listening experience by virtue of its extensive component and layout revisions. Pierre-Emmanuel Calmel, Devialet's head of R&D, told me earlier in the year that 'The [110/170/500's] internal refinements are extensive. We have added extra 400MHz DSP and over three times the embedded memory to accommodate future projects, including multichannel amplification.'

Importantly, while Devialet's ADH core is conceptually unchanged and still employs the Burr-Brown PCM1792 DAC, there's a much improved layout and better local heatsinking. The switchmode PSU has new rectifiers, transformers, MOSFETs and reservoir caps and has a far higher saturation current.

There are also two other routes to better sound via the 170 with its new USB and hard-wired network connections, allowing the amp to be addressed (non wirelessly) via a PC or Mac. I recommend you have your D-Premier upgraded to enjoy this final 'improvement'.

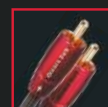


ABOVE: Inside the new Devialet 170 amplifier. Every facet of its layout, from switchmode supply to its proprietary ADH core has been further optimised over the original D-Premier model

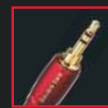


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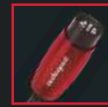
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# Vintage tuners

Compatible with modern hi-fi systems, a classic tuner makes a fine first vintage buy. **Tim Jarman** brings you his pick of the British, Japanese and US models to be found

**A** tuner is a useful addition to any hi-fi system. After all, they are still the best source of free, high-quality entertainment. Tuners are also the least troublesome component in a typical audio set-up, having few moving parts while operating at low power levels. This makes them an ideal buy for those wanting to dip a toe into the waters of vintage hi-fi with a wide range of classic tuners currently available at all price levels on the secondhand market.

## VALVE TUNERS

Since the vast majority of vintage tuners provide a line-level stereo output through standard connectors it is easy to integrate one into a modern system, so you don't need to go '100% vintage' to enjoy the benefits. On the other hand, a classic amplifier is always improved by the addition of its matching tuner if one was available, which was commonly the case with the larger, better-known brands.

For hi-fi purposes, FM is the best source and many of the top tuners offer this waveband only. AM (MW/LW) still has its uses, and should not be ignored if your chosen tuner offers it. FM hi-fi tuners first became available in the valve era



**ABOVE:** The Quad FM2 used a similar circuit to the original FM tuner. The later transistorised FM3 looks the same but lacks the vents in the top

**BELOW LEFT:** Plenty of choice here, with two Leak Troughline 2s on the bottom of the stack

**BELOW:** A Leak Troughline 3 and matching amp in a wooden sleeve – once a popular way to house equipment

and among the most popular were the Quad FM and FM2, designed together with the company's pre and power amplifiers of the day. The designs were both compact and attractive but, in the original system, the necessary voltages were supplied from the power amps via the preamp and some rather complicated cabling.

Sometimes these units are seen with home-made power supplies: make sure that they are properly constructed and safe before using them. Originally these tuners were mono only but Quad did produce an add-on stereo decoder that was housed in a small metal box on the back. This used early germanium transistors and its performance isn't great by current standards. A modern IC-based alternative is a better choice unless absolute originality is your priority.



Another popular valve FM tuner is the Leak Troughline which, unlike the Quad, has the advantage of a built-in power unit. The original model had a restricted tuning range but this is not a problem if you plan to listen mostly to the BBC national services, which offer the best sound quality anyway. This problem was addressed with the Troughline Mk II, which presently is the model most sought after secondhand.

The re-styled Mk III was offered with the option of a built-in stereo decoder but, as with the Quad tuners, this was an early transistor design of indifferent performance





good signal to obtain clean stereo reception, but once you have this sorted results should be stable and consistent. The cheaper (both then and now) ST-70 uses much the same circuit, although its styling is bland.

**FULL-SIZE TUNERS**

As well as miniatures like the ST-88, the Japanese also produced large tuners, sometimes of breathtaking quality. The most famous of these is the Yamaha CT-7000, whose measured performance is still outstanding today [HFN Aug '12]. Although clearly a well made product, the CT-7000 needs to be inspected carefully since it is a very complicated component with many automated features beneath its minimalist exterior.

Ensuring that all these functions operate correctly is key when buying one secondhand, but also check for

meaning that examples with one fitted are not greatly valued over the mono versions.

If a modern decoder has been added to any of these tuners, try to verify that the work has been done safely and correctly. Valve FM tuners tend to suffer from drift and, as most lack AFC (automatic frequency control) to counter this effect, it is not unusual to have to regularly reset the tuning. Sensitivity is often lower than that of modern transistor designs too, making a high quality aerial installation an absolute must.

As well as the cost of organising an aerial, a stereo decoder and possibly a power unit, bear in mind that old valve tuners typically require full electronic restoration and realignment before being returned to service. So budget accordingly.

**TRANSISTOR DESIGNS**

Of the early transistor tuners, probably the pick of the bunch is the B&O Beomaster 5000 [HFN Dec '12]. This late '60s design offers full FM coverage to 108MHz, AFC and an integrated stereo decoder, along with a level of sensitivity which is well up to modern standards.

The design was revised mid-way through the run to include field effect transistors (FETs) in the front-end and a ceramic IF filter, both of which improve performance – though not by a large enough margin to make the earlier version redundant. Reliability is good, but the rectifier unit can fail, the symptoms being background hum and mono reception only.

Cabinet wise, the screen printing of the tuning scale is fragile and can flake or wear away, resulting in an unsightly appearance. B&O's other tuner, the Beomaster 1700,

**ABOVE: Two of the best vintage buys – the Yamaha CT-7000 (top) and B&O Beomaster 5000. Both models are FM-only, the CT-7000 using an early PLL stereo decoder circuit while the B&O employs an integrated stereo decoder**

is also worth considering as a budget alternative to the 5000. Low sensitivity due to failed front-end FETs is the main electronic weakness of this model, with peeling wood trim at the sides being the major cabinet issue.

Another budget transistor tuner that seems to be ever-present on the vintage scene is the Sony ST-80/ST-80F/ST-88 [HFN Apr '12]. This model was originally sold as a compact add-on

for existing systems and it can still serve well in that role today.

Its reliability is exceptional: apart from the odd burned-out dial lamp it's as near 100% trouble-free as any 40-year-old audio product could be expected to be. The decoder circuit is rather basic so you need a

*'The Troughline Mk II is the model most sought after secondhand'*

background hum, which can result from problems developing in the hard-worked power supply.

The CT-7000 uses an early PLL stereo decoder

circuit that should give the sort of performance one would expect from a modern design. But with age the adjustments in this area can drift, making the decoder reluctant to operate. Resolving this is reasonably straightforward if the correct equipment is to hand but, as with

**RIGHT: The ever popular ST-88 was in the Sony catalogue for years in one form or another, so there are plenty to be found secondhand. Not high-end by any means, but nevertheless a fine addition to systems both old and new**



# BUYING VINTAGE



any tuner, random twiddling will soon render the set useless.

Most of the major Japanese names made large, extravagant tuners during the 1970s and '80s with the likes of Sansui, Sony and Technics leading the field. Aiwa's AT-9700 of 1978 included quartz crystal references for both the receiver and the stereo decoder, making accurate operation as easy as it was ever going to be with 'analogue' tuning.

Japanese build quality peaked around this time and so it comes as no surprise to find that the big Aiwa is a sturdy beast that gives little trouble, although some can come with defective decoder chips which results in mono reception only. Despite the quartz lock, the chip is a conventional Hitachi type and still available.

## 'DIGITAL' TUNING

Not all Japanese tuners were enormous hulks of gleaming anodised alloy. Countless smaller models were also produced which, as a result of their reliability and modest signal requirements, remained in use for decades and are still plentiful today.

Typical of these smaller models is the Trio KT-900, a pleasingly compact unit that does everything one could ask of a tuner with minimal fuss. This model marks the point at which 'digital' tuning began to be the norm, although in the case of the KT-900 the digital display is simply a frequency counter read-out and the tuning itself is still performed mechanically.

Later 'frequency synthesizer' tuners, with facilities like automatic search and multiple programme storage, increased operational flexibility and high-tech appeal but

this added little in terms of sound quality. Some have even observed that the previous 'manual' models offered better audio performance.

Whether true or not, a digitally controlled tuner usually features components such as specially programmed microprocessor ICs, which can be difficult to replace if faulty. The 'prescaler' chip, which divides the incoming station frequency to a form the microprocessor can handle, is also a vulnerable component in many

synthesizer tuners and is often the culprit when the tuning functions refuse to operate.

Returning to British tuners, the Quad FM4 is among the most

highly favoured. Both aesthetically and ergonomically this model marks something of a high point and offers excellent audio performance too. Compared to the Japanese products of the era the standard of construction is perhaps not quite on par, so a full overhaul is wise before subjecting the unit to critical use.

Problems with the mains input filter and transformer have also been noted, the symptom being the failure of any function to operate.

**'Aesthetically the Quad FM4 marks something of a high point'**



**ABOVE:** The Quad FM4 was one of the best tuners of the 1980s and offers digital tuning and electronic programme storage – facilities that buyers of that era had come to expect. The first versions had yellow buttons and a matt fascia but styling is still restrained compared to the Japanese competition

**BELOW:** The April 1975 issue of *HFN* with the Sequerra Model 1 on its cover and (right) Sequerra Model 1 brochure from 1987. The tuner cost £1700 on its release in the UK

## BEFORE YOU BUY...

Verify that the tuning balance indicator (if present) centres at the correct point of tune. Discrepancies in this area may well point to a fault in the discriminator circuit, indicating that at the very least some alignment work will be needed.

Next, check that with a strong signal the stereo decoder is working. With a makeshift antenna the reception will probably be noisier as the decoder cuts in, but this is to be expected so don't worry.

If the decoder engages only when the tuning is slightly mis-set then it may be that the PLL circuit is out of adjustment or faulty, so again attention will be required. Lastly, check that lamps and displays are working.

This is rare, however, and should not be a cause of undue concern. But do check that stations can be stored and recalled correctly in all positions when inspecting an FM4.

## FAMOUS NAIMS

Naim is also famous for its FM tuners. The two-box NATO1 used a front-end made and aligned by Naim itself to achieve specific performance objectives and with a good antenna (which is essential with this model) the results that can be achieved are among the best.

NATO1s are quite unusual, but the more frequently encountered single-unit NATO2 shares the same front-end and much of the other circuitry besides. As such, the two can be considered equivalent for most purposes. Naim is also well known for its after-sales support so repairs should present no problems, other than cost. ☺

When you understand the SEQUERRA you will appreciate why "the ultimate tuner" doesn't quite describe it.



It is acknowledged that the SEQUERRA is an expensive tuner. It is also a complex piece of equipment. It is not a simple tuner. It is a tuner that is designed to be used by those who are serious about their music. It is a tuner that is designed to be used by those who are serious about their sound. It is a tuner that is designed to be used by those who are serious about their life.

SEQUERRA Model 1 is a high-end tuner. It is a tuner that is designed to be used by those who are serious about their music. It is a tuner that is designed to be used by those who are serious about their sound. It is a tuner that is designed to be used by those who are serious about their life.

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## BUYING VINTAGE



One common fault with the early types (up to the NAT03) is that the frequency display jumps around due to wear in the potentiometer behind the tuning knob. Check that the digits increment smoothly as the knob is turned through its full range – not that replacement is a particularly difficult task.

### AMERICAN MODELS

As for tuners from across the Pond, two models stand out. The first is the Marantz 10B, first imported into the UK back in 1963. 'The Rolls-Royce' of tuners – as one contemporary reviewer described it – the 10B can be difficult to service and maintain, if only because of the complement of 21 valves on board. Still, there are those who covet its silky-sounding treble and midband presence. Sadly, finding one on the secondhand UK market is rare.

Easier to live with is the Sequerra Model 1. Described at the time of its launch in 1976 as 'a solid-state version of a 10B', good clean working examples continue to command high prices. Support is good though, with DaySequerra ([www.daysequerra.com](http://www.daysequerra.com)) being your first port of call should you have a unit in need of service.

When inspecting any tuner, the first thing to check is that the sensitivity is adequate. Some valve-type designs aside, provided you are in a reasonable reception area a correctly functioning tuner should receive a few local stations in stereo with just a metre or so of wire pushed into its aerial socket. If nothing is received then the front end may be defective and this isn't

always easy to put right. Do make sure that the muting/silent tuning function is turned off first.

Once you've found a station, check that engaging the AFC/AFT function (if fitted) makes the tuner pull onto the correct point of tune, even when the tuning control is deliberately set slightly 'off'. This isn't always possible with frequency synthesizer tuners so with these designs make sure that a station of a known frequency is optimally tuned at the correct display reading.

Also, don't rely on the indicator lamp alone; make sure that the

sound you're actually hearing is in stereo too!

Finally, check that everything that is supposed to light up does so – few things are as annoying

as lop-sided dial lamps or missing display segments.

A tuner that passes these tests should give many years of trouble-free service, and will make an excellent vintage buy. Don't forget to budget for a decent aerial to go with it, though. ☺



**ABOVE:** The Naim NAT01 in its original form. Later models were supplied in casework to match that of later Naim amplifiers. An external power supply was required with this model, so do make sure this is included when you buy

**BELOW:** The FM-only Marantz 10B. The styling may not be to European tastes and servicing can be difficult, but those who favour them report good performance

### ALSO CONSIDER...

**1 Rogers Variable FM Receiver:** A traditional valve FM tuner which has the advantage of being self-powered – unlike the smaller switched model that runs from the matching power amplifier. Mono only.

**2 Sansui TU-X1:** Japanese excess with separate AM and FM sections and enough knobs on its matt black fascia to keep anyone happy. Not a bad performer either.

**3 NAD 4020:** The matching tuner for the famous 3020 integrated amplifier was also a fine performer for the money. Reliable and easy to find.

**4 Philips RH621:** Under-rated Dutch masterpiece that combined a full feature count with fine technical performance. Its rich FM sound is a joy and it does a fine job on AM too.

**5 Revox A76:** Reasonably straightforward (for a Revox!) analogue design with a generously specified circuit and pro-level build [pictured below]. Other models add complexity without necessarily improving the sound quality.



**6 A&R T21:** Made to go with the well respected A&R A60 integrated amplifier, this design wasn't state of the art by any means, but if you have the amp it's a very worthwhile addition.

**7 Pioneer F-90:** Used a novel 'digital' detector and stereo decoder circuit that gave class-leading measured performance along with highly rated sound quality. Well worth seeking out.

**8 Sony ST-J88:** Not to be mistaken for the budget ST-88, this tuner was part of the company's groundbreaking Class D Esprit system of the late 1970s. Epic build and a highly competent performer, but not that exciting to listen to.

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The display can show current track information or these 'retro' meters. Full details of the music stored appear on the iPad with album cover art.

Music is stored on two 3TB discs but queued and played from a 240GB flash drive to minimise electrical noise.

Power for the audio circuits is drawn from re-chargeable batteries, for mains isolation.

**VTL** have replied to calls from all over the world (including us!) for a stereo amplifier based closely on the legendary MB-450 monoblocks – and we have the first finalised **S-200** in the UK.

It is a "stormer", a fully-balanced amplifier, incorporating their SmartTube technology that provides automatic bias adjustment and multiple layers of comprehensive monitoring to ensure the valves always operate within their optimum 'envelope' for reliability. Highly-regulated valve voltages ensure the amp 'delivers', even during demanding, complex music passages.

We think the S200 is going to re-write the rules for affordable high-power valve amplifiers.



The **Aletheia dac1.5** is the second model from the Vertex AQ stable and offers significant upgrades to components – with Charcroft 'Z' foil resistors and Dülund VSF capacitors – at key points in the circuits. Improvements to EMI and vibration rejection reduce still further any interference with the music signal.



Both DACs are unusual in having no upsampling, filtering or noise-shaping in the design. Results from their Measurement Initiative with one of the MoD's research agencies show that such processing can break up the musical flow.

After hifi+ magazine returned the dac-1 from review there was 'mourning for the loss of music' – such was its impact.

In all our demonstrations we use **Vertex AQ** mains supplies and platforms and cables that absorb the internally-created vibration that blights all hifi systems unless treated – vibration from speakers and power supplies that rattles circuits, creating spurious signals to pollute the music.

From a partnership with Vertex the **Kawero! Chiara** standmount speaker builds on this technology, draining vibration from cabinet, crossover and drive units into labyrinths in the stand. *Read glowing reviews on The Audio Beat online and also in this month's hifi+ magazine.*



As always, we shall use the beautiful and clever **LeadingEdge** equipment racks, treat room acoustics with their acoustic panels (expect a 'Wow' reaction in the A/B demonstration!) and play the fabulously quiet but dynamic Spiral Groove SG1.1 turntable and Centroid arm through the VTL TP-6.5 phono stage.



\*\* See: [www.chestergroup.org](http://www.chestergroup.org) and Whittlebury Hall NN12 8QH

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# Philips CD303 CD Player

While early '80s Philips kit failed to make its mark in the UK, the company's CD303 CD player with its twin 14-bit DACs was a hit. But how does it measure up today?

Review: **Tim Jarman** Lab: **Paul Miller**

**W**hile Sony can lay claim to have been the first company to market with a CD player in the US and Japan, it was Philips that won the race in Europe with its CD100 [HFN Oct '11], which went into mass production in late 1982. Also marketed as the Marantz CD-63, the CD100 set the pace for the first generation of CD players.

Not only was it smaller than the Japanese competition but also more technically advanced. Where the Japanese players made do with a single DAC shared between left and right channels and running at 44.1kHz, Philips used a dedicated DAC per channel with a clever four-times oversampling digital filter that operated each at 176.4kHz.

## SIMPLER CIRCUIT

The use of twin DACs at a higher sampling rate also simplified the design of the analogue stages that followed. In short, the Philips machines had no need of the elaborate 'brick wall' analogue filters that the Japanese were obliged to fit into their players. Simple circuits with benign phase characteristics could be used in their place [but see Lab Report, p132].



Compact Disc-Spieler CD 100. Der kleinste Compact Disc-Spieler der Welt, dennoch mit allen Features. Schichtdicke: 32 x 7,5 x 26,7 mm | großformatiges Design (52 x 17,5 x 26,7)



Compact Disc-Spieler CD 200. Der kleinste Transport-Gesamter zu Philips (Hifi) und vielen anderen Standard-Hifi-Gesamter. Breite: 42 x 8,5 x 32 mm | großformatiges Design (42 x 8,5 x 32)



**ABOVE:** Philips German brochure from 1983 shows (from top) CD100, CD200 and CD300



**ABOVE:** The Philips CD303, launched in the UK in late 1983. No flimsy plastic drawer here as the whole transport slides out on a sturdy assembly. Indicators on the front show the available tracks

The Philips system famously used 14-bit DACs instead of the expected 16-bit designs and, whether this was by design or by accident, the arrangement worked very well indeed.

Early reports in the UK hi-fi press showed a preference for the Philips-based models, although it was usually the Marantz CD-63 that took top honours as the company's range of partnering equipment was superior to that of its rivals. The players, though, were essentially identical. In the run-up to the launch of CD, Marantz had shown a drawer-loading machine. Later to emerge as the CD-73, this machine used the same basic technology as the CD100/CD-63 but had its complete transport mechanism mounted on a heavy tray that slid out under motor power.

The CD-73 would also appear with rather more restrained styling in the Philips range as the CD300. Only produced briefly, the CD300 is rare to come across these days on the secondhand market.

By the end of 1983, the Philips group had perfected its front loader and the model was relaunched as the CD303. The

most obvious innovation was that a digital track-time display was now fitted to the fascia – a feature absent from all the other first-generation Philips players.

## CHANGE OF TRANSPORT

There were two important changes during the production life of the CD303. Firstly, the original (and largely hand-made) CDM0 transport mechanism was replaced by the die-cast CDM1, which was easier to mass produce. Secondly, and apparently due to production shortages, some machines were fitted with a sub-panel carrying a different decoder and error correcting circuit in place of the original Philips chips.

The changes were far reaching and involved removing the SAA7020 error corrector and SAA7000 'concealment and interpolating' devices and in their place fitting the CX7933, CX7934 and CX7935 chipset from the Sony CDP-101.

The transition was not an easy one and led to some functions being duplicated in the interests of not having to modify the CD303's radial servo system. A large dollop of 'glue logic' was needed to interface





the European and Japanese devices but to its credit Philips managed to get this seemingly unholy alliance to work, feeding the output of the Sony circuit into its SAA7030 oversampling digital filter, where the 14-bit magic took place as before.

Both versions of the machine are encountered in roughly equal numbers although, speaking from personal experience, I have yet to see a Marantz CD-73 fitted with anything other than the hybrid Philips/Sony decoder.

Philips offered a full range of matching units to support the CD303. These included the F4234 and F4235 integrated amplifiers, F2233 and F2235 AM/FM digital tuners and the F6335 Dolby B/C cassette deck. For those wanting something a bit more upmarket the F3238 preamp could be used – a natural partner for the F9638 Motional Feedback active loudspeaker system [see *HFN* Jul '13] which was available at the same time.

*'The Philips CD303 sounds like a turntable on a good day'*

Although widely distributed in mainland Europe, none of this equipment sold in appreciable quantities in the UK. By contrast, the CD303 itself proved to be a popular model among British audiophiles.

**EERIE GLOW**

A few quirks reveal themselves in use. One can only skip tracks forwards, and when doing so the procedure is rather slow. It is easier to use the 'select' key to access a particular track and to then press 'play'. The machine then finds your selection quite briskly.

Unlike later players, the digital display shows elapsed time only (either for the current track or the disc as a whole) and not the track number. This is fine so long as there

are fewer than 15 tracks on the disc, when the bar-type display on the disc drawer can cope. Discs with more tracks can be played, but no indication of track number is then given and one has to skip forward

**ABOVE:** The player's neat front panel. The only thing missing compared with modern players is a 'previous' button as tracks can only be skipped forwards. The finish is brushed aluminium

carefully with the 'next' key to find the desired section.

Finally, during playback the disc is bathed in the eerie green glow of six LEDs mounted around the transport. This could be merely decorative, but it did pre-empt by nearly a decade the brief obsession among tweekers with treating the edges of CDs with special green pens!

All the early Philips players put musicality and euphony first, rather than being born out of the Japanese obsession with technology and precision – sometimes for its own sake. By prioritising phase linearity over absolute flatness of response for example, the designers demonstrated an understanding of the requirements of real-world music listening over the attainment of ostensibly 'academically correct' measured performance.

Since all full-sized CD players, even early ones, produce about 2V of signal from a low-impedance source there is no difficulty in using a machine like the Philips CD303 with a modern amplifier. The signal cables are tethered but terminated with traditional RCA plugs (of a rather clever design where the outer ring really grips the socket) which pop straight in, no bother. There was thus no need for interconnects when setting up my Cyrus 6A amplifier and Monitor Audio PL100 loudspeakers for the listening, though these bijou components were dwarfed by the CD303 (which, unlike the trim CD100, is a hulk of a thing).

**TIM LISTENS**

It's a cliché that the early Philips players sound 'turntable like' but it's hard to disagree when you listen. It might be more accurate to say that the CD303 (in this case an early example with a CDM0

**LEFT:** Original CD303 owner's manual. Plenty of clear illustrations and step-by-step instructions as most consumers would not have operated a CD player before



## VINTAGE HI-FI

**RIGHT:** Internal layout is neat with transport on the right (as viewed here) and decoding electronics on the left. Screened enclosure prevents both egress and ingress of noise

transport and the full Philips decoder) sounds like a turntable on a very good day, with an even response, no mistracking, no pops or clicks and perfect speed stability. This likeness to vinyl replay stems from what sounds like a slightly resonant bottom end, a softer treble than is the norm for CD and the way the music flows. The stop-start, one-note-at-a-time feel of a typical Japanese player is not present here.

I was fortunate enough to have access to the original Philips demo CD [810 027-2, copyright 1982!] when auditioning the player, so it was possible to hear it exactly as its makers intended. The selections open with Elton John singing 'Blue Eyes', so the first thing you hear is Elton's voice, rich, warm and poised. Beneath this, the strings swirl, while percussion is precise and clean.

### ADDICTIVE STUFF

The same disc contains Chopin's *Fantaisie Impromptu*, a solo piano piece of varying tempos and complexity. As the piece progressed the Philips and the rest of the system was soon forgotten; I was just there, sitting with Bella Davidovich as she played. The piano, so often an instrument that trips up a struggling audio system, was presented flawlessly, sounding rich and deep.

This was addictive stuff and the player continued to weave its magic with disc after disc of differing musical styles. With Paul Simon's *Surprise* [WB 9362-49982-2] from 2006

*'The Philips player weaved its magic with disc after disc'*

I was again treated to an unforced and natural presentation, even if the early Philips sounded a little hazy and ethereal compared with current designs. That is not to say that the imaging is diffuse or the timing slack, just that the top end can sound a tad soft on occasion.

During my listening I also took the opportunity to compare the CD303 with a CD100 and a Marantz CD-73 fitted with the Sony chipset.

Even though the functional parts and circuits of the CD100 and the CD303 are essentially identical there was a marked

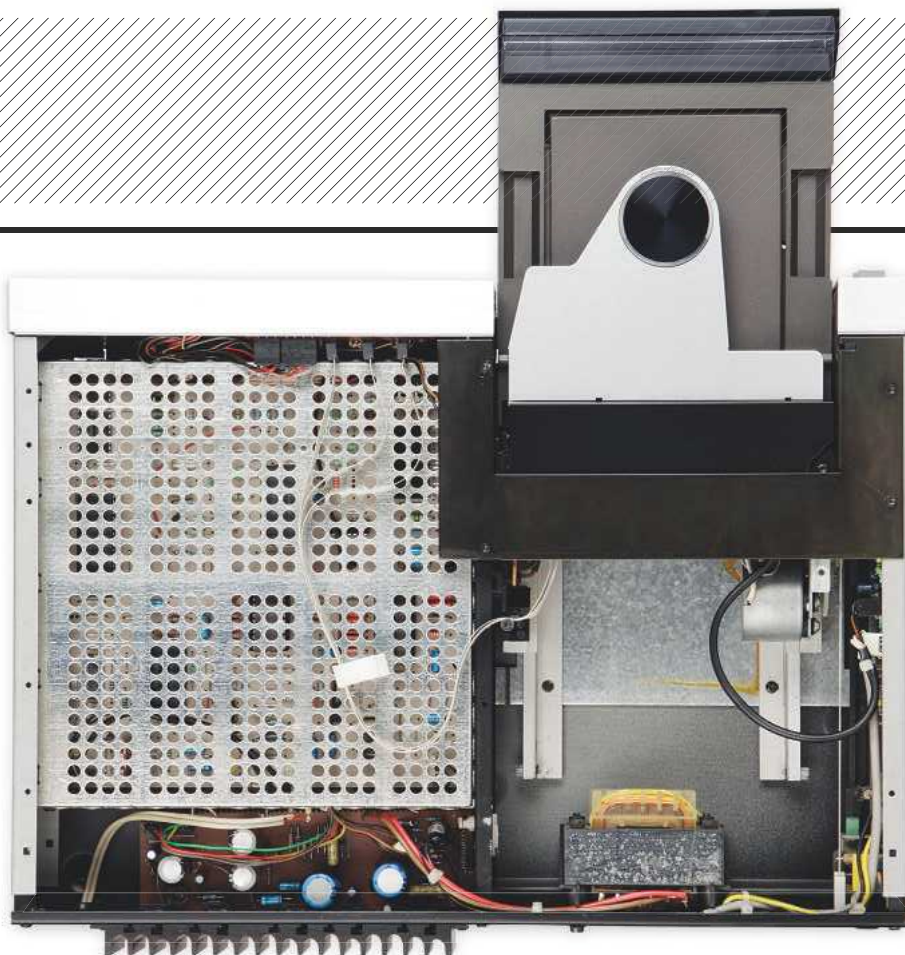
difference in sound, the CD100 sounding a trifle raw and rough around the edges when compared with the velvety smooth CD303. Whether the larger circuit boards and more spacious layout of the CD303 contribute to this is anyone's guess. Or perhaps those green LEDs really do have an effect? Either way, the absolute difference is slight and only really appreciable in an A/B type audition.

The CD-73 was also different, being slightly less fluent and again not quite as smooth-sounding, the key differentiator being the ability of the CD303 to render percussion cleanly and without splash. This aside, the two are essentially similar in character, which is remarkable given how different they are architecturally.

### FAMOUSLY DURABLE

The usual early CD player curse, failed laser assemblies, is not such an issue with the CD303 since both the CDM0 and CDM1 transports are famously durable. That's not to say they never wear out, only that this is unusual. If the disc spins rapidly but the table of contents (TOC) is not read (for example, the display on the drawer does not show the correct number of tracks on the disc) then the laser may be suspect, though there are other faults that can cause these symptoms too. If, on the other hand, the disc turns sluggishly

**LEFT:** The Marantz CD-73 was less of a styling success than the Philips versions but inside it was largely similar. The CD-63 (inset bottom right) was identical to the Philips CD100





# VINTAGE HI-FI

# LAB REPORT

## PHILIPS CD303 (Vintage)



**ABOVE:** Rear view shows tethered cables and warning not to connect the player to the phono input of an amp, as owners replacing their LPs with CDs might have done

and eventually grinds to a halt, accompanied by a rushing noise from the focus system, then the spindle motor is usually to blame. This can happen if the machine has been left unused for a long period and can be cured by simple persistence. Keep pressing 'play' each time the disc stops and you should find that eventually it will run fast enough to be read. After a few discs have been played the unit should then function normally with no other intervention required.

This problem is confined to players having the CDM0 transport; the CDM1 uses a different motor.

### POOR SOLDERING

Many faults that appear more serious in nature are caused by problems in the power supply section, which is of a pleasingly simple design.

Poor soldering is commonplace, as is the failure of two 100µF capacitors that together form a doubler circuit from which one of the supplies to the servo section is derived. These should be replaced as

a matter of course if the machine is to be used at all seriously.

Absence of sound in one channel can be due to many things, but the most common reason is a faulty reed relay in the filter stage or a breakage in the signal cable where it exits the cabinet. The latter is easy to fix since the cable is terminated neatly just inside, meaning that only a few inches need be lost. Resist the temptation to drill the cabinet to add RCA outlets. This just compromises originality with no real performance benefit.

Meanwhile, the digital display can suffer from lost segments (as it does in the later CD160 models), something which is difficult to resolve since part of the driving circuit is built into the display unit.

Missing lights from the display in the drawer are less of a problem and are normally due to easily repaired cracked soldered joints in this area.

The CD303 is well respected in vintage circles. Not only is it of interest historically but it offers excellent sound quality and is reliable enough for reasonably frequent use. Prices vary between £200 to £400, for which one would expect a tidy, original example with no faults or issues. ☺



**ABOVE:** 'Years ahead...' the CD303 in Philips' home (Dutch) 1983 catalogue

### HI-FI NEWS VERDICT

The precision and convenience of CD with the listening pleasure of LP? Up to a point this is what the Philips CD303 delivers, making it possibly the best of the first generation digital players. That it has also proved itself durable enough to still be easily found on the secondhand market in working condition is a further bonus and a testament to the quality of the components that went inside. Outstanding.

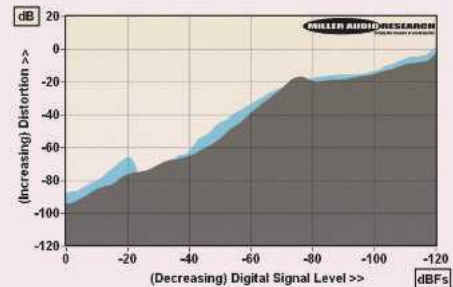
Sound Quality: 85%



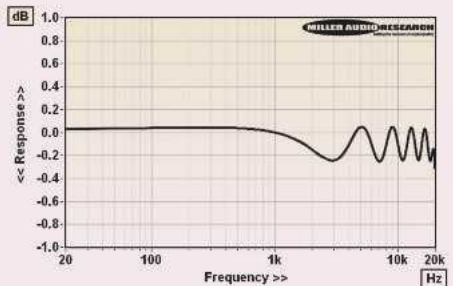
Bearing in mind the common platform shared by this CD303 and Philips' original CD100 [HFN Oct '11], comparisons are both inevitable and instructive. Indeed, I suggested in that lab report that our CD100 was suffering from an aged power supply, impacting both its S/N ratio and jitter, the latter's 2550psec probably closer to 300-400psec with these artifacts subtracted. This was not a bad guess, for our CD303 incurred some 380psec and enjoyed a 1dB lift in A-wtd S/N to 104.6dB. Otherwise, this CD303 and the CD100 are nigh-on identical. Resolution is good to ±1.5dB at -100dBfs and the maximum output almost bang-on the old 2V standard at 2.07V from a 50ohm source impedance (rising to 135ohm at 20Hz).

The frequency response is just -0.5dB down at 20kHz but subject to 0.25dB in-band ripples caused by the limited number of taps and truncation of the impulse in its (relatively) archaic FIR digital filter [see Graph 2, below]. The filter is still phase-linear but today's upsamplers will offer ripple levels at least a 1000x lower. The 51dB stopband rejection is good for this first-generation filter and distortion is also low for a 14-bit architecture at 0.0006%/0dB, 0.009%/-30dB and 1%/-60dB. Harmonic distortion was higher at the highest frequencies in the CD303 compared with the CD100, however (0.02% vs. 0.008% at 20kHz/-30dBfs). Nevertheless, rather than look at spot levels and frequencies, our distortion versus digital level trends [see Graph 1, below] clearly illustrate that the SAA7030/TDA1540 chipset lacks the uniformity of modern DAC solutions.

Readers are invited to compare the QC Suite test report for this Philips CD303 with our sample of the top-loading CD100 by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'Download' button. PM



**ABOVE:** Distortion versus digital signal level over a 120dB dynamic range (black = 1kHz, blue = 20kHz)



**ABOVE:** Impulse frequency response showing the substantial filter ripple common to early CD players

### HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	2.07Vrms at 50-135ohm
A-wtd S/N ratio	104.6dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.0006% / 0.0092%
Distortion & Noise (20kHz, 0dBfs/-30dBfs)	0.0045% / 0.017%
Frequency response (20Hz-20kHz)	+0.05dB to -0.51dB
Digital jitter	380psec
Resolution @ -90dB/-100dB	+1.5dB / +1.5dB
Power consumption	18W
Dimensions (WHD)	420x88x315mm

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## CARTRIDGE

# Van den Hul The Crimson

Anyone spending thousands on a moving-coil cartridge will expect something with nigh-on transcendental performance. Well, here it is...  
 Review: **Nick Tate** Lab: **Paul Miller**



One of the joys of our hobby is that there are so many manufacturers out there with wildly differing ways of doing things. And, unlike the auto industry, for instance, there still remains a space in the hi-fi world for good old-fashioned handmade goods which are the product of one man's (often fevered) imagination!

Van den Hul is one such example, its range of moving-coil cartridges hand built by AJ vdH himself at his workbench. His latest pick-up is called The Crimson and comes in a choice of natural light and dark wood finishes as well as a coloured (also wooden bodied) version. And should you have a passion for plastics, there's a polycarbonate option for your pleasure...

Although nudity is currently the trend for modern moving-coils, with generators exposed for all the world to see, The Crimson doesn't quite go all the way and chooses to cover at least a little of its modesty. Still, most internals are visible – and breakable, if you're ham-fisted. The stick-on 'v.d.Hul' label isn't quite what you'd hope for, cosmetically, on a cartridge of this price, and another disappointment is the stock vdH wooden box, which looks like something that would house a small set of tin soldiers back in the 1950s. Some might think this quaint for a £4000 product, others will not.

The Crimson gives a claimed 0.65mV output [see Lab Report], which should be enough for all but the most anaemic of



**RIGHT:** With DNA from the vdH Canary and Condor, the Crimson features a wooden body with four threaded inserts

MC phono stages, and uses gold coils, a samarium-cobalt magnet and a 'VDH 1S' stylus fitted to a boron cantilever. It comes with a free 200hr service check-up (for the original owner), should you want one, and the lead time is three weeks to build. I found it fiddly to install, quickly learning not to torque it into the headshell too tightly, thanks to a propensity of the metal thread cartridge body inserts to detach themselves. (Getting them back in is a fuff that will likely prove a low point in your ownership experience.)

Another hurdle is the contemplation of the price of this product and the damage

that one wobble of the hand could cause – best perhaps to tell yourself that you're fitting a £15 Audio-Technica moving magnet!

### **RED ALL OVER**

With it nicely aligned in the headshell, riding the grooves at around 1.5g and fully run in, the trials and tribulations of getting The Crimson fitted soon melted away. Suddenly you're transported to a world which simply isn't obvious for the somewhat Heath Robinson packaging, and which turns out to be one of the most exquisite auditory experiences this side of live music itself.

One of the things that never fails to amaze me about the best high-end MCs is that they're so good, yet so different [see boxout]. They take you into their own distinctive world and seduce you into thinking that somehow their version of reality is the *only* one. And so it was with this van den Hul – within seconds of the needle touching down I was enraptured.

The Crimson pulls off the apparently impossible trick of being saccharine-sweet, yet as sharp and fast as razor blades flying through the air. It's really quite disconcerting, as experience teaches us to expect one or the other, but not both – yet this vdH MC offers dizzying speed,

### **A DIFFERENT APPROACH**

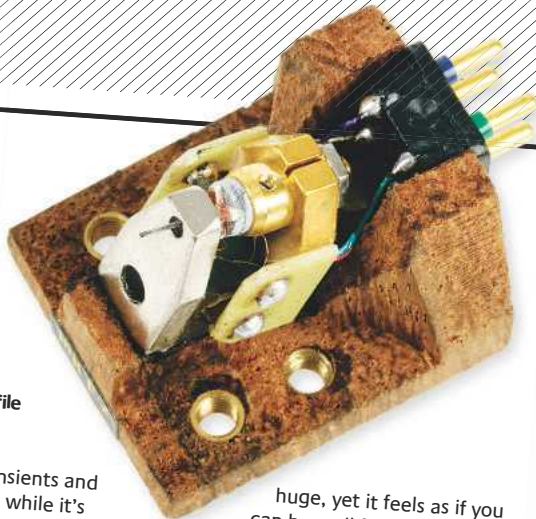
The fascinating thing about high-end moving-coils is that two prime examples can be so good yet so *different*. Take, for instance, Linn's new £2960 Kandid MC [HFN Sept '13]: it sounds superb, as does the vdH, but they're night and day in their respective characters. The Crimson has a vast soundstage, and a sort of 'super-natural' approach to making music. Everything is larger than life – yet dreamier, sweeter and silkier too. The Linn by comparison, is altogether more measured: instead of being up in the gods of the concert hall, it's in the stalls getting down and dirty with the visceral power of the proceedings. Less showy and exuberant, the Linn focuses on the basic building-blocks of the music rather than projecting the overall pomp and grandiosity of the music. All of this means that if you're in the market for a serious MC, you should audition both!

## LAB REPORT

### VAN DEN HUL THE CRIMSON

This is no fussy low output moving coil, for the generator enclosed within vdH's softwood body is capable of delivering a full 0.8mV into a standard 100ohm load. While this is nearly 2dB higher than specification, the channel balance is rather poorer at 1.1dB – audible in some systems and higher than the <0.3dB suggested in its literature. VdH also suggests The Crimson is best suited to medium/high mass tonearms (10-16g) and the 14cu vertical/21cu lateral compliance certainly supports this. Tracking at the recommended 1.6g downforce, hardly excessive for a relatively 'stiff' moving-coil, is very good indeed. The Crimson very nearly surmounted the maximum 80µm groove modulation with distortion at 0.5% at +15dB (300Hz, re. 5cm/sec) before just 'letting go' at 1.5% THD through the full +18dB track.

The VDH 1S diamond is beautifully polished and mounted free of excess adhesive, although the VTA is rather high at 28 degrees with the armtube parallel to the record surface. This may, in part, contribute to the slightly 'hot' presence and upper treble response of The Crimson [see Graph 1, below] which will bring some added pizzazz to its sound. Importantly, there's excellent symmetry between the lateral and vertical responses which augurs well for a broad, deep and coherent stereo soundstage. There's a similar symmetry in its lateral/vertical distortion [see Graph 2] which peaks at ~7% (many MCs are in double figures) but sits <1% from 20Hz-3.5kHz (-8dB, re. 5cm/sec). Readers may view a comprehensive QC Suite test report for vdH's The Crimson MC pick-up by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'Download' button. PM



**RIGHT:** The 'gold' coils are visible here mounted in the field of a samarium-cobalt magnet. The fine, line contact stylus is specified as having a 3x85µm VDH 1S profile

lightning attack transients and effortless dynamics, while it's also tonally a real smoothie. At the same time, it artfully avoids turning into one of those 'forensic' sounding pick-ups: The Crimson doesn't lay out the recording on a grid for you, with everything in its right place for your calm, considered perusal. Rather, it assaults you with the most exuberant, emotionally arresting of listening experiences. It's almost 'Alice In Wonderland' in its ability to wake everything up that's in the groove and make it sing in the most luxurious and beguiling way.

Put on the most modest of recordings, in hi-fi terms, such as Burt Bacharach's 'Reach Out For Me' [A&M AMLS908], and The Crimson goes wild. The soundstage is vast – almost too big – and elements in the mix such as percussion fire out at you with dizzying speed. The lead clarinet assumes a creaminess that's simply not there with lesser pick-ups; pianos sparkle with harmonics, cymbals glisten, congas beat with a menacing pulse – and the music sounds magical.

Change the record, if you can steal yourself, and The Crimson does the same trick all over again. Classic rock in the shape of Be Bop Deluxe's *Modern Music* [Harvest SHSP 4058], which is a roller-coaster of power and passion even with the worst of cartridges, is suddenly ablaze. Bill Nelson's voice towers between the speakers – again gossamer-smooth yet direct like he's right in front of you – while Simon Fox's firecracker drum work awes you with its punch and speed. Everything syncopates so beautifully, and the cartridge has you entranced. The soundstage is so

huge, yet it feels as if you can hear all four studio walls.

#### REAL CHARACTER

But it's classical music where it shines most, showing a blissfully natural flow to Stravinsky conducting his *Rite of Spring* [Columbia MS 63 19]. All the while this cartridge's innate speed and dynamics are brought to bear on the recording and the result is startling. Instrumental timbre is sublime: strings drip with harmonics yet never screech; brass rasps but

doesn't grate; cellos bow darkly and menacingly. The Crimson seems able to peel off layer after layer of 'wrapping', and get right to

**'Everything syncopates so beautifully, it has you entranced'**

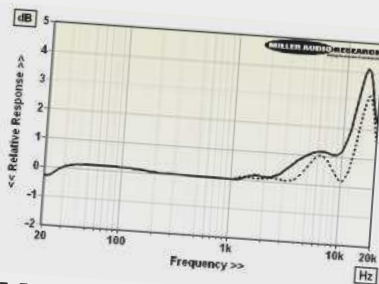
the music, yet it all sounds so easy and organic.

My only criticism is that some may find it just a little *too* 'larger than life', and yearn for something more taciturn. It could be called 'a character cartridge', and some won't like such licentiousness! ☺

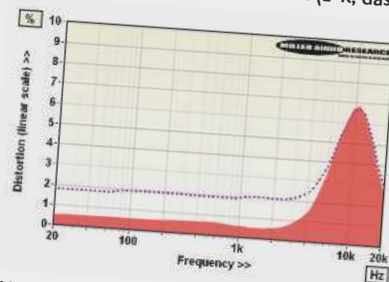
#### HI-FI NEWS VERDICT

One of the best MCs I have heard, van den Hul's The Crimson offers a uniquely beguiling combination of speed and sweetness. It is a dazzling performer no matter what music you play, but isn't a cartridge for 'deconstructing' records, rather it celebrates them and makes you want more. For all this, you can forgive it the price, fiddly setup and packaging – such foibles are fast forgotten when the needle hits the groove!

Sound Quality: 86%



ABOVE: Frequency response curves (-8dB re. 5cm/sec) lateral (L+R, solid) versus vertical (L-R, dashed)



ABOVE: Lateral (L+R, solid) and vertical (L-R, dashed) tracing and generator distortion (2nd-4th harmonics) vs. frequency from 20Hz-20kHz (-8dB re. 5cm/sec)

#### HI-FI NEWS SPECIFICATIONS

Generator type/weight	Moving coil / 8.7g
Recommended tracking force	1.4-1.6mN (1.6mN)
Sensitivity/balance (re. 5cm/sec)	825µV / 1.1dB
Compliance (vertical/lateral)	14cu / 21cu
Vertical tracking angle	28 degrees
L/R Tracking ability	75µm / 80µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.80-9.5% / 0.49-6.8%
L/R Frequency resp. (20Hz-20kHz)	-1.1 to +4.1dB / -0.6 to +5.2dB
Stereo separation (1kHz / 20kHz)	35dB / 18dB



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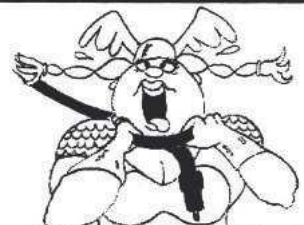
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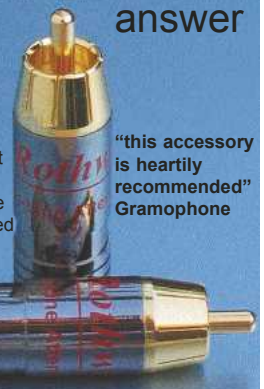
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Hi-Fi NEWS, ISSN 2042-0374, is published 13 times per year (twice in March) by AVTech Media Ltd a division of MYTIMEDIA LTD, c/o USACAN Media Corp. at 123A Distribution Way Building H-1, Suite 104, Plattsburgh, NY 12901. Periodicals postage paid at Plattsburgh, N.Y. POSTMASTER: send address changes to HI-FI NEWS, c/o Express Mag, P.O. BOX 2769, Plattsburgh, N.Y., U.S.A. 12901-0239. Written consent must be obtained before any part of this publication may be reproduced in any form, including photocopies, and information retrieval systems. All reasonable care is taken in the preparation of the magazine contents, but the publishers cannot be held legally responsible for errors or for any loss however arising from such errors, including loss resulting from negligence of our staff. Reliance placed upon the contents of this magazine is at reader's own risk.



# OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

A new TV series about aspirational objects, but will it feature hi-fi? No, suspects **Ken Kessler**



No journalist would ever wish to undermine the surprise element of an upcoming feature. I'm bursting with enthusiasm, though, for a concept which I pray will succeed, if only because I want the extreme high-end to survive, so here's a taster.

As I write this, the first of six episodes of the television series *Objects Of Desire* has just been broadcast. Fronted by Mariella Frostrup, filmed with loving attention to detail and featuring 'A-List' guests like guitarist Mark Knopfler, Pink Floyd's Nick Mason and design critic Stephen Bayley, the show looks not only at the objects but at the psychology of those

who wish to own them. Knopfler, for example, discussed Fender's iconic Stratocaster while car expert Mason explained the allure of the Ferrari 250 GTO. Although

there was too much clichéd nonsense about 'boys' toys' from Ms Frostrup, to the detriment of the objects' inherent excellence, it is accurate about the items.

## MISSED OPPORTUNITY?

You will know the result by the time this issue appears: I am willing to bet a bottle of Guidalberto that not one word will be devoted to high-end audio. If it is, I will send the wine to Ms Frostrup. No, I've not had a preview of the remaining episodes.

'Some of you will hurl this issue against the wall, send me emails...'

But I suspect that *any* audio coverage will be limited to iPods, Bose and B&O, while the show will focus instead on expensive clothing, jewellery, cars, planes, etc.

That it's yet another missed opportunity – unless Frostrup & Co have actually bothered to call on the Audio Lounge or KJ West One or SME or Chord – is a given. (And, yes, I'd love to eat those words should I be proven wrong.) High-end audio remains the only luxury item that is still shunned, ignored or, more likely, unknown to those who can actually afford the stuff.

So back to the experimental concept, about which I've dreamed for years. Some of you will hurl this issue against the wall, send me hate emails or simply return to your copies of *The Big Issue* and *The Guardian* and write me off yet again as a materialistic little worm. But if owning

a high-end hi-fi system isn't inherently materialistic, then what is? In other words: Physician, heal thyself.

Bé Yamamura's new high-end system, BéSpoke [to be featured in *HFN* Dec '13] is unusual in two ways beyond the technology, in manners which are blatantly 'uncommercial'. The first is that it is entirely custom-made, clients ordering three-way to six-way speaker systems, which are then assembled in the listening room over a matter of days or weeks, tailored to the

room to a degree I've not seen before. If that sounds suspiciously like any of a few hundred thousand 'custom installations' as found in A/V magazines, note that they employ off-the-shelf components as a rule, and tend not to cost €1m-plus just for the hardware. Suffice it to say, Bé's system is resolutely two-channel, horn-loaded and *not* hidden in the walls. It is the latter aspect – high visibility – that leads to the second unusual quality.

Due to their enormous size and the use of materials like distressed-finish marine-grade steel, the speakers look like steam-punk constructs that would have fitted perfectly in Nemo's submarine in *The League Of Extraordinary Gentlemen*. As such, should one be lifted complete and placed in a contemporary art gallery, it would appear to the knowing like a statement about the Industrial Revolution, or a nod to Fritz Lang's *Metropolis*.

## SETTING THE TONE

It's the physical presence of the system, as much as sonic excellence, that inspired a non-audiophile to install a smaller set-up (a three-way version for a mere €500,000) in his retail premises. I am loath to call it a shop, this oasis in the heart of Bologna, where he has sold, for many years, vintage jewellery of Van Cleef & Arpels/ Cartier quality, alongside new and vintage wristwatches. But he's convinced his clients – as wealthy and discerning as any in Europe – might succumb to the lure of Aoide.

As a site for displaying audio dreamware, it's faultless. The building is probably 500 or 600 years old, the ceilings elevated, the walls solid, the ambience aristocratic. Sinking into antique velvet sofas, the tranquillity lulling one into a sense of contentment seems the ideal way of setting the tone for a sound system that should transport the listener.

It remains to be seen if a boutique more familiar with finding a home for a 1920s coral Art Deco necklace will entice its clientele to purchase a BéSpoke system. But with a starting price not far off from a half-million euros, it won't need to sell that many. I can only hope that someone calls Mariella's attention to it for Series 2. ☺

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