

# hi-fi news

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& Record Review

148 pages

Exclusive

## US MASTER

D'Agostino's Integrated unveiled!



VINYL ICON

...RIOT GOIN' ON  
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**B&W CM6 S2**  
Classy compact monitor

**AKG K812**  
Range-topping headphones

**Yamaha CD/A-S2100**  
Latest SACD/DAC and amp

INVESTIGATION

**HDtracks UK**  
What's in store? p26

**Dynaudio towers**  
Evidence Platinum –  
flagship floorstanders

**Heavenly hybrid**  
Aesthetix Atlas Signature



- **PLUS** 18 pages of music reviews & features • **VINYL RE-RELEASE** Eddie Cochran's *Memorial Album*
- **OPINION** 11 pages of letters and comment • **VINTAGE REVIEW** Alphason's 1980s HR-100S tonearm
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ABOVE: High-res music downloads auditioned and authenticated, p98

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See page 94



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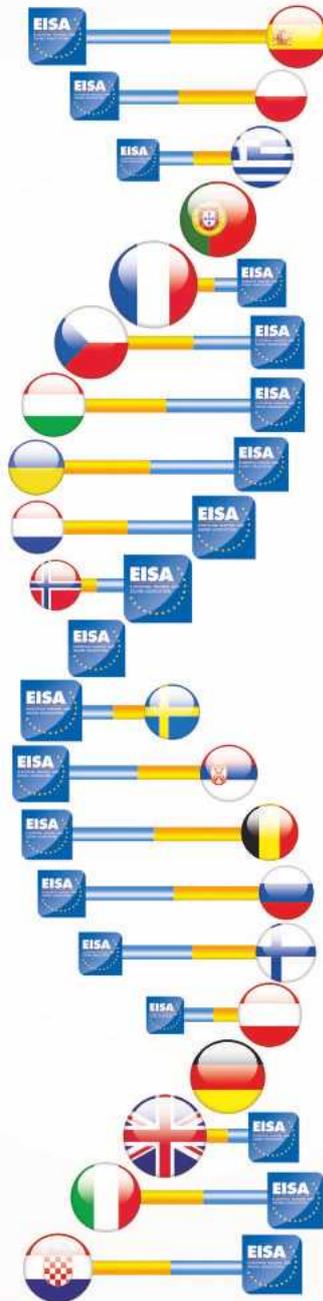
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Group Test Winner, Hi-Fi Choice (November 2014)



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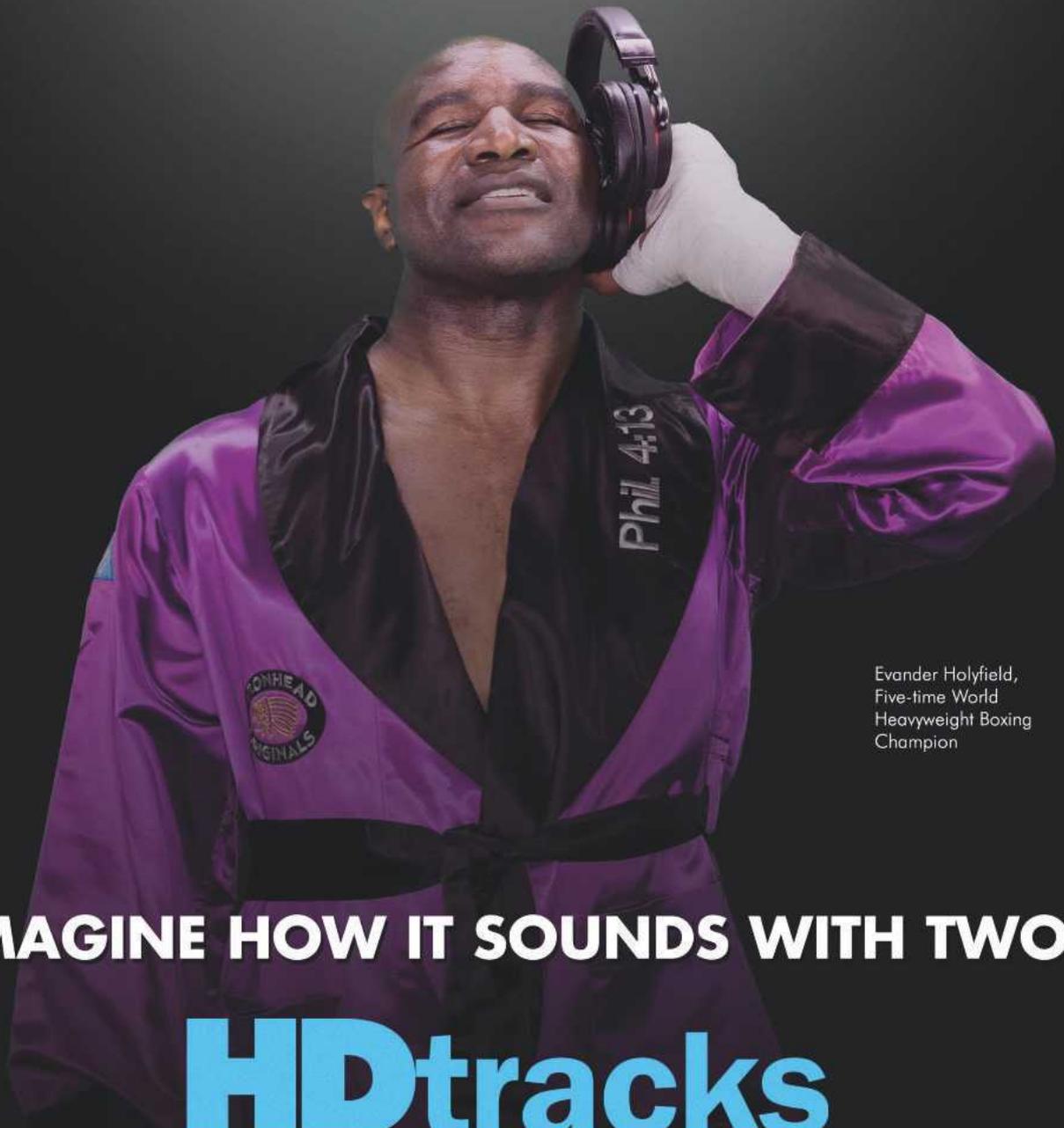


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- Alan Sircom - Editor

### The Absolute Sound (USA 2014):

"I hope more people will participate in the deeper enjoyment of music in their homes because products like the H80 make it more accessible. The H80 is the real deal...and a sweet deal, too." - Kirk Midstkog - Reviewer

### HiFi & Musik (Sweden 2013):

"It will take a while for me to recover after this. This may be the best value for the money I have reviewed in my career." - Jonas Bryngelsson - Editor

### Lyd & Bilde (Norway 2013):

"Home run (klokkeren inntertier)! To say that HEGEL did it right with the H80 is an understatement. AMPLIFIER OF THE YEAR" - Lasse Svendsen - Editor

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# oppo



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“A landmark digital product”

★★★★★

*Editor's Choice, Hi-Fi Choice*

“Chord’s best-ever DAC”  
*Hi-Fi +*

“Spectacular”

*Ken Kessler, The Telegraph*

“Breaks all records”

★★★★★

*Hi-Fi World*

“A game-changer”

*Hi-Fi Critic*

“My reference DAC”

*head-fi.org*

“Incredible”  
*avforums.com*

“Remarkable”

*theear.net*



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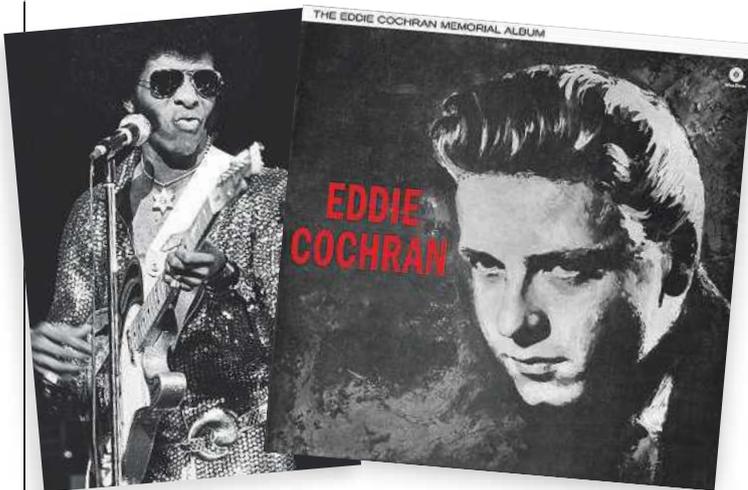
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**RIGHT:** AKG has moved decisively in the right direction with its flagship K812. See p68



**ABOVE:** No ordinary DAC, the exaSound e22 not only plays all formats of music via your computer, it's controlled by it too. See p50



**VINYL:** Sly & Family Stone's *There's A Riot Goin' On* is this month's Vinyl Icon (p84), while Steve Sutherland examines the legacy of Eddie Cochran as his *Memorial Album* is released on 180g LP (p82)

**RIGHT:** *Hi-Fi News & RR* is the exclusive UK representative of EISA's Hi-Fi Expert Group and editor Paul Miller is EISA's Hi-Fi Expert Group Manager

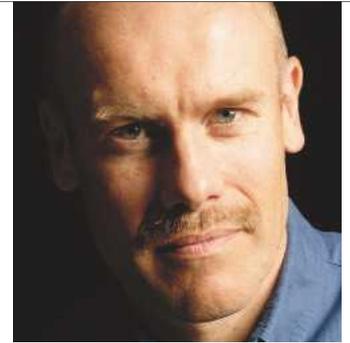


As the hours of daylight recede and the nights get longer, audiophiles across the land will be settling down for an evening's music-making courtesy of their cherished LP collection, racks of CDs or growing directories of hi-res downloads. And while you are surrounded by stereo what better than a copy of *Hi-Fi News* at your side?

Regular readers will already know this, of course, but *HFN/RR* is the UK's most comprehensive pure hi-fi magazine by far, with its unbeatable combination of features, music and equipment reviews all underpinned by writers with decades of experience and lab reports that set the world standard.

We're the biggest too at 148 pages and, at £4.50 an issue, the best value. I would say this, wouldn't I, but audio is a very democratic passion so I would urge hi-fi readers to compare and contrast for themselves...

But what's to compare? In this issue we have the first review of D'Agostino's Momentum Integrated amplifier to appear anywhere in the world alongside exclusives of Yamaha's gloriously retro and yet very affordable 2100-series CD/SACD player/DAC and amplifier, Dynaudio's flagship Evolution Platinum floorstanders and B&W's new CM6 S2 standmounts.



Steve Sutherland, arguably the best known *NME* editor, takes you to the heart of the live music experience at The Sands in Las Vegas (p90) while Steve Harris, one-time editor of this very journal, interviews the power behind the HDtracks throne now that its hi-res download store – as trailed in November's issue – is finally legitimately accessible to UK enthusiasts (p26).

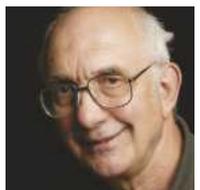
*'At 148 pages, Hi-Fi News is the UK's largest pure hi-fi title'*

During his revealing interview with Steve, co-owner David Chesky made all *Hi-Fi News* readers an unexpected offer: 'If anyone wants to give us a try and they haven't seen any of our discount offers I invite them to contact us at [support@hdtracks.com](mailto:support@hdtracks.com), and we'll be happy to supply them with a nice discount code to check out the store.'

Tempted? Why not write and tell us of your hi-res experiences.

**PAUL MILLER EDITOR**

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**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 a long-serving contributor, luxury goods writer and champion 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



# TAD CE1

## EVOLUTION SERIES GAINS A COMPACT STANDMOUNT

Designed and developed entirely in-house by TAD Labs, the CE1 (Compact Evolution One) standmount loudspeaker is claimed to benefit from much of the 'groundbreaking' technology originally debuted in its flagship R1 (Reference One) floorstander.

Star of the show is its CST (Coherent Source Transducer) mid/treble driver which combines a 14cm magnesium-coned unit, working between 250Hz-2kHz, and a 3.5cm beryllium treble dome, operating up to an astonishing 100kHz. The coaxial alignment of these units approximates to a single point source. Lower frequencies are handled by an 18cm bass driver utilising TAD's MACS (Multi-layered Aramid Composite Shell) one-piece dust cap and cone.

The heavyweight cabinets are a composite of highly rigid birch plywood combined with MDF and 10mm-thick aluminium side panels. These alloy sidecheeks also carry a bi-directional, slit-shaped port that's 'horned-shaped to achieve a smooth airflow'. Price is £16k and matching stands are offered.

Andrew Jones, Director and Chief Engineer for TAD, said: 'Adding the CE1 to the Evolution Series is an important extension of our line-up that provides us the opportunity to take the most discerning of audiophiles on a true sensory experience from sound to source.'

**Technical Audio Devices Labs Inc (NuNu Distribution Ltd), 0203 5442338; [www.tad-labs.co.uk](http://www.tad-labs.co.uk)**

## All Heil oBravo!

### AIR-MOTION TRANSFORMER HEADPHONES

Spotted at CES 2014 [*HFN* Mar '14] the world's first two-way AMT-equipped headphone is now available in the UK. Developed in Taiwan, the HAMT-1 employs a relatively conventional 57mm dynamic driver (with neodymium magnet) for bass and midrange while a 40mm (Heil) Air Motion Transformer tweeter takes over to stretch its response up to a claimed 45kHz. The headphones combine aluminium, wood and hand-stitched leather for style and comfort. Impedance is 56ohm, price £1500.

**oBravo Audio, 0208 971 3909; [www.obravoaudio.com](http://www.obravoaudio.com)**



## HI-FI NEWS' NUGGETS

### BLACK RHODIUM

Priced at £1600 for a 3m pair and terminated with DCT++ (Deep Cryogenic Treatment) rhodium-plated plugs, Black Rhodium's new Athena DCT++ CS speaker cable employs a range of technologies aimed at reducing distortion and suppressing interference. The conductors are cryogenically treated and voids in the copper surface (caused by drawing) smoothed-out via an unspecified 'Crystal Sound' (CS) process before silver-plating. GN Legacy VS-1 Vibration Stabilisers clamp the twisted cores in place. [www.blackrhodium.co.uk](http://www.blackrhodium.co.uk)

### METRONOME MOVE

Métronome Technologie founder Dominique Giner has transferred management of the company to French audiophiles Christian Bat and Jean Marie Clauzel. Giner remains as designer and a raft of new products including a CD player and DSD64/128 DACs is expected. [www.metronome-technologie.com](http://www.metronome-technologie.com)

## Music First Phono

### TUBES AND TRANSISTORS FOR MM PREAMP



Described as 'premium-priced', Music First's Reference MM phono preamp employs a mix of vacuum tube and solid-state circuits. The input gain stage utilises a low noise pentode/dual-triode combination prior to an inductive (coil-based) RIAA network while the output is driven by a solid-state Longdog Audio line stage. Housed in an alloy case, noise in the dual mono phono amp is further reduced by a partnering isolated outboard PSU that employs four discrete high voltage, low noise regulators. The premium price is £9850.

**Music First Audio, 01424 858260; [www.mfaudio.co.uk](http://www.mfaudio.co.uk)**

## Copland gets a head

TUBE PREAMPLIFIER, DAC AND HEADPHONE AMPLIFIER

Danish hi-fi brand, Copland, has offered some early information about its DA215 – a DSD-compatible outboard DAC based on the popular 8-channel ESS 9018 Reference 32-bit chip, implemented here in a quad-mono configuration. The DA215 incorporates an asynchronous USB input, three S/PDIF digital inputs and a complete valve preamp with analogue volume control and front panel Class A headphone output.

Copland, 0208 971 3909; [www.copland.dk](http://www.copland.dk)



## More Kudos from Kudos

BABY X2 FLOORSTANDER JOINED BY LARGER X3 MODEL

Based on its successful X2 loudspeaker, Kudos's new X3 floorstander uses the same 25mm soft-dome tweeter but marries it to a larger, 18cm, bass/mid driver. The new driver has a cast alloy basket, a copper-clad aluminium voice coil and copper shorting ring together with a lightweight cone pressed from a mix of paper and reed fibres.

A simple, first-order crossover is employed together with Chord's Sarsen cable for its internal wiring. Sensitivity is rated at 88dB. The cabinet is built from 18mm HD MDF and comes in cherry, walnut, rosenut, oak, black and satin white finishes. Price is £2145.

Kudos Audio, 0845 458 6698; [www.kudosaudio.com](http://www.kudosaudio.com)



## A1 by Alpha Design Labs

NEW A1 USB DAC/HEADPHONE AMP FOR ANDROID DEVICES



Sister product to the X1 portable USB DAC/headphone amp, Alpha Design Labs' £435 A1 is a DSD128-capable model that can be used with Android devices. The USB mini-B socket enables battery charging and PC/Mac connectivity while the 3.5mm output combines analogue/optical digital out. ADL, 0118 981 4238; [www.adl-av.com](http://www.adl-av.com)

## Radio 3's new controller

SUCCESSOR TO ROGER WRIGHT ANNOUNCED BY BBC

Alan Davey, CEO of the Arts Council England is set to join BBC Radio 3 as Controller in January. Davey will take over from Roger Wright who has led the station for 15 years. With a passion for classical music, Davey also brings a long legacy of driving music education forward while at ACE and says he's committed to renewing the station for the digital age. [www.bbc.co.uk/radio3](http://www.bbc.co.uk/radio3)



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

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## Upcoming Events

IMPORTANT DATES FOR YOUR HI-FI DIARY

- 20-23 NOV** European Triode Festival, Berlin; [www.triodefestival.net](http://www.triodefestival.net)
- 06-09 JAN** International CES, Las Vegas, USA; [www.cesweb.org](http://www.cesweb.org)
- 08 FEB** Audio Jumble 2015, The Angel Leisure Centre, Tonbridge, Kent; [www.audiojumble.co.uk](http://www.audiojumble.co.uk)
- 20-22 FEB** Sound & Vision Show, Marriott City Centre Hotel, Bristol; [www.bristolshow.co.uk](http://www.bristolshow.co.uk)
- 14-17 MAY** High End Show, M.O.C, Munich, Germany; [www.highendsociety.de](http://www.highendsociety.de)

# Tokyo Audio Show

Words & pictures: Ken Kessler



As much as I enjoy Tokyo's International Audio Show, a mix of local upscale hardware and imports, I do find it a curious event. The exhibition centre where it's held in the Ginza district is an ultra-modern building with a boat-shaped cross-section housing 20 massive demo rooms on four floors – forget the cramped hotel rooms used seemingly everywhere else bar Munich. As a result, the demos are fantastic and even though

my presentations only occupied half of one room there was still seating for some 75 people.

In Japan it's not uncommon for exhibitors to hire journalists for their presentations – mine concentrated on the joys of old analogue recordings. I had time to visit all the rooms, and turned up some cool surprises, including a welcome comeback.

This pic doesn't do justice to the sheer scale of this thing: the Triode Junone Reference M212 Monoblock is utterly massive. To give you some idea, the 212E output tubes are over a foot tall – you can see how they dwarf the 845 driver just behind. Meters are switchable from 10W to 100W maximum readings. [www.triode.co.jp](http://www.triode.co.jp)



Ayre's MX-R Twenty is a mono amp rated at 300W and has zero-feedback, fully-balanced discrete circuitry. It features the company's proprietary Ayre Double Diamond output stage, AyreLock power supply and Ayre Conditioner power line RFI filter. Size is 280x480x95mm (wdh). [www.ayre.com](http://www.ayre.com)



Luxman – which has just appointed a big distributor in the UK – had a vast array of products, including this teensy DAC/headphone amp, the DA-100. This unit is said to be able to resolve sampling rates of 32kHz to 192kHz, up to 24-bit, via USB, optical or coaxial sources; digital outputs are coaxial and optical, plus analogue line out. The display shows the sampling rate. Dimensions are 149x70x232mm (wdh) and finish and feel are typically Lux-y. [www.luxman.co.jp](http://www.luxman.co.jp)



Further evidence that cool DACs with headphone amps are the defining product of this age. Marantz's HD-DAC1, uses Current Feedback technologies from its Premium 11 Series. The HD-DAC1 can 'even drive audiophile high-impedance headphones of up to 600ohm'. [www.marantz.co.uk](http://www.marantz.co.uk)

Esoteric's unapologetically high-end flagship Grandioso range was demonstrated alternately through both Tannoys and the complete Avantgarde horn set-up with subwoofers. The range consists of the two-chassis C1 line stage preamplifier, 300W M1 monoblock amplifier (which is said to deliver 2400W into 1ohm – as mentioned last year, my Apogeess await) and the P1/D1 SACD/DAC combo. The D1 is a monoblock DAC, the P1 has a separate power supply, so we're talking about a four-chassis digital front-end. [www.esoteric.jp](http://www.esoteric.jp)



Seen last year in pre-production form, the TechDAS Air Force Two was shown in finished form, as a cutaway to show off its platter construction. The deck delivers most of Air Force One's performance at well below half the price, thanks to simpler construction methods, including a cast chassis instead of machined from solid. The deck rests on four feet rather than three and also accepts two arms. [www.stella-inc.com](http://www.stella-inc.com)

Japanese audiophiles love add-on supertweeters, so ENIGMAcoustics' Soprano drew large crowds. This beautifully-made 193x181x207mm (hwd) unit seen here on the optional floorstand fits what is said to be the world's smallest electrostatic driver to a parabolic-shaped aluminium enclosure. Speaker acts as a dipole. [www.enigmacoustics.com](http://www.enigmacoustics.com)



BMC's 100W/ch PureAmp integrated offers a variety of inputs and outputs, including XLR, RCA and optical connections, with options related to the matching PureDAC. Rear-panel connections include two pairs each of balanced XLR inputs and unbalanced RCA inputs, Neutrik SpeakOn speaker outputs, and two optical inputs for the BMC Link. [www.bmc-audio.de](http://www.bmc-audio.de)



ReQuest's The Beast looks set to be the server/ripper of choice. Specs would fill this page, but salient details include a 7in touchscreen, operation with or without computer or internet connection, access to Gracenote, internal storage of 0.96TB or 1.92TB SSD, options to store video, balanced operation and it can deal with four DSD formats, WAV, FLAC, 44.1 to 384Hz and up to 32-bit. [www.requestaudio.com](http://www.requestaudio.com)





# High End – Made in Germany



Master Innovation

Clearaudio Innovation series turntables on demonstration here

The Audio Consultants  
Aldermaston  
Berkshire  
01189 819 891

Cool Gales  
Bath  
Somerset  
0800 043 6710

Hifi Sound  
Stockton-on-Tees  
North Yorkshire  
08456 019 390

Home Media  
Maidstone  
Kent  
01622 676 703

MCRU  
Huddersfield  
West Yorkshire  
07908 056 978

Stone Audio  
Poole  
Dorset  
01202 630 066

Ortofon offers two tonearms in 9in and 12in lengths for the Japanese market, perfect for SPU MC cartridges: the dynamically-balanced AS-212S/AS-309S and the RS-212D/RS-209D – the RS-212D is seen here. The arm can handle cartridge weights of 18g-40g, for tracking forces up to 5g. Construction is truly superb and they look a breeze to set up and adjust. [www.ortofon.com](http://www.ortofon.com)



Einstein Audio showed the Final Cut MK70 Limited balanced-operation monoblock power amp. This output-transformerless design delivers 70W from a valve line-up including four military-spec 6C33s, working with six E88CCs/6922s. Dimensions are 430x430x220mm (wdh), and each weighs 30kg. Price in Japan is circa £24,000. [www.einstein-audio.de](http://www.einstein-audio.de)



Two of Accuphase's new A-70 stereo power amps, seen at the front of this display, were set up to demonstrate Fostex G2000A and Magico Q3 loudspeakers. The A-70 is a Class A design, rated at 60W/ch. Dimensions are 465x238x515mm (whd), weight 44.3kg. Also launched was the loaded C-37 phono amp. [www.accuphase.co.jp](http://www.accuphase.co.jp)



Wilson Benesch demonstrated the Endeavour, a seriously high-end small speaker on a dedicated stand. Driver complement consists of a 25mm Semisphere tweeter, 170mm Tactic II mid and two 170mm Tactic II lower-frequency units. Dimensions are 1475x500x500mm (hwd); sensitivity is 87dB/1W/1m. [wilson-benesch.com](http://wilson-benesch.com)

What blessed relief! I love this Swiss brand, but at last, an all-black dartZeel instead of the toxic orange-y gold and red combination it insists on using, thus driving away potential customers who do not want seared retinæ. This is how the CTH-8550 integrated amplifier [see *HFN* Jul '09] looks when finished in a non-nausea inducing hue. [www.dartzeel.com](http://www.dartzeel.com)



For many, the most important debut at the show: the return of Audio Alchemy, probably the first brand to offer killer budget digital hardware – way back in 1990. The all-new range will consist of DDP-1 Digital Decoding Preamp; PS-1 Power Station outboard dual transformer linear power supply; DPA-1 150W/ch Class D 'Digital' Power Amp; MRD-1 Media Rendering Device high resolution file player. [www.audioalchemy.com](http://www.audioalchemy.com)



# California Audio Show

Words & pictures: Barry Willis



Just south of the San Francisco Airport, the Westin Hotel was the site of the fifth Annual California Audio Show, which took place between August the 15th and 17th. This CAS was better than last year's, which suffered from the eleventh-hour withdrawal of several big exhibitors.

This year saw the return of at least one legendary brand, Genesis, and the emergence of several apparently robust start-ups, most of them focused

on headphones and headphone paraphernalia. Show promoter Constantine Soo did a marvellous job, pulling in substantial numbers of both the hi-fi faithful and the hi-fi curious.

Airport noise was an annoyance outside the venue, but inside there was nothing but sweet music. Best-of-show award goes to Stephen Lester, whose SIM2 video projector and two-channel Tannoy system rendered wonderful concert clips.

Photos don't do justice to Triangle Art's \$20,000 Signature turntable with Osiris arm. This 275lb metallurgical wonder is said to deliver 'explosive dynamics, a holographic image and light and airy soundstage.' And it's not the Southern California company's flagship product. [www.triangleart.net](http://www.triangleart.net)



Gallo Acoustics is a well-regarded maker of compact, great-sounding spherical loudspeakers. Minimal internal reflections have long been the claimed advantage of spherical enclosures. Pictured here is a Reference Strada 2 centre channel speaker, finished in lustrous bronze, and priced at \$999. Matching side speakers are similarly priced. [www.roundsound.com](http://www.roundsound.com)

'Hospital grade' outlets have high grip strength and excellent spark suppression, desirable qualities when using oxygen and life-support equipment. Audio benefits are dubious. Likewise anodised aluminium cover plates, but they can be beautiful, as in industrial art from Audio Reference Technology. [www.art-hifi.com](http://www.art-hifi.com)



Inspired by Klipsch, Altec, and JBL, SF Bay Area-based Burwell & Sons consistently exhibit at CAS, this year teaming up with Raven Audio to power its \$80k/pair 'Mother of Burl' speakers fitted with JBL 2405 tweeters, JBL LE85 midrange horns, and Altec 803 woofers. In the picture can be seen samples of its sculpted hardwood horns. [www.burwellspeakers.com](http://www.burwellspeakers.com)





More audio art from Audio Reference Technology, this time a set of 'Analysts' speaker cables – 'pure homogenized crystal copper with a moderate amount of gold' – connected to the business end of a Bryston power amplifier. [www.art-hifi.com](http://www.art-hifi.com)



Irv Gross of Constellation Audio kneels near the Inspiration 1.0 preamp and stereo power amp. The speakers are Magico S5. Other gear includes an Aurender W20 music server and Berkeley Audio Designs Alpha DAC Reference Series. Cabling is MIT's latest. [www.constellationaudio.com](http://www.constellationaudio.com)



AudioVision SF debuted the full-range bipolar BMC 'PureVox' loudspeakers (\$6,490/pair). With rear-mounted woofer and tweeter, these moderately-priced powerhouses put out some of the most beguiling sound at the event. Other BMC gear on show included the CS2 integrated amp and BDCD1.1 belt-drive CD player/transport. [www.bmc-audio.de](http://www.bmc-audio.de)



Woo Audio's WA7 'Fireflies' headphone amp drew plenty of enthusiastic attention in a big ground-floor hallway exhibit. The Class A valve beauty includes a built-in 32-bit/192kHz USB DAC and costs \$999 with a solid-state power supply or \$1399 with the WA7tp vacuum tube supply, which is shown to the right of the picture. [www.wooaudio.com](http://www.wooaudio.com)



Sony repeatedly reasserts itself as a force in high-end consumer audio. CAS included its SS-AR1 speakers (\$27k/pair), SS-NA2ES speakers (\$10k/pair), the HAP-Z1ES media player (\$2k) [*HFN* Mar '14], and several of these gorgeous heavyweight VFET amps specially made by Pass Labs for the 40th anniversary of the technology. [www.sony.co.uk](http://www.sony.co.uk)

Taking inspiration from Meridian, Pireaus Audio of Santa Cruz, California makes gorgeous speakers with onboard DACs supporting up to 192kHz/24-bit with 750W Class D amps, super-steep crossover slopes, room correction and wireless receiver capability. [www.piraesusaudio.com](http://www.piraesusaudio.com)



# A-S3000

*Integrated Stereo Amplifier*



# CD-S3000

*CD/SACD Player with Built in USB DAC*



Peerless Craftsmanship.  
Beautiful Design.  
Sublime Sound.

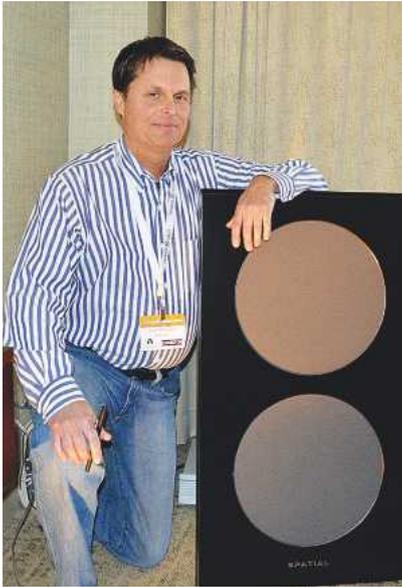
The Yamaha A-S3000 and CD-S3000,  
125 Years in the making.



facebook.com/uk.yamaha.av  
<http://uk.yamaha.com>

*Powered by music*

## SHOWBLOG Sights and sounds from around the globe



Emerald Physics founder Clayton Shaw has formed a new company, Spatial Audio, specialising in research and development of affordable open-baffle speakers. Unlike EP designs, Spatial speakers don't need huge amounts of DSP. Here he is with the Hologram M1 and its two 15in drivers, the upper one being a wideband compression driver with woofer cone serving as waveguide. [www.spatialaudio.us](http://www.spatialaudio.us)

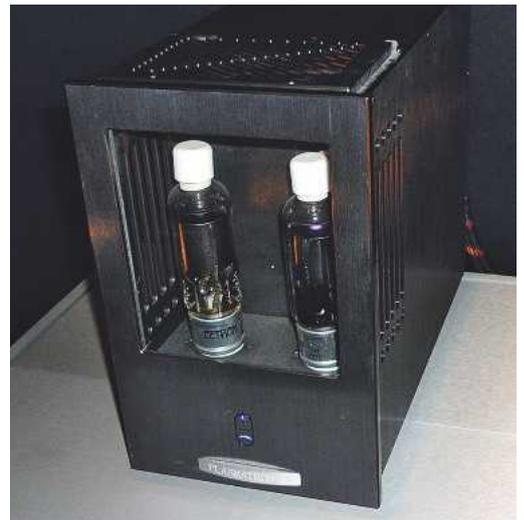


The current iteration of a legendary brand – Genesis Advanced Technologies filled a large suite at CAS. With the \$85k/pair Genesis Junior 2.2 towers, Lyn Stanley charmed the crowd by singing along with a first-generation copy of the master tape of her album *Potions*. [www.genesisloudspeakers.com](http://www.genesisloudspeakers.com)



Lowther's full-range driver technology has a strong and enduring constituency. With a Baetis Reference Music Server, Berkeley Audio Design Reference DAC, and powered by Lamm Industries electronics, Teresonic won raves for its imposing Ingenium speaker (\$19,999/pair). Teresonic Gold cabling was used throughout. [www.teresonic.com](http://www.teresonic.com)

Margules Audio drew sweet sounds from new ceramic-driver Orpheus loudspeakers (\$8k/pair), with U280 valve amps, SF220 preamp, ADE-24.1 analogue enhancer, FZ47DB RIAA phono stage, TT-10 turntable, a Densen disc player, and Atlas cabling. [www.margules.com](http://www.margules.com)



This black box is the Plasmatron 3. It uses a pair of hydratron tubes, which manufacturer Live Audio says are 'essentially gas controlled rectifiers', while to the rear could be found several AC outlets. The demonstrator described it as 'a digital power conditioner' and gushed about its sonic benefits. Price is \$3999. [www.vhaudio.com](http://www.vhaudio.com)



Open-reel tape lives on. Zu Audio was one of two exhibitors using a Nagra IV-S open-reel recorder, and the only one using a Rupert Neve Design 5060 mixing console as a preamp. Perhaps the ultimate in functional beauty, the Nagra's control panel is truly a technological object of desire. [www.zuaudio.com](http://www.zuaudio.com)



Next  
month  
We report from  
The Hi-Fi Show, Windsor 2014

# Taking you higher...

As HDtracks launches in the UK, **Steve Harris** takes a look at what's in store

**RIGHT:** First launched in 2008 by composer and musician David Chesky (pictured below right) and his brother Norman, HDtracks pioneered the sale of hi-res music downloads. For the first time, its tracks are now available in the UK via a dedicated website at [www.hdtracks.co.uk](http://www.hdtracks.co.uk)

**BELOW:** At first Apple used AAC compression to reduce the size of music files held on its iPods. As storage became cheaper, Apple was able to offer iPods capable of holding tracks far larger in size. In 2004 it introduced Apple Lossless, which meant tracks at CD quality could be bought from its online store. The march towards hi-res downloads had begun

Time flies. It's now more than six years since the era of audiophile downloading began, tentatively as it seemed then, with a handful of titles becoming available in CD quality or better from a few pioneering websites.

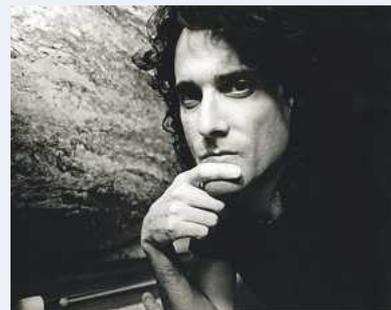
One of those sites was HDtracks, which soon grew to become the pre-eminent source of high-resolution audio in America. Officially launched on the 21st of March 2008, HDtracks was set up by the brothers David and Norman Chesky, founders and owners of the audiophile recording company Chesky Records.

'We were the first people doing high-resolution downloads,' says David Chesky. 'It's basically an extension of what we've been doing our entire existence with Chesky Records. Now, we are a downloading service. But we actually are the people who make high-resolution recordings, and we pretty much pioneered that area as well.'

## INDUSTRY IN TURMOIL

To appreciate the background, cast your mind back a bit further, to the late 1990s, when internet use was exploding and computer audio really began. Instead of buying music, more and more young people were now downloading free tracks from MP3 file-sharing sites like Napster.

Having enjoyed years of prosperity thanks to the success of CD, the music industry was in turmoil, its traditional business model undermined by the technology that was now available to consumers. Record company



executives became obsessed with copy protection and introduced many of the measures now collectively known as DRM (Digital Rights Management), but they could not turn the tide.

In the end, the solution came from outside the record industry. Apple, having entered the music player market with the iPod and its iTunes software, secured the co-operation of all the majors and launched its iTunes Store at the start of 2003. Users could now buy tracks and download them legitimately for playback on their own computers or mobile devices.

Apple used AAC compression, which, like MP3, reduced the file size dramatically at the expense of quality. But in 2004, Apple introduced Apple Lossless, which meant that users could buy tracks and replay them at CD quality.

And iTunes provided one of the more convenient ways of playing back material acquired from sources other than the iTunes Store. Later

generations of iTunes added support for higher sampling rates, and finally Apple, like the record companies themselves, dispensed with DRM.

Now, at last, there was really nothing to prevent anyone with a computer from enjoying high-resolution audio. The time was right for HDtracks.

## AWESOME CREDENTIALS

Though known to audiophiles through Chesky Records and now HDtracks, David Chesky is in fact a composer, pianist and producer of awesome credentials. He started studying the piano at five. After moving from Miami to New York in 1974, he studied with the great John Lewis, pianist of the MJQ.

By 1978, in his early 20s, he was leading his own jazz big band, with a personnel that included Bob James and Michael and Randy Brecker. The David Chesky Band recorded one album for Columbia, *Rush Hour*.

David also wrote and orchestrated music for television,





**LEFT: 'The download store the UK has been waiting for...'** Apple promoting its iTunes Store in 2004 and (left) the Store as it looked in 2003

**ABOVE: HDtracks in March 2008, the month it launched. Tracks were CD quality and only available for Windows PCs**

**BELOW LEFT: The Super Audio Collection & Professional Test Disc is still for sale at www.chesky.com**

**BELOW RIGHT: HDtracks site in 2009 offered a wide choice of hi-res 96kHz/24-bit tracks**

HDtracks got started by offering CD-quality files from Chesky Records and other labels such as Reference Recordings, 2L and Alligator Records. But by October 2008, material was being offered in higher resolution formats, including 96kHz/24-bit and 192kHz/24-bit.

'When we first started doing it, it was a desert,' says David Chesky. 'People thought we were loony and wanted to put us in the crazy house. But we believed in it, we believed this was the way it was going. And then one person made a DAC that could play it back, and then computers could play it back. 'And now you have hundreds and hundreds of DACs, and every system supports it. I guess the revolutionary has become the status quo.'

**PIVOTAL POINT**

In the early days, the major companies didn't see any commercial mileage in high-resolution. And perhaps they were still clinging to the concept of DRM and the idea that you mustn't ever release material of ultimate studio quality, because of piracy?

'Pirates don't pirate good quality,' says Chesky. 'The majority of piracy

with younger brother Norman as his business partner. This led to the launch of Manhattan Production Music, which continues to provide music for TV, film, commercials and multimedia projects.

In 1986, David met the classical pianist Earl Wild, who gave him a budget *Reader's Digest* LP of his own recording of Rachmaninov's Second Concerto. Wondering why this didn't sound good, David was curious to hear the original master tape.

When Wild was able to arrange this for him, David was knocked out by the full, lush sound. He asked *Reader's Digest* for the rights to make a vinyl reissue, and the Chesky record label was born.

**SUPER AUDIO DVD**

By 1988, with Norman looking after the business side and David as producer and artistic director, Chesky Records was issuing its own new recordings on CD, and became the first independent label to use 128-times oversampled (Bitstream) recording technologies.

A few years later, as mass-market audio seemed to be heading irrevocably for a lower-quality, data-reduced future with MP3, the audiophile community was looking for something better than CD.

In a joint initiative unveiled at the 1998 CES, Chesky was one of a number of US companies that aimed

to offer high-resolution audio by using the 96kHz/24-bit option in the DVD-video standard. They proposed a new audio-only release format called Super Audio Disc (by Chesky) and Advanced Audio Disc (by its main hardware protagonist, Kevin Halverson of Muse).

Other participants were Classic Records, Mobile Fidelity, Ayre, Resolution Audio and Theta Digital.

As a format, this '96/24' disc was sidelined by the majors' launch of DVD-Audio, which itself turned out to be

abortive. But Chesky can still sell you *The Super Audio Collection & Professional Test Disc*.

After this, Chesky pioneered a 6.0-channel sound format using two front speakers, two 'high' front speakers which look down on the listener from each side, and two rears. More recently, Chesky has embraced a development of binaural recording with its Binaural-system [see *HFN* Nov '12].

**'We are offering discounts to UK and European customers'**





## Xtension 9 SuperPack

The Xtension 9 SuperPack from Pro-Ject Audio Systems represents one of the finest high-end turntable packages available today. Drawing inspiration from Pro-Ject's first ever 'money-no-option' turntable, the Xtension 12, this streamlined version boasts advanced technologies and phenomenal value for money. The high-gloss plinth (available in Black, Red or White) is an MDF construction filled with metal granulate, making it high-mass and non-resonant just like the platter, which is made from a special alloy lined with Thermo-Plastic Elastomers and topped with recycled vinyl records. The whole turntable is magnetically decoupled from a rack by three specially designed feet.

The Xtension 9 SuperPack's motor efficiency is improved by the built-in speed control module, and the whole package is finished off by the stunning 9CC Evolution Tonearm and pre-fitted Ortofon Quintet Black.

Available in the UK for **£2,200** (UK SRP)

is awful-sounding files, it's mostly kids, and that's the way it is. But the pivotal point for us was when we made a deal and we got *Raising Sand* in high resolution.'

*Raising Sand*, the groundbreaking and hugely successful collaboration between Robert Plant and Alison Krauss, had originally been released by the independent label Rounder Records in October 2007. Rounder had once been a major distributor for other independents but had cut back on this activity to focus on its own productions, which were distributed through Universal.

'That did so well that all the labels started to take notice. Then we pulled in the larger labels as well. But that was kind of the pivotal point, that record, because when we sold it, we sold as many units as they were selling normal records.

'When we showed that to the major labels, that kind of woke them up. Before that happened they were just scratching their heads and looking at us like crazy audiophiles.'

**MAJORS ON BOARD**

By April 2010, HDtracks was able to sign up Concord Music, which as it happens had just purchased Rounder, and a selection of Concord titles became available in hi-res form. In the same month HDtracks announced that it would offer titles from Universal Music's Verve Records jazz catalogue, making Universal the first major label to establish sales of



**ABOVE:** The pivotal release for HDtracks was *Raising Sand*, a huge hit with audiophiles

**TOP RIGHT:** ABKCO's Rolling Stones remasters can be downloaded in the US. But like other titles from Universal, they aren't yet licensed for HDtracks UK

**BELOW:** Hi-res tracks from The Concord Music Group and the Verve jazz catalogue are offered in 2010

high-resolution, non-DRM-restricted music through HDtracks.

After this there was rapid progress. November 2010 saw the addition of Paul McCartney's *Band On The Run* in 96kHz/24-bit. In March 2011, HDtracks launched ABKCO's remasters of *The Rolling Stones*, *The Rolling Stones No 2*, *12 X 5* and *Through A Glass Darkly*. All these early Stones albums were available to download in 176kHz/24-bit and 88kHz/24-bit form.

In July 2011, HDtracks launched with Warner Music Group, and in November 2012 started to offer selections from Sony Legacy. So it's now true to say that all the major labels are now on board



with HDtracks and are behind the concept of hi-res downloads.

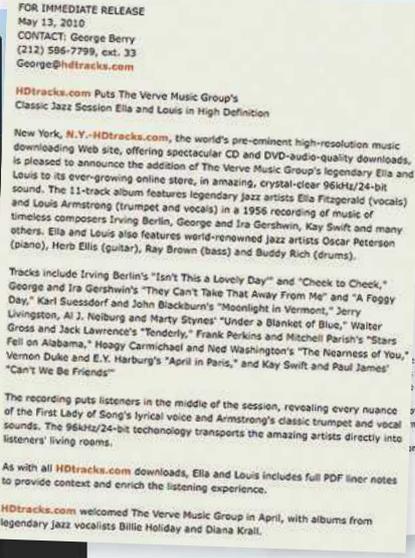
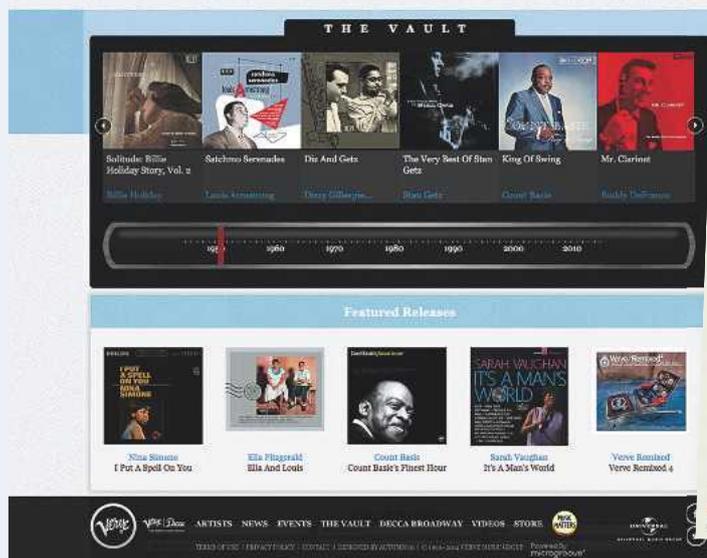
'We have the majors. They're excited. Where at one point it was begging and asking them to do this, now it's part of their commercial eco-system. High-resolution audio is now becoming part of all the record industry's eco-systems.

'And because of what we did, you see now all of a sudden AES this year is doing a big high-resolution thing, Sony is into high-res, everybody's into high-res, it's the new buzzword.'

**INTO THE UK...**

In November 2013, HDtracks announced that it would begin operating worldwide, and this year we've seen the launch of new online stores for the UK and Germany.

Before this happened, HDtracks downloads were only officially available to customers in the



# The one.



As a true audiophile you've always dreamt of the perfect loudspeaker. The one and only to deliver the highest highs and the deepest depths, lightning fast and with endless dynamic reserves, handling thousands of watts of transients without compression, on a soundstage from here to eternity, making your entire physical existence an integral part of whatever wonder is happening inside the music. You may stop dreaming now, and start crying. The all new Evidence Platinum with DDC - Dynaudio Directivity Control, making your room disappear. [www.dynaudio.com](http://www.dynaudio.com)

All there is. **DYNAUDIO**



## HDtracks Launches in Germany and the United Kingdom!!!

Posted by : hdtracks On : September 9, 2014



USA, although it was possible for UK buyers to fool the system by pretending to be US residents. Now, if you're in the UK and you head for [www.HDtracks.com](http://www.HDtracks.com), you will be diverted to [HDtracks.co.uk](http://HDtracks.co.uk).

In theory, everything that is available on the US market could become available on the UK site. But doesn't this ultimately depend on individual licensing deals?

'Yes, what's available in each

store is dependent on our license deals with the labels and what content they control in specific territories. Most of what we have available in the US is also available in

the UK and Germany and we are always working on getting more hi-res content for our consumers.'

Currently, HDtracks doesn't offer material that's licensed through Universal Music to UK buyers, but they're working on it.

### PRICES AND FORMATS

Comparing prices, HDtracks prices can be slightly higher than Highresaudio's (Germany's longstanding hi-res store), although albums are offered in a wider range of file formats, not just FLAC. However, unlike HDtracks,

Highresaudio sells its 192kHz files at the same price as 96kHz.

'We do make a point of offering format choices to our consumers,' says Chesky, 'As for how other stores price their content, I can't tell you how they do it. What I do know is that our prices are dictated by the wholesale minimums demanded by our content providers.'

'And those wholesale prices vary based on whether the format is

192kHz or 96kHz or 44.1kHz/16-bit. Plus we're paying VAT (included in the retail price) and the publishers. I don't see how it's possible to price any other way and

still be properly paying all of the third parties involved – the labels, the government, and publishers.

'That being said, we are sensitive about pricing and are offering sales and discount offers to customers in the UK and Europe.'

'If anyone wants to give us a try and they haven't seen any of our discount offers I invite them to contact us at [support@hdtracks.com](mailto:support@hdtracks.com), and we'll be happy to supply them with a nice discount code to check out the store.'

On the question of formats, we wondered if HDtracks had plans to

'We hand process and test each and every file we receive'

**LEFT: The company announces on its Facebook page that it is to launch in the UK and Germany. See [www.facebook.com/hdtracksmusic](http://www.facebook.com/hdtracksmusic)**

**BELOW LEFT: In November 2012 HDtracks began offering selections from Sony Legacy. Now, all the major labels are on board**

**BELOW: David Chesky with record producer Don Was (right), who waxes lyrical about hi-res in a HDtracks interview on YouTube**

support DSD downloads at any point in the future?

'Yes. We're working on offering this format very soon.'

In the early days, record companies would supply physical media, but now HDtracks will normally just receive files electronically. So presumably now it's a lot quicker and easier to add material, to the point where it could be almost automatic?

'Because we hand process and test each and every file, the delivery and upload of a hi-res file to our store is not automatic. And not all major releases are available in 24-bit, yet. I wish!

'We're still dependent on the artist, producers and engineers to record and master at 96/24 or even better at 192kHz/24-bit. The labels are all on board but it's not always easy to control what happens in the studio. However, we're getting more and more frontline releases, so the message is getting spread for sure.'

### HIGHER THAN HIGHER

I wondered how David felt about 192kHz/24-bit. Did he think it's as far as you need to go?

'No, there's always going to be better! Right now, it's really really good. A 192kHz/24-bit file played from RAM with a good music player I think is the best way to listen to music there is today.'

'But there are going to be improvements. Better DACs; we'll probably go up to 384kHz and do some things with codecs. Yes, of course things will get better.'

'When it sounds as good as live, we've done our job.' ☺



# D'Agostino Momentum Integrated

With an almost indecent haste, Dan D'Agostino has now delivered an integrated Momentum derived from the existing separates – and it's a stunner

Review: **Ken Kessler** Lab: **Paul Miller**

If any component type appeared to have been defined by price category, it was the integrated amplifier. You didn't get into separate preamp/power amp combinations unless you upped the budget. But cost-consciousness is *not* a crucial element of the high-end sector, the notion of the upscale integrated being almost ironic – a minority pursuit like high-priced, high-spec but pocket-sized, all-in-one cameras. For a grand-plus, you're conditioned to expect a separate camera body and interchangeable lenses.

And yet here is an example of the genre from a designer who has made zero-compromise a *cri de cœur*. Certainly, the D'Agostino Momentum Integrated isn't the first-ever integrated with a price to match a loaded Lexus – £44k in copper black finish [see our cover] or £42k in silver – but it just may be the most over-the-top.

## AN OUTBOARD PSU

All one needs to know, should one's inner tyre-kicker demand non-sonic evidence of its high-end worthiness, is that its weight out of the crate is nearly 55kg for its two sections combined.

Regardless, one must not allow the absence of a second AC cord to suggest any lack of audiophile-approved resolve, so let's dispense with semantics right away: this *is* a two-box affair, but not in the sense of conventional amplifier combos, 'separate preamp/separate power amp'. Rather, this is an integrated amplifier with an outboard power supply, in the form of a massive slab machined from solid aluminium that sits beneath the main unit.

At first glance you might think you are looking at the Momentum Preamplifier, as they share identical styling, though the

dimensions differ [see *HFN* Nov '13]. To the left are the on/off and source buttons for choosing between six line inputs. To the right are the by-passable tone controls. In-between is the signature illuminated Momentum meter, styled to resemble a classic timepiece. Its 'bezel' is also the rotary volume control. The supplied remote control is also round, too, itself a gorgeous metal construct.

Not that this will impress readers who care only about sound and are immune to build quality, perceived value, fit-and-finish or the like, in which case I can name a few UK- or Chinese-made valve amplifiers that will charm you with their let's-live-dangerously constructional integrity. This product is awe-inspiring in its physical presence. The feel of the rotary, the click of the illuminated press buttons, the way the

sections fit – the only manufactured goods to which it can be likened are upscale wristwatches, Leica cameras and the Bugatti Veyron.

There's a shock around the back for those with legacy components and no phono-to-XLR adapters. The Momentum Integrated Amplifier only provides *balanced* inputs. Also fitted are stout speaker binding posts and a socket to accept the umbilical from the power supply 'slab'.

## ADJUSTABLE OUTPUT

D'Agostino rates the output at 200W/ch into 8ohm and 400W/ch into 4ohm [see Lab Report, p35]. Maximum output can be adjusted – a safety feature not unlike units with variable gain in addition to main volume control. I used it side by side with the Momentum Stereo Power Amplifier

**RIGHT:** The new outboard PSU offers four supplies in one: +5V and +12V for logic, ±18V for the preamplifier section and ±70V, and a very large toroid, for the balanced power amplifier





[see *HFN* Aug '12] driving Wilson Alexias [*HFN* Mar '13], and power was never an issue. The rest of the system, connecting the aforementioned sources, consisted of Transparent Reference wiring throughout, with no other tweaks or accessories.

Operationally, there are no secrets, no arcane practices associated with this amp. Beyond the need to feed it balanced sources, everything is nearly self-explanatory. The remote operates faultlessly, the warm-up time is brief. I guess the only caveat one needs to emphasise is that getting this amp out of the metal trunk is a two-person job.

While reading this review keep in mind that we are talking about a big ticket integrated amplifier with the chops to vanquish like-priced separates. I know that borders on the heretical for some, but there are precedents in the extreme high-end, including Unison Research's Ultimate 845, darTZeel's

*'This product is awe-inspiring in its sheer physical presence'*

CTH8550 [*HFN* Jul '09] and plenty of others. It's just not what I expected...

### A CHARM OF ITS OWN

How much of the lush, seamless, coherent, 'of-a-whole' sound that I heard is attributable to the inarguable lone benefit that integrated amps have over separates is impossible to define. It is hard to fathom, let alone accept, that the mere removal

of a cable between preamplifier and power amplifier can be so beneficial.

Conversely, separate pre/power combos benefit from two power supplies, two AC sources and total isolation from

each other, so maybe it's a draw. Whatever the truth, this beauty has a charm of its own that was made apparent from the very first notes of Lou Rawls' *At Last* [Blue Note CDP 7919372]. And I mean instantly.

Those who have heard Momentum components will be familiar with what may

**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

be the most commanding lower octaves in the business. I'm not just referring to 'rich' or 'extended' or 'deep' or even 'truly palpable'. There's an uncanny presence recreated through the Integrated that combines all of what are arguably the virtues of authentic bass reproduction, not least being a sense of the physical. You need only stand next to a kick-drum to 'feel' what bass can do. Even with the title track, Rawls' CD sounded more convincing than I'd heard it before.

### STARRY-EYED

This, in and of itself, was disconcerting to say the least, because the amplifier was inserted where normally sits the Audio Research Ref 5 preamp [*HFN* Jan '10] feeding the D'Agostino Momentum Stereo Power Amplifier. They remain superior in key areas, and I am so wedded to the Ref 5 that it borders on the emotional, but the Momentum Integrated had a certain majesty I'd not heard before. Maybe it just liked the Alexias. Perhaps it was the atmospheric pressure in early September, or the alignment of the stars. All I know is that I was transported...

ZZ Top is as far removed from Lou Rawls as one can go, I suppose, and the opening salvo of 'Gimme All Your Lovin'' [Warner] is blatant in its intent. This is growling boogie with a heavy metal cast: massive, powerful yet delivered with the trio's unique finesse – hard rock for closet intellectuals. The integrated D'Agostino delivered all of the slam, every erg of the guitar assault, ➔

## TONE CONTROLS

Integrated amps, *per se*, are not anathema to the high end, and every brand offers them, from Audio Research to Krell to Constellation to Conrad-Johnson to Mark Levinson. What D'Agostino is also 'reviving' – if that's the word – are tone controls. Like the Momentum Preamplifier, the Integrated features a pair of by-passable rotaries that allow the user to tailor, fine-tune or tweak the sound. Along with phase inversion, mute and balance, bass and treble controls can be addressed via the remote, so you can make adjustments from the listening position. Because the action was as subtle as one wants it to be, it would be churlish to equate these with the coarse tone controls of yore. I didn't need them in my system, but there *are* recordings with far too much bass or over-emphasised treble that I know would benefit from their use. Do I see a comeback for tone controls? No, but you do notice their absence when you need them.

# Bowers & Wilkins



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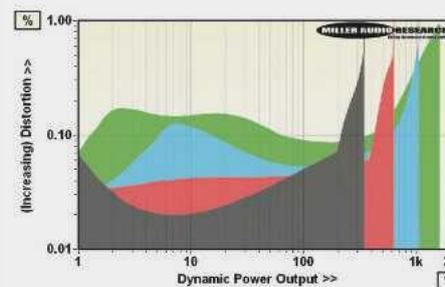
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## D'AGOSTINO MOMENTUM INT.

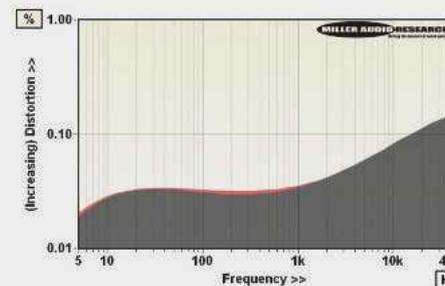
So just how close is the performance of the Integrated to that of the Momentum Stereo power amp [HFN Aug '12]? In practice, not as close as the Stereo is to the monoblock Momentum [HFN July '11]. The Integrated and Stereo are both rated at 2x200W/8ohm and 2x400W/4ohm but achieve 215W/295W and 245W/390W respectively – so the Stereo looks more powerful. Under dynamic (music-like) conditions however, it's the Integrated that takes the lead with momentary outputs of 345W, 635W and 1.07kW into 8, 4 and 2ohm loads [see Graph 1, below], increasing to a whopping 1.62kW/1ohm or 40.2A (the Stereo managed 1.3kW or 36A).

Distortion proved more consistent with output through the Stereo but is often lower through the Integrated, dipping from 0.06% at 1W to a minimum of 0.012% at 20W before rising gently to 0.06% at 100W and 0.15% at the rated 200W. Versus frequency, THD is typically lower too, from 0.02%/20Hz up to 0.11% at 20kHz (all at 10W/8ohm). Furthermore, unlike the Momentum Stereo, there's a clear reduction in distortion as the amplifier warms up – from 0.055% cold to 0.011% after 15 minutes at a continuous 10W/8ohm.

The Integrated has a slightly more tailored response, flat from 1Hz out to -0.2dB/20kHz and -3.5dB/100kHz but this remains virtually unaltered with load, despite the moderate 0.3ohm output impedance. Finally, D'Agostino has clearly nailed any noise issues with this outboard PSU as the Integrated enjoys a very impressive 93.9dB A-wtd S/N ratio (re. 0dBV). Readers may view a comprehensive QC Suite test report for D'Agostino's Momentum Integrated 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. Excellent load tolerance



ABOVE: Distortion versus extended frequency from 5Hz-40kHz at 10W/8ohm (black, left; red, right)

## HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	215W / 295W
Dynamic power (<1% THD, 8/4/2/1ohm)	345W / 635W / 1.07kW / 1.62kW
Output impedance (20Hz-20kHz)	0.33-0.35ohm
Freq. response (20Hz-20kHz/100kHz)	+0.0dB to -3.5dB
Input sensitivity (for 0dBV/200W)	45mV / 638mV (balanced)
A-wtd S/N ratio (re. 0dBV/200W)	93.9dB / 116.9dB
Distortion (20Hz-20kHz re. 10W/8ohm)	0.018-0.11%
Power consumption (Idle/Max. o/p)	116W / 830W (22W standby)
Dimensions (WHD) / Weight	457x109/102x406mm / 54.4kg



ABOVE: Fed via a short umbilical from its outboard DC PSU (doubling as an isolation platform), the Momentum Integrated offers six balanced inputs and pairs of 4mm speaker binding posts. Trigger and RS232 support system integration

with a freedom from restraint that suggested unlimited power. The Alexias are not the easiest speakers to drive, favouring as much grunt as an amp can deliver. The Integrated never indicated that it was 'smaller' than its separate stereo power amplifier sibling.

### GEORGE FORMBY – AGAIN!

Just as it embraced the crystal clarity of Dianne Reeves' vocals in tandem with Rawls, so did it create an onslaught of sound with the Texan boogie merchants. The readily-identifiable textures of the vocals, with that slight nasality, the 'electric' feel that reminds me of the atmosphere before a thunderstorm – the Momentum demonstrated as much panache with hard rock as it did with silky standards.

In both cases, the presentation was wall-to-wall, with that elusive, yet treasured ability to make the speakers 'disappear'. If you're addicted to a convincing soundstage, this amplifier will alter your perceptions. The mind's path (at least mine) can be convoluted and full of non sequiturs, so I have no way of knowing quite why the playback made me think of Decca Gold and Denon DL-103 cartridges. Still, something in me recalled the 'wide-open prairies' effect both were known for as being present here.

I couldn't resist a go with my hero, George Formby, with a mono recording that pre-dates WWII. *When I'm Cleaning Windows – His 52 Finest 1932-1946* [Retrospective RTS 4104] is just a normal CD, not an audiophile remastering. (I may be the only schmuck who'd buy a copy if MoFi suddenly discovered him.) Did I hear more detail in 'When I'm Cleaning Windows'? Yes, indeed, which is especially helpful

in trying to decipher his inimitable virtuoso strumming technique with its blinding speed. How did the Momentum dig more out of those 80-year-old recordings?

I cannot begin to count the number of times I've listened to that Formby recording, but I swear I was hearing elements of the backing band that were not apparent before. There was a sense of layering, of *depth*. And when you consider how limited the dynamic range must be, it even possesses passable contrasts.

What sealed my esteem for the Momentum Integrated, though, was The Band's *The Band* [Mobile Fidelity UDSACD 2129]. 'Up On Cripple Creek's' bass and kick-drum opening is dry, distinctive and rich with an ambience that means lots of moving air and a clearly palpable sense of space. You can hear the drum-skin stretch. It builds up: a Jew's harp injects the unmistakable metallic twang, swirling Hammond organ, tinkly piano, those moonshine-and-barbecue vocals. All of a sudden, it's 1969, I'm 17 and I didn't even feel the need for a joint. ☺

## HI-FI NEWS VERDICT

While I'm already a committed Momentum user, I wasn't expecting the baby of the range to prove so rewarding. It's an exceptional product irrespective of its topology, blowing away any nagging belief that an integrated is a compromise. No, it won't save that much space. But, yes, it will delight you every time you use it. Powerful, graceful, musical – and (in black) the sexiest-looking amplifier I can name.

Sound Quality: 88%



# Dynaudio Evidence Platinum

Dynaudio's flagship series has a new Platinum model which showcases the company's latest drivers and fine-tuning  
 Review: **John Bamford** Lab: **Keith Howard**

Introduced as a high-end statement at around the millennium year, the Evidence models from Danish loudspeaker specialist Dynaudio enjoys a fine reputation all over the globe. The granddaddy of them all, the humongous Evidence Master, standing over 2m tall with its 106litre modular enclosure, remains on the company's price list at £78,400, as does the slimmer Evidence Temptation (£34,500). However this new Evidence Platinum model (£58,500), introduced a few months ago, supersedes both of them as the company's latest design statement.

It's been a considerable time in the making: Dynaudio previewed a 'concept' prototype of the Platinum at Munich's High End exhibition as long ago as May 2012. The company has been introducing many refinements to its designs throughout its less expensive speaker ranges – such as its wireless Xeo and stylish Excite series – and its high-end Evidence models have long been due for a serious makeover. Two years after its tentative preview at Munich, the Evidence Platinum is finally shipping.

## TURBOCHARGED

In essence it's a heavily tweaked and turbocharged Evidence Temptation, the new Platinum incorporating Dynaudio's latest drive unit and accompanying crossover designs. Its form factor is almost the same as the 64litre Temptation, the Platinum standing just under a centimetre taller (at 194cm) and 20mm deeper. Meanwhile it features the same narrow-profile front baffle – consequently it remains a statuesque 'totem pole' of a monitor that doesn't in fact overly dominate a room, given its exceptionally modest footprint.

Its enclosure is immaculately finished in piano lacquered real wood veneers – as you'd expect from a high-end speaker

costing as much as an executive car – with a choice of black, mocca, rosewood and Bordeaux finishes.

## OPTIMISED DISPERSION

On the sculpted baffle (just 390mm at its widest point) all the drivers are laid out vertically as symmetrical pairs. At the centre are two tweeters, flanked on either side by a midrange driver, with a pair of woofers top and bottom. Dynaudio endeavours to control vertical dispersion in order to maximise direct sound to the listener and make its speakers less influenced by the room and also less critical of positioning – holding great store in its 'DDC' design methodology [see boxout, facing page].

Says Dynaudio: 'DDC isn't simply arranging the drivers in a symmetrical array.

For DDC to succeed, every single detail – from each drive unit to the crossover – must be individually tailored and optimised. With two tweeters, two midrange drivers and, depending on the model, two or four woofers, each drive unit

complements its identical counterpart in frequency response and phase relationship such that a carefully defined dispersion characteristic is achieved. This intricate matching is repeated once again for each speaker pair to work together in tandem.'

For the first time in the Evidence series the Platinum employs Dynaudio's latest Esotar<sup>2</sup> tweeters. These are 28mm silk domed units treated with a proprietary coating, employing aluminium voice coils suspended in magnetic oil (ferrofluid) to maximise power handling and improve the

**RIGHT:** Standing almost two metres tall, Dynaudio's latest flagship model has two 28mm silk-domed tweeters with two 150mm midrange drivers and four 180mm woofers featuring the company's 'MSP' composite diaphragms

“Every single detail must be individually tailored”





## DYNAUDIO DIRECTIVITY CONTROL

Although the classic view, perpetuated in many acoustics textbooks, is that room reflections are deleterious to sound quality, today's loudspeaker manufacturers take a more nuanced view. As some of us have been saying for decades, reflections *can* be beneficial – but they need to be the right ones and their spectral content must be sufficiently similar to that of the sound reaching the listener's ears directly from the loudspeaker. The 'good' reflections are from the room's side walls: ensuring that these have a similar spectrum to the on-axis sound is relatively easily achieved by using at least a three-way design with vertically aligned drive units on a narrow front baffle – a recipe seen in many modern floorstanders. Of course, hard, reflective side walls are needed too (no absorbent there, please). Ceiling and floor reflections, by contrast, are 'bad' but controlling them is more difficult. Dynaudio's research has suggested that they are a significant factor in a speaker sounding different in different room environments, so DDC deploys twin drive units in each frequency range so as to narrow the speaker's vertical directivity and thereby reduce the intensity of floor and ceiling reflections, by a claimed 75% (12dB). KH

dome's excursion capability. A damping chamber integrated into the rear of the assembly acts as an acoustic absorber, deadening back-wave energy, while the soft domes are protected from prying fingers by 'acoustically neutral' small titanium bars.

### IN-HOUSE DESIGNS

The two midrange drivers flanking the two tweeters are 150mm units featuring Dynaudio's latest 'MSP' diaphragms manufactured from magnesium silicate polymer, a proprietary composite that boasts low mass/high rigidity and 'ideal internal damping properties' according to the company. Terminated with supple rubber surrounds, the cones' one-piece moulding has been geometrically optimised so that its dispersion pattern gradually adapts in a controlled manner as the frequency and amplitude increases.

Their motor assemblies feature neodymium magnets and large voice coils made of lightweight aluminium wire rather than copper, which allows for more windings and a larger coil diameter, while minimising mass. By positioning twin magnets inside its voice coils Dynaudio says a larger and more homogenous magnetic field can be utilised, with less magnetic radiation. Using two magnet rings above each other creates a more symmetrical pole piece design and aims to make the coil conduction constant regardless of voice coil position.

The Evidence Platinum's four bass drivers similarly are Dynaudio's MSP designs – made entirely in-house (as are Dynaudio's cabinets) – with 180mm diaphragms. The woofers are housed in heavily braced and damped reflex enclosures with large ports venting at the rear. Meanwhile, the

sculpted centre section of the Platinum containing the tweeters and midrange drivers is formed of CNC-machined aluminium with a 40mm-thick baffle.

It's within this rigid aluminium structure that the Platinum's dividing network sits, in an isolated chamber at the rear with ventilation slots to keep the crossover components within a safe operating temperature range, even at continuously high volume levels and during extreme transients. However the input terminals are at the bottom of the speaker's rear panel, as you surely wouldn't want your cables trailing midway up the enclosure!

Throughout its loudspeaker designs Dynaudio employs first order (6dB/octave) crossovers, using carefully selected capacitors, ceramic resistors and oxygen-free copper air-coils. The company eschews split crossovers for bi- or tri-wiring, as Dynaudio's product manager Roland Hoffmann told us when we reviewed the Excite X38 [*HFN* Mar '14], 'Separating such a design, bridging across its sections with metal strips, for those who will use single lengths of speaker cable, is really not the right way to go.'

### AN EXPLICIT PICTURE

From the opening bars of Dire Straits' evergreen 'Private Investigations' from *Love Over Gold* [Mercury 8000882] I was immediately struck by the Dynaudio's uncommonly vivid and subjectively 'clean' and uncoloured presentation. Bass is taut and explicit, the midrange clear, and high frequencies crisp and open, with little evidence of any tiring sizzle.

We drove the Evidence Platinums with a top-of-the-line Devialiet 800 dual-mono amplifier setup in the editor's media room [[www.hifinews.co.uk/news/article/](http://www.hifinews.co.uk/news/article/)] ↪

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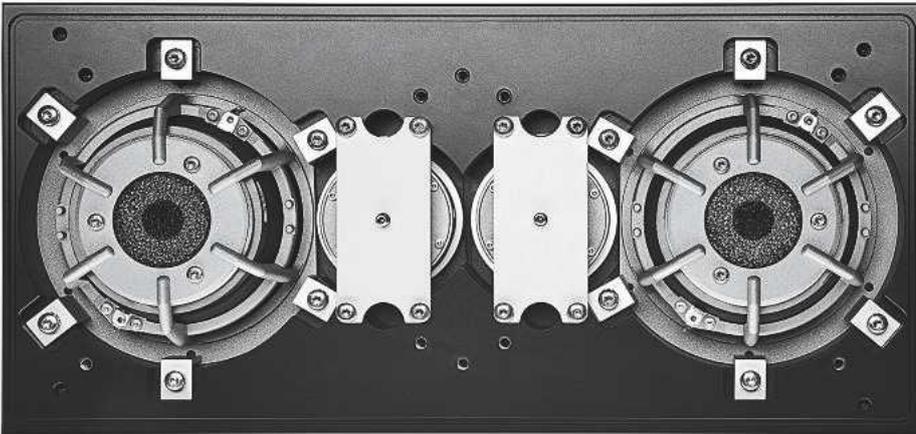
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**ABOVE:** The Evidence Platinum's dual Esotar<sup>2</sup> tweeters and two 150mm midrange drivers are mounted behind a thick aluminium front baffle in the centre portion of the speaker's enclosure

*meet-the-team;-paul-miller/9952*] hooked up with Absolute Dream cables from Crystal Cable. A wide selection of CD rips and downloaded hi-res files were played out from a carefully-configured Sony Vaio laptop running foobar2000 music player software. Presenting the speaker with dramatic and challenging programme material like Chris Jones 'God Moves On The Water' and 'No Sanctuary Here' from his album *Roadhouses And Automobiles* [Stockfisch SFR 357 6027 2] revealed how well the Platinum deals with hyped-up, pumping bass lines. Where so many speakers deliver a bloated, exaggerated rendition of the bass guitar figures in these demanding tracks, the Evidence Platinum kept everything under tight control.

You *might* think the speaker rather dry and matter-of-fact. Initially I was slightly underwhelmed, in particular when I played the title theme from the soundtrack from the 1999 sci-fi thriller *The Day After Tomorrow* [Varèse Sarabande 302 066 572 2] in which the sweeping orchestral score contains truly thunderous bass that is felt as well as heard. Sure, the Platitudes were moving plenty of air... but they weren't pressuring the room anything like as much as I expected to witness from such statuesque monitors.

'For many listeners this will prove a boon,' I wrote in my notes as I enjoyed composer Harald Kloser's achingly beautiful melody. 'This is a huge speaker that delivers a commensurately mammoth sound image without over-loading a modestly-proportioned listening space with too much low frequency mayhem...'

But the longer I listened, the more I began to appreciate the Platinum's

three-dimensional imaging capability and its complete lack of coloration.

### EERILY LIFELIKE

The speaker is wonderful at reproducing the sound of a piano – with life-like scale and dynamics, the attack and decay of notes reproduced with fabulous clarity and precision. 'Natsushaki' by the Helge Lien Trio, recorded in Oslo's Rainbow Studios [96kHz/24-bit download from highresaudio.com] sounded tremendous, the speaker providing a panoramic and crystal clear window through which to observe the musicians performing in a believable space. The upright acoustic bass appeared eerily lifelike and the large, loose-skinned bass

drum wholly convincing in scale, timbre and dynamic power.

By way of a slight contrast I played Wesseltoft and Schwarz's 'Dreaming' from their 2011 album *Duo* [Jazzland

060252770419] in which experimental jazz pianist Bugge Wesseltoft's ivory keys combine exquisitely with the pumping electronic sound effects derived from Henrik Schwartz's computer. I don't believe I've had as much fun since partying with JBL's mighty Everest DD67000s a few months back [*HFN* Aug '14] as I cranked up the volume to eleven. The clarity was extraordinary, the music's dynamic shifts and vibrant sonic textures depicted in explicit fashion.

Okay, so the Platinum's LF extension appears a tad curtailed given the speaker's monolithic proportions. But even a bass lush such as me has to admit that there can be such a thing as *too much* bass.

What this speaker delivers is strong, accurate, authoritative bass, not boomy ☺

*'It was wholly convincing in scale, timbre and dynamic power'*

## WILFRIED EHRENHOLZ

Dynaudio's entrepreneurial CEO Wilfried Ehrenholz was an electronics engineer aged just 22 when he founded Dynaudio in 1976 in Skanderborg, Denmark. As a music-loving teenager he became passionate about sound reproduction, taking on extra paper delivery rounds in order to afford an SME tonearm and Shure V15 pick-up. Four decades on and he's managing a company with over 250 employees and an annual turnover more than twice that of successful British manufacturing firms such as Linn Products or Naim Audio. Dynaudio's R&D and manufacturing base remains in Skanderborg with its own cabinet works close by, while the company's administrative headquarters is 200 miles south in Rosengarten near Hamburg. Dynaudio recently appointed Jan Abildgaard Pedersen as its new Chief Technical Officer. Pedersen is a specialist in digital signal processing and acoustics with an impressive CV, having been a senior manager at B&O and a past AES president.

Says Ehrenholz: 'We're living in a new world today and must embrace the latest technologies' – referring to his company's wireless and DSP-driven speakers such as the Xeo range and soon-to-be-launched Focus HD models.

'DSP allows us to offer astonishing performance from compact speakers at real-world prices – while the design of our flagship Evidence Platinum confirms we will never leave our audiophile heritage.'



# ortofon

accuracy in sound



# Q uintet

Since 1948 Ortofon have introduced nearly 100 different moving coil pick-up cartridges to the hi-fi market. Their latest models in this long and proud heritage are the Quintet Series.

All Quintet cartridges use the same ABS thermoplastic bodies and neodymium magnets, but each model in the range has its own sonic expression that reflects its status. From the well-rounded **Quintet Red**, through the smooth **Quintet Blue** and spacious yet dynamic **Quintet Bronze** up to the pure audio excellence of the **Quintet Black**, this series offers something for every discerning listener at a very attractive price.

The Quintet Series also includes a true-mono cartridge, for accurate reproduction of older mono recordings.



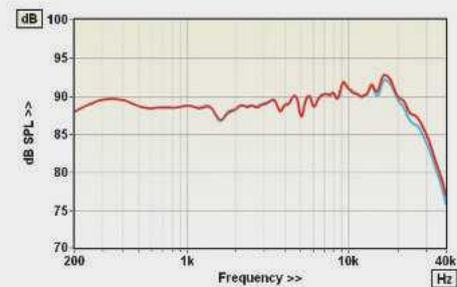
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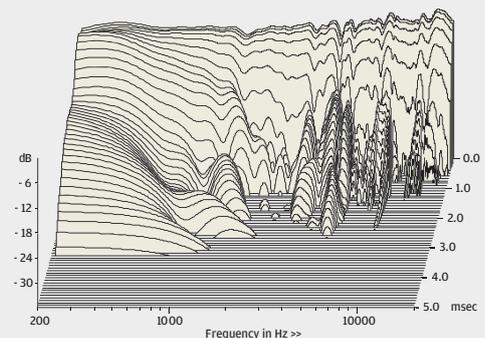
## DYNAUDIO EVIDENCE PLATINUM

Dynaudio claims an 89dB sensitivity for the Evidence Platinum which accords well with our pink noise and 'music' figures of 89.5dB and 89.1dB. This is slightly on the low side for a large reflex-loaded speaker but Dynaudio has clearly been at pains not to make the Evidence Premium difficult to drive. Although it has a claimed nominal impedance of 4ohm – consistent with our measured minimum modulus of 3.2ohm – the key here is impedance phase angle. This is so well controlled that the minimum EPDR (equivalent peak dissipation resistance) dips to a low of 2.2ohm at 75Hz, so the large Dynaudio is easier to drive than many less ambitious modern floorstanders.

Frequency response [Graph 1, below], measured with the grilles removed and the microphone height half-way between the twin tweeters, displays a mildly rising trend above 5kHz but this can easily be countered by listening slightly off-axis. Even with this rise, frequency response errors of  $\pm 3.0$ dB and  $\pm 2.7$ dB for the review pair (300Hz-20kHz) are excellent for a passive speaker. Even more outstanding is a pair matching error of just  $\pm 0.5$ dB over the same frequency range, but even this exceptional figure doesn't do the Evidence Platinum full justice because up to 13kHz the pair matching was a barely credible  $\pm 0.2$ dB – simply amazing. Diffraction-corrected near-field measurement showed the bass extension to be 42Hz (-6dB re. 200Hz) but with the outputs of six drivers and two ports to be combined to obtain this figure it has to be regarded as tentative. The CSD waterfall [Graph 2] shows what are presumably midrange driver breakup modes, poorly suppressed because of the first-order crossover. KH



ABOVE: Pair matching is superb and the forward response is very flat if you listen slightly off-axis



ABOVE: Cumulative decay waterfall shows some mid driver modes, exposed by the shallow 1st-order roll-off

**LEFT:** Woofer enclosures top and bottom are reflex loaded with large ports. Aluminium centre section contains the speaker's network in a chamber behind the tweeters and midrange units

seem to combine just the right amount of vibrancy and sparkle while avoiding any tiring, chromium-plated hardness to the reproduction of high frequencies.

### TELLING THE TRUTH

What you *don't* get with a speaker that's as vivid and insightful as this is any sense of romance. I was surprised to discover that Johnny Cash's evocative interpretation of Nine Inch Nails' 'Hurt' from his album *American IV: The Man Comes Around* [UMG/American Recordings 063 339-2] sounds disappointingly ragged and 'clanky', the Evidence Platinum revealing candidly that only the acoustic guitars were captured wholly authentically in this much-cherished recording. The speaker might remain civil and easy to listen to for most of the time, nevertheless it's not afraid to portray the unvarnished truth.

I've recently been rediscovering some of the pioneering jazz-rock band Chicago's finer moments, but the Platinum couldn't help telling me that Chicago's recordings are what they are. The rousing up-tempo 'Listen' from their 1969 debut album *Chicago Transit Authority* [Rhino 8122 79801 3] sounded compressed and 'thin', the song's stirring brass section rather brittle and lacking substance. Still, you can't blame a high fidelity transducer for telling the truth. ☺

### HI-FI NEWS VERDICT

This is an extraordinarily fine speaker that sounds simply right with all manner of music. The Evidence Platinum doesn't flatter to deceive, yet nor does it sound too dry and antiseptic. Its designers have tuned it beautifully, its analytical matter-of-factness skilfully combined with an enjoyable musicality that obviates listening fatigue. It's a world-class design of which Dynaudio can be mightily proud.

Sound Quality: 88%



dance-club bass. And it packs a muscular wallop when the music warrants it, have no fear. There's always plenty of headroom as well.

Press hard on the loud pedal and the Evidence Platinum remains wholly unflustered, taking everything in its stride. I spent hours admiring natural, unsullied hi-res recordings of large-scale orchestral works, listening at realistic sound pressure levels without suffering any fatigue. The speaker's insightful midband and its excellent tweeters

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	90.5dB/89.5dB/89.1dB
Impedance modulus min/max (20Hz–20kHz)	3.2ohm @ 99Hz 7.4ohm @ 20kHz
Impedance phase min/max (20Hz–20kHz)	-30° @ 21Hz 21° @ 310Hz
Pair matching (300Hz–20kHz)	$\pm 0.5$ dB
LF/HF extension (-6dB ref 150Hz/10kHz)	42Hz / 29.9kHz/28.1kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.3% / 0.2% / 0.1%
Dimensions (HWD)	1940x210x510mm

# Yamaha CD-S2100/A-S2100

The latest hi-fi components from the Japanese motorbikes-to-musical-instruments company combine retro looks with both USB connectivity and DSD playback  
Review: **Andrew Everard** Lab: **Paul Miller**

In Yamaha's home town of Hamamatsu, halfway between Tokyo and Osaka, they must be viewing with some amusement the return of the likes of Panasonic (Technics) and Sony to the high-end audio arena. After all, Yamaha – for all its prowess in surround sound, soundbars and micro/lifestyle systems in recent years – never went away from the dedicated hi-fi components market: its S2000 series components were launched late in 2007 [see *HFN* April '08], and the Japanese company has always maintained a strong two-channel line-up.

## DESIGNS FOR 'FULL ATTENTION'

Currently that range still has as its flagship the CD-S3000 SACD/CD player and A-S3000 amplifier [*HFN* Nov '13], but starts with the £400 CD-N301, combining CD and network music playback, and the matching A-S301, at a very affordable £300. The CD-S2100 and A-S2100 we have here, at £1600 and £1700 respectively, sit atop a whole slew of Yamaha stereo components presented at the IFA 2014 show in Germany a couple of months back.

In a parallel press launch, Technics spoke of a move away from compressed music formats used for background listening, and a return to enthusiasts wanting to set up high-quality systems for 'full attention' listening. Yamaha says it has had just those listeners in mind for the past 60 years, launching its first hi-fi product in 1954, and claims to have been the first to describe its products in that way back then.

Of course, a major part of the return of Panasonic and Sony to specialist audio has been to do with shrinking profits in the TV sector, for so many years the cash cow for those companies. Freed from exposure to the vagaries of that cut-throat market, and with its heritage in musical instruments [see boxout], Yamaha has been able to stick to what it does best.

**RIGHT:** Inside the CD-S2100, Yamaha employs a custom CD/SACD transport, separate digital/analogue PSUs, an ESS ES9016 DAC and fully balanced analogue output stages

The CD-S2100 CD player may have styling and build drawing on the 'battleship' players of a decade or more ago, but it's bang on the money when it comes to modern-day music-playing requirements. In addition to SACD and CD playback, it has optical and coaxial digital inputs, plus an asynchronous USB, via which it's able to play DSD files from a computer using dedicated Steinberg drivers for both Windows and Mac operating systems, and an onboard 24-bit/192kHz digital-to-analogue conversion.

The player also has both optical and coaxial digital *outputs*, functional only when CDs are being played or PCM signals input via the digital inputs, and there's a

choice of balanced or RCA phono outputs. A 'Pure Direct' function turns off the digital outputs, and also reduces the amount of information shown on the display.

Meanwhile the A-S2100 integrated amplifier, with a claimed power output of 90W per channel into 8ohm, will look familiar to anyone acquainted with Yamaha amps of the recent (and indeed distant) past. Like the player it's a big, hefty unit, available in either silver or black with piano

black side cheeks, and with illuminated power meters front and centre above a row of slimline tone controls.

This is very far from being a 'hairshirt' amplifier, having both a MM/MC phono stage and dedicated headphone amplifier

'The A-S2100 is very far from being a "hairshirt" amplifier'





with its own trim control built-in. It boasts tone and balance controls, a selector for the two sets of substantial speaker outputs, and even a switch to select between peak or continuous display on the meters, which can also be turned off.

### SETTING THE CLOCK BACK

The amp's balanced inputs match those outputs on the player, with selectable attenuation and phase. And in addition to its phono option, three line-ins and a tape loop, the A-S2100 also has both preamplifier output and power amplifier input connections.

Yamaha has an enviable reputation for the solidity with which its products are

built, not to mention the amount of 'in-house' engineering involved in the design and construction, and the CD-S2100 and A-S2100 are no disappointment in this respect. The CD player is reassuringly hefty (15.6kg), the amplifier even more so (23.4kg), and there's no shortage of proprietary thinking in the two products.

The player's slimline drawer is smooth and silent, with both the loader and the playback mechanism being of Yamaha's own design, while the chassis is clearly conceived for rigidity, stability and vibration-suppression – right down to the feet on which the player sits.

The circuit layout is fully balanced from the DAC onwards, with separate,

**ABOVE:** Not exactly button-free, but the layout on the Yamahas is clear and easy to use, even though the controls are sometimes a little small. Tone controls on the amp can be bypassed

isolated power supplies for the digital and analogue sections – and an unusual feature here is user-selectable bandwidth for its DPLL (Digital Phase-Locked Loop) used to generate the player's master clock, and thus the accuracy of the clock itself. As standard, this is set to 'medium low' bandwidth, but it's possible to adjust it over seven steps from 'highest' to 'lowest'.

Yamaha says: 'As the DPLL bandwidth setting value approaches Lowest, the accuracy of the operating clock in the DAC improves, but the unit may be susceptible to a change in the clock of the external component. The sound from such a component may more easily skip.'

Conversely, as the setting approaches Highest, 'the accuracy of the operating clock in the DAC deteriorates, but the unit is far less susceptible to a change in the clock of the external component.'

I didn't encounter any problems with any of the external digital sources I used tripping up the Yamaha's DAC, so after some experimentation with this adjustment, and with no audible effect on the sound, I left it at the default setting.

The amplifier again uses a symmetrical design with fully-balanced working, ➔

## MUSICAL MARQUE

Many will be familiar with Yamaha as a maker of hi-fi, home cinema equipment and everything from motorbikes to outboard motors, but the roots of the company are in musical instruments, and it's still a major supplier of pianos, organs, *et al* – as the company says, 'we're the only musical instrument manufacturer able to equip an entire symphony orchestra.' It still makes grand pianos in Hamamatsu, where instruments trundle between production operations on robotic carts playing piano music to alert humans of their presence, and it also owns the Bösendorfer factory outside Vienna, where highly-prized instruments are made by hand. So does this background inform its hi-fi operations? Yamaha will tell you it does: not just in the awareness of how real instruments sound (always a handy reference!), but also in the physics of how musical instruments create sound, and the electronics used in many of its products. It's a unique combination of technologies and design strategies.



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## IAN GALLOWAY

Yamaha's AV Director for Europe, Ian Galloway, has been involved with the company for almost 35 years, having joined the then UK distributor in 1980 as a sales manager. From 1986 to 2004 he was Sales and Marketing Director with Yamaha as it went through various internal mergers and restructuring, and rejoined the company in 2011 after some years as a freelance consultant.

Two-channel hi-fi he says is 'incredibly important' to the company, and taken very seriously: 'Hi-fi is in our blood and it's something we can never shy away from.' He admits that Yamaha has a 'gargantuan' range of hi-fi products, both in Europe and across the world.

'We have over 60 products available currently with more being introduced every year. Whoever the customer is, we have the product!'

Yamaha doesn't have immediate plans for high-end network streaming products of the kind recently launched Sony and Technics – 'but we're always trying to push boundaries and try new things so watch this space!'

Galloway welcomes the re-emergence of Japanese rivals on the hi-fi stage: 'This is a very positive situation and one that adds to the excitement and potential to expand the two-channel business further over the coming years.'

'We have such a long and prestigious heritage within hi-fi and it's always a pleasure to talk about products that are solely geared towards one very musical purpose.'



**ABOVE:** Yamaha's A-S2100 amplifier is based on the same fully balanced/floating MOSFET power amp stage as the flagship A-S3000, albeit with a scaled-back PSU (the '3000 has a custom toroid). The 'busy' internal construction and generous use of full-sized components is equally familiar

right the way from input to output. The design of the balanced power amplifier section is derived from that of the A-S3000 with its negative feedback circuit isolated from the power supply. In total there are four separate power supply circuits mounted on a highly rigid and stable chassis and casework design. The amplifier even includes removable, spiked feet.

### WARM AND GENEROUS

I tested the Yamahas with my usual PMC OB1 speakers and also a pair of B&W CM8 S2s I had to hand, connected with Chord Company balanced interconnects and speaker cables. Equipment used for 'solo' testing of the two components included Naim's NDS network music player and Supernait 2 integrated amplifier, while my computer music sources included a MacBook Air computer, connected via USB and running the Steinberg driver Yamaha supplies.

I also tried the driver on Windows PCs, and had no problems installing, setting up or using it with any of the computers to hand, although the Windows version does require a little more user intervention when it comes to set-up than the Mac. And of

course I played both CDs and SACDs on the CD-S2100, too!

The Yamaha concept of 'Natural Sound' has been established over many years, and the balance of player and amplifier conforms to the company's usual traits of being supremely easy to listen to, while at the same time rewarding closer listening.

There's no overt character on display here, but instead a presentation with warmth, generosity and yet tight control in the bass; a clear, fresh midband to ensure

intelligibility is always good; and a treble always able to offer excellent insight into the size and space of the recording venue.

Indeed, I would say the Yamahas, together or separately, present

the kind of fuss-free sound likely to appeal to a wide swathe of listeners, while at the same time being more than capable of impressing with the scale and insights which they offer.

The player/DAC, while sometimes somewhat leisurely in its access to tracks on discs with a large number of selections, is both refined and yet capable of hitting hard – as was clear when playing either large-scale orchestral/choral music or 

*'It always offered insights into the size and space of the venue'*



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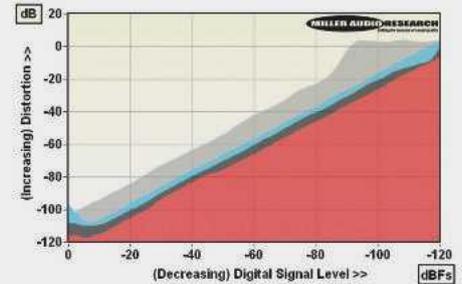
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# Grounding

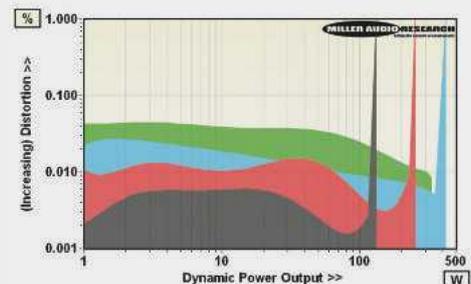
## YAMAHA CD-S2100/A-S2100

The similarity in performance between Yamaha's CD-S2100/A-S2100 and the larger 3000-series [HFN Nov '13] is remarkable. The amps are especially close, offering within a few watts of 2x120W/8ohm and 2x195W/4ohm with headroom to accommodate 135W, 253W and 425W into 8, 4 and 2ohm loads under dynamic conditions. The current limit is slightly relaxed in the A-S2100 to 18.2A or 330W/1ohm [see Graph 2, below]. Like previous Yamaha amps, gain is high at +43dB (balanced) and the A-wtd S/N ratio very wide at 97.4dB (re. 0dBW) while distortion holds to within 0.0035-0.017% from 20Hz-20kHz (10W/8ohm). As before, the response is flat from 1Hz-75kHz (-1dB) but the output impedance is usefully lower at 0.031-0.079ohm versus 0.061-0.10ohm for the A-S3000.

Yamaha's partnering CD-S2100 may employ the ES9016 rather than ES9018 DAC (as in the CD-S3000) but it still offers a near-identical 109.1dB A-wtd S/N ratio, a maximum 1.96V output (XLR and RCA) and distortion as low as 0.00005% through mid frequencies at -10dBfs. SACD enjoys a full-bandwidth response out to -3dB/50kHz and -25dB/100kHz and low-level resolution is good to ±0.8dB over a 120dB dynamic range. Jitter is improved over the CD-S3000 and is vanishingly low at ~10psec via S/PDIF and USB inputs and with SACD media. USB matches 24-bit S/PDIF performance provided the Steinberg ASIO drivers match the sample rate of the files being played. Upsampling files to 192kHz caused a marked truncation in linearity to ~16-bits in our tests [see grey trace, Graph 1]. Readers may view comprehensive QC Suite test reports for Yamaha's CD-S2100 and A-S2100 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 via S/PDIF (1kHz, red), CD (1kHz, black; 20kHz, blue) and USB (1kHz, upsample mode, grey)



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



ABOVE: The A-S2100 offers balanced inputs (with switchable polarity and sensitivity), matching balanced outputs on the CD-S2100. Three line, one phono and tape inputs are joined by preamp output RCAs plus massive 4mm speaker cable terminals

The Who's 'Won't Get Fooled Again' [My Generation: The Very Best Of... Polydor 533 150-2].

The richness of sound doesn't hold back the ability to thunder out Keith Moon's drums or crash into Townshend's guitar chords, and the amp is more than capable of making the most of this dynamic prowess.

### NOT JUST TOSH

There's nothing here to upset the ear, and much to reward extended listening: playing the gorgeous 2L recording of Arnesen's *Magnificat* in DSD [2L-106] one can revel in the lush harmonies of the choir and orchestra, or listen-in to the way the sound occupies the space in the soundstage, or individual instrumental lines, if one wishes.

True, the Yamaha combination isn't an instant win, and will perhaps demonstrate less well than more 'obvious' players and amplification on a swift A/B audition. However, both the player and amplifier are definitely 'growers', and over longer listening sessions their appeal will become very obvious.

Playing Peter Tosh's 'Get Up, Stand Up' from his *Equal Rights* set [BMG 771372, HDtracks 96kHz/24-bit], the sinuous bass of Robbie Shakespeare immediately impresses with its extension and impact, propelling the track forward. Throughout the album the Yamahas' combination of weight and a deft touch served the music well, framing

Tosh's voice admirably, keeping the politically-charged lyrics clear and crisp, and allowing every part of the mix to be followed.

It works just as well with the multiple layers of Jean-Michel Jarre's 'Souvenir Of China', from *Concerts In China* [Epic EPC 488139 2], keeping the synthesised table-tennis balls, voices, camera shutters and other effects well focused against the growing washes of synths. Similarly, Joe Satriani's somewhat disturbingly snarly 'I Am Become Death', from his *Time Machine* album [Relativity 474515 2, HDtracks 96kHz/24-bit], benefits from the Yamahas' scale and drive, along with the way instrumental textures are revealed.

This is a very complete duo, with even the phono stage in the amp more than good enough for use with decent turntables and cartridges, but it's in the digital arena that this combination really shines. ☺

### HI-FI NEWS VERDICT

This Yamaha combination is highly competitive in a market sector many well-known names have all but abandoned, and are only now rediscovering. At one time, Yamaha's 'Natural Sound' was thought too overglossed by some, as opposed to the all-out attack of components from some of its Japanese rivals. But in this very grown-up, muscular and refined form it clearly has much to offer the discerning listener.

Sound Quality: 84%



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### Reviewer quotes:

"It's easily the best DAC I've ever heard in my system, making digitally-recorded music sound better than I've ever heard it"

**Vade Forrester – *The Absolute Sound***

"I witnessed the best sound quality I've ever heard from these DSD recordings"

**John Bamford –  
*Hi-Fi News***

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# ExaSound e22

The exaSound DAC boasts some industry firsts: using a bespoke ASIO driver it allows playback of quad-rate DSD recordings via USB, as well as 384kHz/32-bit PCM files  
 Review: **John Bamford** Lab: **Paul Miller**

**Y**ou could be forgiven if you've not heard of exaSound. It's a Canadian firm in Toronto founded just four years ago, headed up by an audiophile, George Klissarov, who describes his company as a collective of enthusiasts who are electronics engineers, software developers, musicians and entrepreneurs.

ExaSound manufactures USB-equipped DACs aimed squarely at the computer audiophile market. What have been grabbing the headlines are the DACs' astonishing specifications, its models pushing the boundaries in their ability to handle files at increasingly high data rates. Uniquely, exaSound also makes a multi-channel USB DAC with 7.1 outputs.

## UK DISTRIBUTION NOW

The company designs its hardware and its software entirely in-house, the DACs hand-built and tested before shipping. Until recently sales have mostly been via the company's on-line e-Store, predominantly to enthusiasts living on the North American continent. However exaSound now has a UK distributor: Sound Setup, which also distributes JansZen electrostatic speakers.

The e22 is the company's latest two-channel DAC, introduced this summer. Priced at £2795 it's an enhanced version of the firm's e20, which itself has had two revisions since introduced in Sept '12. It has three inputs – USB plus two S/PDIF (one RCA, one Toslink) – and both single-ended (RCA) and balanced (XLR) analogue outputs. It is also a headphone amplifier, sporting a 6.35mm socket on its fascia, and it can be used as a preamp in an all-digital system as there's a variable output.

A 12V trigger socket is provided for automatically switching on/off a connected power amplifier. As with all exaSound's models past and present it's a highly compact design, housed in an aluminium

box weighing only 1.1kg, as it's powered by a separate in-line switch-mode power supply that delivers 12V DC to a jack socket on the unit's rear panel.

## PRIDE OF OWNERSHIP

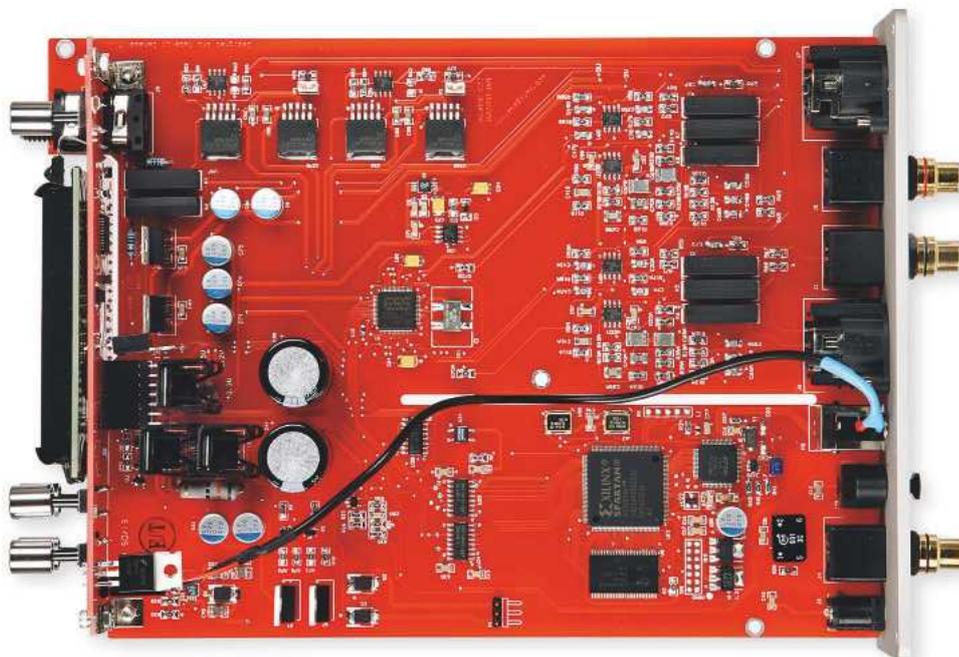
The better part of £3k is serious money for a DAC that appears so outwardly basic – its aluminium box with rubber dimples stuck underneath available to DIY-ers from any parts catalogue. Enthusiasts willing to invest this sort of money in a top-performance DAC might be fancying an AuraLic Vega [*HFN* Jan '14] or Lindemann Musicbook component [*HFN* Jun '14], both of which boast exquisite build quality resplendent with classy OLED displays. Heck, you could even acquire a tasty T+A DAC 8 [*HFN* Oct '12] or Gato PRD-3 [*HFN* Oct '14] and buy a new computer to dedicate as a music source with the change leftover!

Buy one of exaSound's diminutive DACs, however, and pride of ownership comes in the knowledge that you've joined an exclusive club of hobbyists who, thanks to exaSound's custom-written ASIO driver, and with appropriate audio playback software,

can play back more file types than anyone else [see boxout].

A 'full HD' audio capable DAC might be considered one that can cope with every audio resolution available from DVD-Audio, Blu-ray Disc and SACD media (and now commonly available as hi-res downloads): up to 192kHz/24-bit PCM and DSD64 (2.8MHz/1-bit). Meanwhile many recent 'cutting-edge' DACs go beyond this specification, employing the latest USB interfaces that can handle PCM data up to 384kHz/32-bit and double-rate DSD (DSD 128/5.6MHz) via DoP. ExaSound's DACs go further still. They'll accept quad-rate DSD files (DSD256/11.2MHz) both via DoP and native DSD transmission – files which are otherwise only ever heard by recording engineers.

And while the e22 might not wear particularly glamorous clothing, it exhibits thoughtful consideration in its design. Based around an ESS Technology ES9018 Sabre32 Reference DAC chip – an 8-channel device that's also used in exaSound's £2895 e28 multi-channel DAC – it employs a USB interface controller from Future Technology Devices International,



**RIGHT:** While the digital housekeeping is the preserve of a Xilinx Spartan processor, exaSound uses an FTDI chip for remote USB control of the e22 and a popular ES9018 Reference DAC (with adjustable volume) in its analogue stage



a Xilinx Spartan FPGA (field-programmable gate array), and an ultra-low jitter 'femto master clock'. Incoming data is stored in a FIFO buffer before being streamed out to the DAC chip.

**REDESIGNED HEADPHONE AMP**

ExaSound's custom-developed ASIO driver enables a source computer to communicate directly with its connected hardware (the exaSound DAC) and govern the volume control implemented within the ES9018 DAC chip via a dashboard utility.

Says George Klissarov: 'It is at the borderline between the analogue and digital domains. We send commands to the chip which adjust voltage on the analogue side. This way there is no loss of bit-depth, and we avoid the usual issues with noise with [traditional] analogue volume controls.'

Set the volume on the dashboard utility to its maximum 0dB level and the DAC chip's volume control is bypassed.

'The sound was quite the best I've experienced from DSD'

Volume can also be adjusted using up/down buttons on the e22's front panel, and via a dinky Apple infra-red handset supplied with the unit [see p53]. Enter the DAC's configuration menu and it can be programmed to accept IR commands for volume up/down, mute, input selection, and power on/off from the supplied Apple controller (or any handset using Sony or NEC IR protocols).

The compact form factor of exaSound's DACs make them attractive to headphone addicts as well as audio enthusiasts keen to audition DXD recordings (352.8kHz/24-bit) and native DSD files up to 256Fs. For the e22 the company has redesigned the built-in headphone amplifier section to deliver double the output voltage of the circuit in the previous e20, giving it the ability to drive a wider range of 'phones while maintaining low noise and distortion levels. Better quality gold-plated output terminals, an improved analogue output stage, the

**ABOVE:** Front panel has a headphone socket and buttons for accessing the setup menu, input selection and volume up/down. Display indicates incoming data type and sampling rate

forementioned 12V trigger and a full-sized USB B connector rather than a miniature type are all revisions specific to this latest e22 model.

**SMOOTH AS BUTTER**

I'd describe the overall sonic character of the exaSound e22 as relaxed and buttery smooth. Auditioned using T+A's awesome three-box 3000HV pre/power/PSU combo [HFN Sep '14] to drive my Townshend Sir Galahad speakers, the e22 sounded richly coloured and tremendously full-bodied, invitingly easy-on-the-ear, with a delicately refined top end that was seductively appealing. I settled in for several days of musical discovery, having loaded up my PC's hard-disk with a collection of unfeasibly large DFF and DSF files at sampling rates I never imagined I'd be able to hear at home through a consumer playback chain.

Hi-fi enthusiasts who enjoy classical music will be familiar with the Netherlands' Channel Classics label. Company founder Jared Sacks – an engineer and producer who records exclusively in DSD and describes the format as being 'the closest digital representation of acoustic sounds available' – created 'Native DSD Music' last year, an online web store [www.nativedsd.com] for delivering recordings not only from his own label but others too. There are already more than 300 albums listed. If you create an account on the site you can access free sample tracks (which change frequently) and download a compilation entitled 'Just Listen' which comprises several DSD64 recordings upsampled to 128 and 256Fs using varying studio gear. Full explanatory notes are included. ↻

**PUSHING THE NUMBERS**

USB Audio Class 2.0 defines many formats but no specific format for DSD. Moreover since OS X Lion (10.7), Apple's CoreAudio engine only supports PCM. The open standard DoP protocol [DSD-over-PCM] obviates this by disguising DSD in a PCM container and allowing DAC manufacturers to utilise standard drivers. DSD64 is the equivalent of 16-bit PCM at 176.4kHz. When packaged in a 24-bit frame the eight most significant bits are used for a DSD marker and alternate with each sample. In developing its own ASIO driver (Windows or Mac OS X) to communicate with its hardware – bypassing entirely any sound architecture within the computer – exaSound's USB DACs can accept DSD natively as well as via DoP. Says exaSound: 'DoP creates a significant overhead and DSD256 requires support for PCM at 705.6/768kHz. Such sampling rates are a challenge for CPUs and USB audio interfaces.' As it's ASIO only, the exaSound does not appear in a Windows control panel as an audio device – so you'll hear no audio from YouTube, or any other computer sounds, without making a separate S/PDIF connection to the e22. And naturally you'll need compatible playback software.

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## EXASOUND E22



**ABOVE:** USB plus coaxial and Toslink S/PDIF digital inputs are offered alongside balanced (XLR) and single-ended (RCA) analogue outs

Listening to a clip of a 2011 session with the Budapest Festival Orchestra under Iván Fischer performing Mahler's First Symphony, I thought the sound spectacular via the e22 – quite the best I've ever experienced from DSD.

Richly textured and with deeply saturated tonal colours, it was nothing short of sublime. Quite why the 64Fs files sound better when upsampled (they do) is something I'm still pondering. And an excerpt from the recording of the album *Sor: Guitar Sonatas* performed by Ricardo Gallén [Eudora Records, EUD-SACD-1401] – recorded in stereo and multichannel at 256Fs! – sounded splendidly sonorous and natural.

### MELLOW-FLAVOURED

Meanwhile the e22 is no slouch when decoding 'regular' CD-quality files, demonstrating that its balance errs towards a mellow and slightly soft-edged flavour. Playing the indie rock of the Black Keys' *Turn Blue* album [Nonesuch 7559-79555-4] highlighted the e22's singularly mild manner, its sound particularly forgiving of the recording's dynamic limitations and allowing me to listen into the dense production to pick out individual elements of the mix.

And with the energetic electrofunk of 'Lose Yourself To Dance' and 'Get Lucky' featuring Pharrell Williams, from Daft Punk's notably well produced *Random Access Memories* [Columbia 88883716861 on CD; 88.2kHz/24-bit download], the exaSound's warm, smooth balance added considerable civility to the listening experience, inviting me to wind up the wick to an

antisocial sound pressure level and rattle the rafters. Drums and bass had impressive weight and punch, the dextrous fingering of virtuoso bassist Nathan East and Pharrell's effortless, endearing vocal delivery described gorgeously by the e22.

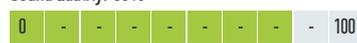
What's not to like? Well, it is a tad 'thick'-sounding compared with my resident T+A DAC 8 which, of course, can't handle DSD. The exaSound appears sumptuous and coddling against the T+A's incisive, startling realism. Meanwhile the philosophical and technical arguments concerning which is the better – the most accurate – method of recording music (the great PCM versus DSD debate) will rage on among engineers, the glitterati of the audio industry and hi-fi hobbyists for many years to come.

The bottom line: if you need a DAC to play a music collection that's predominantly sourced from ripped CDs, along with the occasional hi-res download, investing in an exaSound e22 would be profligate. But many SACD/DSD stalwarts are going weak at the knees over this DAC – and so just might you. ☺

### HI-FI NEWS VERDICT

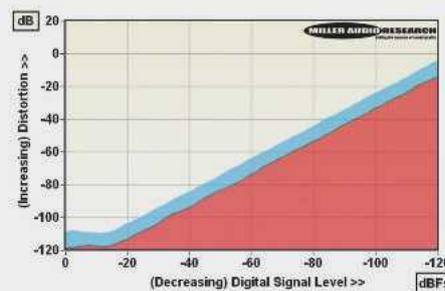
Sound hounds convinced that that DSD is manna from heaven will love exaSound's e22 to bits. It would be churlish not to commend it; after all, if you're curious to hear demonstration files recorded at (or upsampled to) bleeding-edge data rates there's currently no way to play them other than with a diminutive exaSound DAC. The e22 sounds lovely too. I was really sorry to have to see it go back.

Sound Quality: 80%

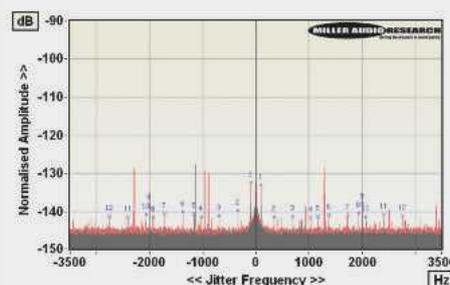


There's a lot that's unusual about the exaSound e22, not least in its use of a USB connection to drive the DAC as a piece of remote hardware rather than strictly or solely as an audio device. Thus, the ES9018 DAC's volume control is accessed remotely via USB using exaSound's control panel software utility. It's also a DAC of 'two halves' with divided clocking for 44.1/88.2/176.4/352.8kHz and 48/96/192/384kHz but with a 0.2dB variance in output between the pair (4.20V and 4.10V, respectively). The 182ohm source impedance (balanced XLRs) and wide 115.8dB A-wtd S/N ratio are independent of sample rate, however. Distortion is vanishing low although higher on the left channel over the top 10dB of its dynamic range above 500Hz. The right channel drops to a miniscule 0.00005% through bass and midrange frequencies over the top 10dB [see Graph 1, below] and only increases to 0.00025% at 20kHz (0.0028% on the left channel here). The lowest distortion – seemingly only achievable with the ESS Sabre DACs – is 0.00004% at 1kHz/–10dBfs via both S/PDIF and USB inputs.

The frequency responses are exceptionally flat right out to –0.1dB/20kHz (44.1/48kHz media), –0.4dB/45kHz (96kHz media) and –0.3dB/90kHz (192kHz media), channel separation good to 128dB at 1kHz and low-level resolution true to ±0.2dB over a 100dB range. Jitter is also exceptionally low at ~10psec (all sample rates, all inputs) with just a hint of PSU jitter at ±100Hz and a DAC-specific mode at ±2kHz. The levels (<5psec, both) are insignificant of course [see Graph 2]. Readers can view a comprehensive QC Suite test report for the exaSound e22 DAC by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Distortion vs. 24-bit/48kHz digital signal level over a 120dB dynamic range. S/PDIF input (1kHz, red) and USB input (1kHz, black; 20kHz, blue)



**ABOVE:** High resolution jitter plots with 24-bit/48kHz data (S/PDIF, black; USB, red with markers)

### HI-FI NEWS SPECIFICATIONS

Maximum output level (Balanced)	4.20Vrms at 182ohm
A-wtd S/N ratio (S/PDIF / USB)	115.8dB / 115.8dB
Distortion (1kHz, 0dBfs/–30dBfs)	0.00005% / 0.00024%
Dist. & Noise (20kHz, 0dBfs/–30dBfs)	0.00025% / 0.00040%
Freq. resp. (20Hz–20kHz/45kHz)	+0.0dB to –0.07dB/–0.42dB
Digital jitter (48kHz/96kHz/USB)	10psec / 11psec / 10psec
Resolution @ –100dB (S/PDIF / USB)	±0.2dB / ±0.2dB
Power consumption	7W
Dimensions (WHD)	165x55x235mm



# Aesthetix Atlas Signature

The Atlas Stereo hybrid power amplifier is the latest of Aesthetix Audio's hand-built products to gain the 'Signature' treatment with upgraded components under its bonnet  
 Review: **John Bamford** Lab: **Paul Miller**

Playing host to Aesthetix Audio Corporation's awesome Io Eclipse preamplifier [*HFV* Aug '11] is an experience I won't forget in a hurry. For enjoying LP playback at its very best the Io remains legendary among vinyl enthusiasts around the globe, Aesthetix producing one of the world's only preamplifiers featuring all-valve circuitry – even for its moving-coil stage.

What began as a hobby for American designer Jim White [see boxout] has blossomed to become an established high-end marque with a collection of phono amplifiers, preamps, DACs and CD players in its product portfolio, each offered with varying levels of internal fine-tuning. Yet there is only one power amplifier in the company's line-up, albeit available in three variants: the Atlas.

## THIS YEAR'S VERSION

It's a hybrid design employing one 6SN7 valve per channel for its initial gain stage and bipolar transistors for its driver and output stages. And in keeping with Aesthetix's design philosophy – and highly unusual in a hybrid amplifier design – no global feedback is employed whatsoever.

Weighing nearly 33kg and rated at 2x200W/8ohm it's a brawny beast designed to be capable of driving even the most demanding high performance monitors. The 'standard' Atlas Stereo (£8000) first appeared more than six years ago; however the model featured here is this year's Signature version (£10,000) featuring an upgraded power supply and with several internal component tweaks.

Aesthetix Audio also makes a mono version of the Atlas; this is rated at 300W/8ohm, as its power supply is dedicated to feeding a solitary channel. The mono version is offered only in Signature guise, and it costs £8000.

**RIGHT:** The two 6NS7 input tubes are clear to see as are the slabs of internal heatsinking for the bipolar output stages. The screened PSU uses two transformers and three chokes, one dedicated for the high-current power amp

The Atlas is wrapped in an all-aluminium enclosure, the two-channel model built as a symmetrical double-mono power amp with discrete left and right channel blocks. It employs separately regulated left and right channel power supplies for its control circuitry, input and driver stages while another, even beefier supply, incorporating a hefty 1400VA transformer delivers current to its output stages. The two supplies are housed under a stainless steel cover to screen the audio circuitry from magnetic fields.

The tweaked Signature model has identical circuits to the Atlas Stereo, but where the standard amplifier uses high quality REL-CAP inter-stage coupling capacitors the Signature upgrades these

to Peter Moncrief's price-no-object StealthCaps. Furthermore, the capacitance in the high current output stage power supply is doubled 'to increase bass drive and solidity'. Additional refinements in the Signature are the replacement of all emitter resistors to a specialised metal foil low-inductance type, and internal wiring to the speaker binding posts is upgraded to an 'audiophile' 14 AWG cable said to further increase resolution.

## PRESSING THE DISPLAY

Recognising that many audio enthusiasts striving for 'full bandwidth' audio reproduction often cannot accommodate loudspeakers as large as they would like and consequently adopt a satellite and





subwoofer solution, the Atlas is particularly unusual in featuring a built-in 6dB/octave high-pass crossover. This feature will also be useful to owners of speakers containing active bass modules, adding a welcome 'headroom' to a playback system. The high-pass frequency is user selectable, with 16 choices between 40Hz and 200Hz in (roughly) 10Hz steps.

The rear panel sports two sets of balanced (XLR) and single-ended (RCA) line-level inputs. The set labelled Direct should be employed when using the power amp full range, while the other is labelled Crossover. A 3.5mm mono mini-jack socket facilitates remote triggering (5-12V DC), and custom installations employing RS232 are catered for via a DB9 connector.

The amp's speaker output terminals are Cardas Audio's 'single knob lockdown' binding posts designed for bare wire or spade connection. Aesthetix has used the highest-spec variants in which the silver contact posts are rhodium-plated.

If you're new to Aesthetix components you will need to read the user manual.

Pressing the triangular-shaped button labelled 'Input', for example, doesn't actually switch inputs, rather it puts the power amp into 'input selection mode' and causes the front panel display to show the current selection. It is pressing on the *display itself* that selects between the XLR and RCA inputs and their Direct or Crossover options, as the acrylic window rocks slightly about its centre and has contact switches concealed behind its left and right edges.

Similarly you press the sides of the display window to adjust the high-pass crossover frequency. Further buttons govern standby, display on/off and mute. This last option seems a little superfluous as the user manual warns against using it when music is playing, in order to extend the life of the 6NS7 input tubes – it recommends that your partnering preamp should be muted first. Neither should a

**ABOVE:** Buttons govern mute, standby, display on/off and input and crossover frequency selection modes. Pressing the display window scrolls through the input and frequency options

music signal be played into the amp when it's in standby, for exactly the same reason.

### **AN OPEN TRANSPARENCY**

A sense of firm 'grip' in the bass and an innate feeling of relaxed ease from the amplifier's midband and high frequencies were strikingly evident when enjoying

music played by the Atlas Signature. Jim White's sensitive tuning of Aesthetix products is renowned for its even-handedness, and in the Atlas I thought this verisimilitude showed in spades:

*'The Atlas remained coolly composed depicting all this musical mayhem'*

music was reproduced with a solid foundation, excellent resolution of low-level details throughout the frequency spectrum and a smooth, unprocessed-sounding treble.

The Atlas's considerable power and precision – and its open transparency to sources upstream – proved captivating when driven by T+A Elektroakustik's P3000HV preamplifier [*HFN* Sep '14], in turn fed by a T+A DAC 8 [*HFN* Oct '12]. Listening to downloaded files of various high resolution audiophile-quality recordings showcased the power amp's ability to provide unambiguous insight into musicians' performances in tangible acoustic spaces.

The Atlas Signature's airiness and delicacy was further enhanced when I drove it with an Aesthetix Janus Signature preamplifier (£10,000). The

## WHITE'S WORLD

Aesthetix is based in Moorpark, 40 miles north-west of Los Angeles. Its proprietor and chief designer Jim White majored in physics and maths and is largely self-taught in electronics, although he was mentored by audio designers such as Mike Moffat, after securing a job at Theta Digital in 1990. Jim's passion for vinyl saw him design an all-tube phono stage 'for my beloved Koetsu moving-coil' in his spare time. Friends and family encouraged him to set up his own boutique audio firm in 1999, the Aesthetix, proving an instant hit and giving the brand a secure footing. Jim is not alone in imagining a future in which recorded music exists only as vinyl LPs, stored locally on hard drives, or streamed from the Cloud. He believes the CD and other packaged digital audio formats are destined for extinction. Meanwhile he remains agnostic regarding tubes and transistors: 'Both can achieve stunning results when properly implemented. That said, vacuum tubes seem to be best suited for voltage amplification of audio signals.'

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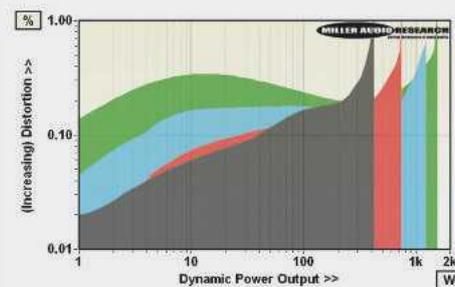
Clean, open, detailed  
and musical sound

AUGUST 2014

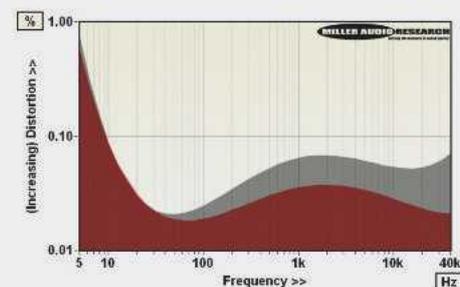
## AESTHETIX ATLAS SIGNATURE

It would have been interesting to compare the 'standard' Atlas with this 'Signature' version complete with its 'Stealth' coupling caps, metal-foil emitter resistors and – of greatest potential impact – the doubling of its PSU reservoir capacitance. The latter must surely assist in the Atlas Signature's substantial +2dB dynamic headroom, amounting to 420W, 740W, 1230W and 1540W into 8, 4, 2 and 1ohm loads at <1% distortion [see Graph 1, below]. With just shy of a 40A maximum current capability, the Atlas Signature is ready for any likely partnering loudspeaker! Continuous power output is also generously in excess of Aesthetix's 200W/400W 8/4ohm rating at 270W/450W, respectively, although the A-wtd S/N ratio is a little weaker than anticipated at 81dB (re. 0dBW).

Otherwise, the system response, output impedance and distortion profile for the Atlas Signature are all largely defined by Aesthetix's implementation of a 6SN7 tube-based input with a bipolar driver and output stage, all without global feedback. The extended response (-1dB from 3Hz-95kHz) is unaffected by 'flat' load impedance (8 to 1ohm) but there may be some slight variation with swings from 'real speakers' as a result of its uniform 0.15-0.16ohm source impedance. Distortion also increases with decreasing load and with increasing output [see Graph 1] from 0.007%/1W to 0.03%/10W and 0.2%/200W (and twice as high via the left channel on our sample). Distortion is impressively consistent with frequency from 20Hz-20kHz although higher via left (0.03-0.068%) than the right (0.025-0.038%). Readers may view an in-depth QC Suite report for Aesthetix's Atlas Signature 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 trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads. Maximum current is 39.2A



ABOVE: Distortion versus frequency from 5Hz-40kHz at 10W/8ohm (left channel = black; right = dark red)

## HI-FI NEWS SPECIFICATIONS

Power output (<2% THD, 8/4ohm)	270W / 450W
Dynamic power (<2% THD, 8/4/2/1ohm)	420W / 740W / 1230W / 1540W
Output impedance (20Hz-20kHz)	0.154-0.160ohm
Frequency response (20Hz-100kHz)	-0.01dB to -1.10dB
Input sensitivity (for 0dBW/200W)	168mV / 2390mV (Balanced in)
A-wtd S/N ratio (re. 0dBW/200W)	80.8dB / 103.8dB
Distortion (20Hz-20kHz re. 10W/8ohm)	0.023-0.031%
Power consumption (Idle/Rated o/p)	180W/780W (83W standby)
Dimensions (WHD) / Weight	454x191x457mm / 33kg



ABOVE: There are two sets of XLR and RCA inputs: one direct, the other accessing the amplifier's high-pass crossover. Output is via Cardas rhodium-plated terminals

Janus is a fully balanced all-tube design incorporating a discrete switched resistor volume control. Unsurprisingly it proved a most symbiotic partner for the Atlas Signature, bolstering the manner in which it served up compelling three-dimensional images.

It sounded magical when I played John Rutter's *Requiem* featuring the Choir of Clare College Cambridge and City of London Sinfonia [Naxos 8.557130]. The Atlas combo weaved a similar spell with singer Keri Bremnes' album *Norwegian Mood* [KKV FXCD 221]. The fragility in her voice during 'A Lover In Berlin' was reproduced with explicit candour, as was the decaying reverb in the soundfield of 'Coastal Ship'. The tonal textures within the audio image and the dynamic blows delivered by the distant beating drum were colourfully painted.

## RECREATING SPACES

When describing the character of some very powerful solid-state amplifiers audiophile listeners sometimes complain of a 'cold', monochromatic reproduction or a 'sonic sterility'. But there was no sense of any stark, empty blackness with the Atlas Signature: images of instruments and voices were conveyed with full-bodied physicality and an inviting 'bloom' around instrumental outlines.

And it's the amplifier's ability to foster the impression of instruments in real space that will have you exclaiming 'Musical realism!' rather than just its appealing timbre and tonal warmth.

The Aesthetix combo also made less-than-stellar reggae recordings enjoyable. Playing Hollie Cook's 'Looking For Real Love' and 'Win Or Lose' from this year's *Twice* album [Mr Bongo MRBCD 112] showed how the Atlas Signature's civility helped to tame the recording's scratchy and

synthetic treble quality, polishing off its rough edges while keeping the bass rhythms agile and articulate.

And its smoothness allowed edgy music recordings to be played closer to a 'live' listening level as well. I couldn't resist my enthusiasm for winding up the volume to an unsociable SPL for The Who's lengthy workouts of 'My Generation' and 'Magic Bus' from *Live At Leeds* [Polydor 527 169-2].

The Atlas remained coolly composed depicting the musical mayhem that the band propelled at the ears of the audience at Leeds University. Moreover the amplifier didn't seem to change character as the music's dynamics shift wildly throughout this recording of the band's rocket-fuelled performance on Valentine's Day in 1970.

Townshend's thick, crunching power chords and Daltrey's shattering vocals were underpinned solidly by Entwistle's persistently churning bass and Keith Moon's marvellously manic drum kit assault. I was aware of being wrapped in a wide and enveloping sound image and the venue's ambience was palpable as the Atlas helped put me among the spellbound crowd. ☺

## HI-FI NEWS VERDICT

Aesthetix Audio's Atlas Stereo Signature is a glorious sounding amplifier that successfully marries the airy openness of valves with the grip and grunt of a solid-state powerhouse. As the company's products are hand-built by artisans and have limited distribution among selected specialist dealers, audiophiles with pockets deep enough to own them are guaranteed pride of ownership as well as audio bliss.

Sound Quality: 85%



# B&W CM6 S2

This new two-way with bolt-on dedicated stand draws on advanced technology from proven B&W models  
 Review: **Andrew Everard** Lab: **Keith Howard**

The Bowers and Wilkins CM series is the product that became a range. It was initially planned as just a single speaker design: the Compact Monitor from which the designation is derived, appeared in 2006 but later grew into an entire line-up, from the standmount original to floorstanders.

The original CM1 drew on the technology of models in the more rarified strata of the Worthing company's catalogue, and while it sits rather higher up the price range than the new CM1 S2, the CM6 S2 we have here, at £1499 in a choice of black, white or rosenut finishes, continues that trend of trickle-down technology. Familiar features include the famous woven Kevlar cone of the mid/bass driver, the Flowport dimpling of the rear-venting port and the use of a tapered Nautilus tube behind the 25mm aluminium-dome tweeter to dissipate unwanted rear radiation.

Also on show are features taken from the last of the 'old' CM range to hit the shops, the CM10 (launched as recently as July '13), including the Decoupled Double Dome tweeter [see boxout] and, most noticeably, the mounting of the tweeter in a decoupled pod atop the main cabinet: a design element derived from the 800 Diamonds.

## BUILDING UP STOCKS

At the launch event for the latest range, held in its Worthing HQ at the end of August, the inevitable 'When will they be available in the shops?' question was met with the answer 'Next Monday.' In fact, I was surprised to be told that the speakers had been in production since April, building up stocks. According to product manager Andy Kerr, one warehouse was primed with some 6500 pallets of the new speakers! And that gives some idea of the scale of the Bowers & Wilkins operation...

So why the need for the new CM S2 Series now? Well, Kerr explains that having 'redeveloped' the 600 Series, it was clear

that improvements would be needed to the CM range in order to distance it from the less expensive models. During the launch event demonstrations were made not just of the benefits of moving up through the new range, but between the new CMs and the most similar models in the 600 S2 line-up.

The stand-out model in the new CM S2 range, both in design and – B&W hopes – performance, is the CM6 S2, designed to sit below the company's PM1 design. This is a compact and relatively simple-looking two-way design, but the most ambitious of its three new standmount speakers.

I have to say that my initial reaction to the CM6 S2 was that it was a slightly odd-looking speaker, that 'Tweeter on Top' design leaving quite an expanse of blank baffle area below the bright yellow 16.5cm

Kevlar-cone mid/bass unit. This impression is emphasised by the satin white finish of the review pair, but lessened in the other versions.

The mid/bass driver fixings are concealed by flush trim-rings,

removable should servicing require it, while the tweeter has a fixed metal mesh protector (a tool is provided to remove this should the user wish to). The main speaker grille, grey in the case of the satin white finish, has hidden magnetic fixings, leaving a clean front baffle when removed.

Self-adhesive rubber feet are provided for shelf-mounting, but new stands have also been developed for the CM S2 speakers. Selling for £400, the FS-CM2 stands are 56cm tall, come in silver or black to match the various speaker finishes, and have a central column divided for mass-loading and to provide a cable-management channel. They weigh 5.5kg unfilled, have spikes for the 252x298mm base, and (like

**RIGHT:** The CM6 S2 uses the familiar B&W Kevlar-coned mid/bass driver, but mounts the Decoupled Double Dome tweeter in a pod, compliantly attached to the top of the main cabinet. Satin White is a new finish for B&W





## DECOUPLED DOME

The CM6 S2's tweeter employs B&W's Decoupled Double Dome design. The Double Dome designation refers to the use of a ring of aluminium around the edge of the tweeter diaphragm, adding stiffness by effectively doubling the thickness of the metal where it meets the surround, thus giving a more pistonic operation. The 'Decoupled' bit comes in the compliant mounting of the driver in one of B&W's familiar tapered Nautilus tubes, filled with damping material to absorb the rear energy from the driver. In this speaker, and the CM10 S2, this assembly is housed within a bullet-shaped pod atop the main cabinet, with further decoupling provided by its gel mounting, ensuring vibration from the mid/bass unit doesn't get to the tweeter. The mid/bass driver itself is reflex-loaded via a rear-venting Flowport tube with a bung to tune the bass output.

the earlier FS-700/CM stands for the original CM series speakers) use a bolt-attachment for the speakers to the top-plate.

The large base-plates and bolt fixings are all in the cause of protecting purchasers from any danger of the speakers tipping, or falling off the stands when tilted: it's to do with the inevitable

European Health and Safety rulings, Kerr explained, adding that the sound of the speakers is improved significantly when the stands are pretty well mass-loaded.

I sourced several tubs of Atacama filling material at Atacama for the stands, Kerr having suggested that at least two tubs per stand gave the best results, and that once filled the stands would be extremely heavy. He was right: adding 15kg or more of this high density filler – made from minute zinc-coated steel discs – to each stand makes for a hefty but remarkably stable support; and the whole assembly becomes absolutely rock-solid.

In accordance with B&W's suggested positioning, I used the speakers some 3m apart, around 70cm out from the rear wall and the better part of one metre from side walls; and after some experimentation settled on a very slight toe-in toward the listening position – just enough to allow me to see the whole of the outer side of the cabinet of each speaker.

## AN OPEN, EXPLICIT VIEW

The system used for auditioning was my usual reference set-up: a Naim NDS network music player with 555PS power supply, Naim Supernait 2 amplifier with HiCap power supply, and Chord Company Odyssey bi-wire speaker cable.

And while initial impressions were of a very polite speaker, but one lacking some involvement and excitement, it soon became clear that this is

a design not built to impress with hi-fi fireworks straight out of the box, but grow on the listener over a familiarisation period, during which the appreciation of its combination of transparency and refinement grows.

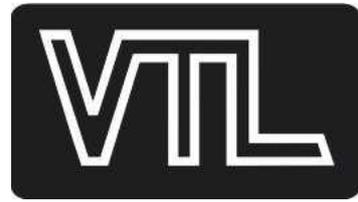
OK, so these probably aren't the B&W CM2-series speakers to buy if all you're interested in is raw air-shifting power and the ability to play at party levels all day – for that, you might be better advised to consider the CM8 S2s – but what these little standmounters lack in sheer clout, they more than make up for in the sweetness of their treble, delivered as part of an open, explicit view of the music.

## WIND AND RAIN OUTSIDE

Playing some of the recently remastered Maria Callas tracks on *Pure* [Warner Classics 25646 33994], the B&Ws leave one in no doubt about either the quality and dynamics of what are, after all, recordings in the region of half a century old, or the sheer power and commitment of Callas's performances. As the initial hardness of the speakers factory-fresh gives way to their freer-breathing true character, so it seems the mouth of the singer opens, and that voice rings out in dramatic style.

Exchanging these vintage recordings for a much more modern digital session, The New Esterhazy Quartet's self-released *Haydn In America* [NEQ 03], I was initially troubled by some strange noise going on seemingly around and beyond the closely-focused ensemble – the kind of thing to have your averagely paranoid reviewer frantically checking connections and the like! However, my mind was put at rest, and my appreciation of the B&Ws increased, when I discovered mention in the sleeve-notes of the wind and rain when the disc was recorded in a church in California.

'The attentive listener can hear a bit of the wild weather in the background,' it says, and that's certainly true with the 



Does it get better than this?



*"A visceral and emotional experience that is not soon forgotten."*

The Absolute Sound Editor's Choice 2014  
VTL Siegfried II and TL7.5III



*"..this is indeed visceral sound. VTL has delivered a package that can segue seamlessly from the sweet harmonies of a doo-wop quintet to the in-your-face slam of power rock."*

*"What matters is the sheer silky naturalness of the sound, matched by the authority one demands of units costing far more. Robust yet refined, well-built – this is pure class."*

Ken Kessler, Hi-fi News July 2012  
VTL TL5.5II / ST-150 review

*"The S-200 offers endlessly absorbing, effortless musical enjoyment. Warmly recommended."*

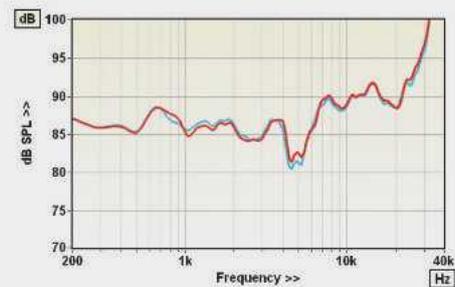
Steve Harris, Hi-fi News July 2014  
VTL S-200 review



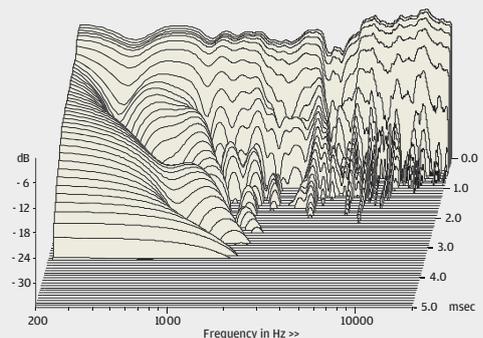
## B&W CM6 S2

B&W claims 88dB sensitivity for the CM6 S2, within 1dB of the 87.3dB pink noise figure we measured. As you'd expect of a compact standmount, this is lower than typically achieved by today's floorstanding designs which benefit from a larger internal volume. Low impedance could have been used to make up the shortfall but B&W has played safe and not made the CM6 S2 a notably difficult load. Although the 8ohm nominal spec. doesn't chime well with the claimed 3.7ohm minimum (exactly what we measured), impedance phase – though the max/min figures are high – has been well enough controlled to result in a minimum EPDR (equivalent peak dissipation resistance) of 1.8ohm/9.7kHz. More relevant with most music is the dip to 2.5ohm/132Hz, so the CM6 S2 presents an easier load than many comparably priced competitors.

Frequency response [Graph 1, below], measured on the tweeter axis with the tweeter grille in place, is far from flat, declining output up to the 4kHz crossover being followed by a shelved up tweeter output. As a result response errors of  $\pm 5.2$ dB and  $\pm 5.6$ dB respectively for the pair (200Hz-20kHz) are on the high side. Pair matching error was also a little disappointing at  $\pm 1.2$ dB given that B&Ws so often demonstrate exceptional performance here. Our diffraction-corrected near-field bass measurement showed the bass extension to be 52Hz (-6dB re. 200Hz) while the exceptionally high (and high-Q) tweeter breakup resonance at about 36.5kHz ensures that ultrasonic output extends beyond 40kHz. The CSD waterfall [Graph 2] evinces fast initial energy decay but some bass-mid cone breakup resonances are visible in the treble. KH



ABOVE: Forward response shows a declining output to the 4kHz crossover with a strong treble thereafter



ABOVE: Cabinet resonances are very well controlled but bass/mid driver resonances are visible above 5kHz

## HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	88.8dB/87.3dB/86.6dB
Impedance modulus min/max (20Hz–20kHz)	3.7ohm @ 19.7kHz 53.6ohm @ 29Hz
Impedance phase min/max (20Hz–20kHz)	-60° @ 3.8kHz 60° @ 24Hz
Pair matching (200Hz–20kHz)	$\pm 1.2$ dB
LF/HF extension (-6dB ref 200Hz/10kHz)	52Hz   >40kHz/>40kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.7% / 0.7% / <0.1%
Dimensions (HWD)	403x200x301mm



**LEFT:** Bi-wire/bi-amp terminals are provided, while the bass port can be used open, or with B&W's two-stage bung that allows the bass to be tuned. The speakers bolt to dedicated stands

and characteristic tones of Leonard Cohen on his *Popular Problems* [Columbia 88750 142924] are rendered by the B&Ws with every detail intact. With voice very much centre front, the speakers give the accompanying instruments plenty of space to snake around, beneath and behind the vocals. It's one of those combinations of recording and reproduction guaranteed to merit a second play, if only to prove that yes, at 80, the old boy's still got it!

Similarly with the breezy pop of Nick Lowe's *Jesus Of Cool* album [Proper Records CHOSEN1] the B&Ws' combination of speed and definition is attractive, keeping instruments in focus even in the more Spectorish arrangements – although it does make it clear that the tambourine on 'I Love The Sound Of Breaking Glass' never quite manages to hit the beat!

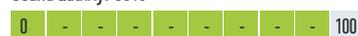
So the new B&Ws manage to be analytical as well as highly musical, even crashing out The Clash's *London Calling* [Sony 2-89056] with more than reasonable conviction.

For use in smaller rooms they have much to like, and while I can't quite endorse them without qualification (I prefer music rather more full-blooded than these compact boxes will allow), what is lost in absolute low-end slam will, for many listeners, be more than compensated for by the speed, dexterity and refinement on offer. ⚡

## HI-FI NEWS VERDICT

Not the most forthright of speakers, and to some ears perhaps a little too restrained in the midband, the B&W CM6 S2s nonetheless have an attractive mix of refinement in the upper vocal and presence bands and airiness in the extreme treble, enabling them to convey a good sense of space and ambience with the right recording. The extra £400 for the dedicated stands is money well-spent.

Sound Quality: 83%



CM6 S2s. The instrumental tones and textures are rendered extremely well, but there's that little sense of 'threat' going on just offstage, that's both strange and rather wonderful!

No such oddness with Claire Martin's new *Time And Place* [Linn Records AKD 42], where she's backed by the Montpellier Cello Quartet, and where the snap and drive of the tango-infused take on Bowie's 'The Man Who Sold The World' shows both the ability of the speakers with intertwining instruments, in the form of big fiddles both bowed and pizzicato – and the way they can focus a solo voice and bring out its character.

## SPEED AND DEXTERITY

Yes, there's a slight lack of ultimate low-end extension, as you might expect from enclosures so small, but the speed and definition in the bass is never in question, at least when the speakers are firmly clamped on their well-filled stands.

If you've formed the impression by now that I'd probably favour some slimline floorstanding speakers over the CM6 S2s, you're probably not too far from the mark, but that's possibly a matter of personal taste – a lot to do with the visual appeal of a single form rather than a speaker/stand combination, however well-executed it may be.

That said, these new B&W standmount speakers can certainly make a statement, and not just in visual terms but in the way they get their teeth into a wide range of music. The growling bass-lines, beautifully-realised instrumentation

# Ortofon Quintet Blue



From the world's largest pick-up producer comes a new range of budget moving-coils, and this middle-ranking model highlights what's on offer for a very modest outlay  
 Review: **Andrew Simpson** Lab: **Paul Miller**

There's long been a presumption that if you want a decent low-output moving-coil cartridge able to give its moving-magnet rivals a run for their money you'll need to spend north of £500. Thankfully Ortofon doesn't subscribe to this thinking, as this new Quintet Blue illustrates, at £325. At this price point you're in the company of only a handful of low-output MCs, with Denon's well established DL-103R the obvious rival at £319, alongside Benz Micro's entry level MC Gold at £275.

## INSIDE THE SHELL

Ortofon's new Quintet range replaces both of its outgoing Vivo and Rondo ranges, by offering a single series of budget MCs with obvious improvements at each price point [see boxout]. While these ranges employ entirely different approaches to body material, with metal/plastic bodies for the Vivos and wood shells for the Rondos, the Quintets all get protective bodies made from a special thermoplastic material called acrylonitrile butadiene styrene (ABS), chosen for its strong yet lightweight and anti-resonant properties.

This ABS body acts as a shell for the pick-up's inner workings, which are fixed only to its aluminium mounting plate and back plate, but not to its plastic outer body. And if you were to pull the ABS



body away from its inner workings, you would see a very minimal cartridge design, similar to Ortofon's stripped-back OM models.

At the end of the Blue's aluminium cantilever sits a nude elliptical stylus – the whole stylus is a solid diamond bonded to the cantilever, instead of having an elliptical tip bonded to a metal shank, that's then bonded to the cantilever.

The Blue's internals pack lightweight coil wires made from pure 4-nines copper and powerful neodymium magnets, a

**LEFT:** An aluminium cantilever and nude elliptical stylus are key features of the Blue model. Closely spaced pins means care is needed when connecting tonearm wiring tags

combination intended to offer a wide response and generous output. And because Ortofon has its own rubber making facilities, the Blue's suspension is designed entirely in-house and benefits from the company's DJ division's research into the development of the Concorde S-120 pick-up, which Ortofon says has led to greater levels of compliance, meaning the Blue should be suitable for a wider range of tonearms.

The Blue's straight-sided body and threaded mounting holes makes it easy to align, although its output pins could do with being more widely spaced to make wiring it up less of a challenge, as extra care is needed to ensure none of your cartridge tags are touching.

Weighing in at 9g, the Blue should be suitable for most tonearms, although it's a little taller than most cartridges (18mm), so it's worth checking that your tonearm's height can be adjusted should you need to raise it for optimal VTA.

Ortofon also includes a hard plastic stylus cover that slides over the cartridge body to provide plenty of protection.

## BALANCED PERFORMER

While you're not able to see the Blue's innards, given its plastic shell, you're certainly presented with a window into its soul thanks to how open-sounding this cartridge is. Installed on a VPI Scout 1.1 turntable [HFN Oct '14] and feeding my Primare R32 phono stage [HFN Jan '12], the Ortofon seemed to relish the freedom afforded by the VPI's unipivot tonearm.

A few bars into Little Dragon's 'Paris' from their *Nabuma Rubberband* album [Because Music BEC5161771] lets the Blue show how it can pull out plenty of detail from the track with ease, which it presents with real dynamism. The synthesised percussion has ample depth and attack, and I could feel each note's texture as they

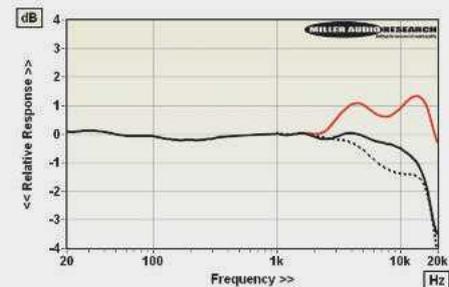
## FAMOUS FIVE

The Quintet range follows the same colour-coded structure as the company's 2M MM and Cadenza premium MC ranges, whereby models from Red through to Black represent improvements in performance at ascending price points. All Quintets get plastic ABS bodies packed with fixed neodymium magnets, and each step up the ladder brings refinements to coil wires, cantilever material and stylus profile. The Blue improves on the Red (£200) by using a nude elliptical stylus and pure 4-nines copper coil wires over the Red's polished elliptical diamond and standard copper coils. The Bronze (£500) gets the Blue's internals married to a nude fine line stylus, while the range-topping Black (£650) boasts the company's Aucurum coil wires (gold plated 6-nines copper) and a nude Shibata-shaped stylus affixed to a boron cantilever. A White mono variant (£325) completes the line-up.

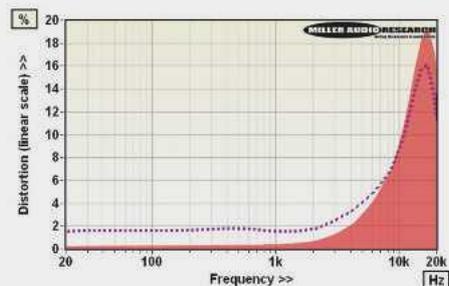
## ORTOFON QUINTET BLUE

Ortofon's new Quintet Blue is a traditional medium-output MC, besting its claimed 0.5mV/100ohm at 0.62mV with a superb 0.1dB channel balance and very acceptable >25dB separation through the midrange. In practice, its performance is not dissimilar to Ortofon's own Vivo Blue MC [*HFN* May '11] albeit with slightly improved output and tracking ability, both features of the Quintet's increased recommended downforce up from 1.8g (Vivo) to 2.3g (Quintet). With this in mind the Quintet Blue's compliance is a symmetrical 16/16cu (vertical/horizontal), offering secure tracking up to ~70µm groove modulations before just losing its grip at +18dB (315Hz).

Just like the Vivo Blue, the Quintet Blue's high frequency distortion and response are both lifted with lateral L+R cuts, reaching +1dB through the presence band and mid-treble principally on the right channel [red trace, Graph 1 below]. The general depression through this same region with L-R cuts [dashed trace] suggests that its soundfield may still be emphasised stage front while pulling slightly to the right. Equalised distortion (-8dB) is low at <1.5% up to 2kHz but climbs to a peak of 16% (left) and 19% (right) at an inaudible 17kHz [see Graph 2]. These are features of the Quintet's very extended ultrasonic response (which 'reveals' the harmonics) more than an inherently high THD, the former aided by a very fine 8x18µm diamond, a low moving mass and fractionally high 26° VTA. All in all, this latest Blue is a very accomplished MC. Readers may view a comprehensive QC Suite test report for Ortofon's Quintet Blue MC by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'Download' button. **PM**



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 / 9.0g
Recommended tracking force	2.0-2.5mN (2.3mN)
Sensitivity/balance (re. 5cm/sec)	620µV / 0.12dB
Compliance (vertical/lateral)	16cu / 16cu
Vertical tracking angle	26 degrees
L/R Tracking ability	80µm / 70µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.75-16.2% / 0.34-19.4%
L/R Frequency resp. (20Hz-20kHz)	+0.5 to -3.4dB / -0.25 to +1.35dB
Stereo separation (1kHz / 20kHz)	33dB / 26dB

were served up in rapid succession by my Dynaudio Focus 260 floorstanders.

Despite the soundstage being filled with multiple drum rhythms of varying pitch, the Blue's even delivery means I could still enjoy the contrastingly slow, drawn-out vocals of lead singer Yukimi Nagano as they floated within the song's buoyant beats.

### A MEASURED APPROACH

The Blue isn't as revealing as some of the more ruthless pick-ups at this price point: what it offers is a measured approach that's more forgiving across a range of recordings and of varying SQ.

The opening riff to REM's 'Turn You Inside-Out'

[*Green* - Warner Bros WX 234 925 795-1] always makes a grand entrance, and with a 'hot' sounding cartridge Peter Buck's lead guitar can sound a little too

ripped open and shrill across the treble. Under the Blue's influence, the track's guitars are still given free rein to sound raw and edgy, but without being allowed to become 'spitty', especially at high SPLs.

While the Blue takes full advantage of the expansive soundstage it's afforded by the VPI deck, what's more striking is the Ortofon's talent for separating out instruments within it. Turning to Nick Drake's 'Fly' from *Bryter Layter* [Simply Vinyl SVLP 094] shows how well this cartridge copes with

'Guitars sound raw and edgy without any spittiness'

**ABOVE:** Ortofon's anti-resonant 'ABS' thermoplastic body protects the Blue's internals while its alloy mounting plate is threaded for easy installation

more challenging material. Each instrument is given plenty of air and space to let the notes form with convincing realism, which the Ortofon then knits together into a cohesive whole, while ensuring their edges don't blur into each other.

Bass is also nicely articulate and evenly presented without being over-emphasised or lacking in tangibility.

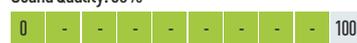
The 'Paris' track

underlines how the Blue likes to show its hand in the lower registers, not just trying to impress through lots of low-down wallop, but by making sure the bass sounds natural and fully formed - neither overly dominant nor hollow, resulting in low notes with genuine substance. ☺

## HI-FI NEWS VERDICT

While there may be alternative pick-ups out there for similar cash that shine brighter with detail or strive for a grander presentation, you'll be very hard-pressed to find a better alternative that's as well balanced across the board as the Blue. This pick-up offers a sound that's both refined and yet bags of fun, guaranteeing its place as a fantastic all-rounder for those wanting a quality moving-coil on a budget.

Sound Quality: 85%



# Exposure 3010S2 Pre/Mono

Exposure's 3010S2 range is topped by a preamplifier and pair of monoblock power amplifiers. Are they a worthwhile upgrade over their integrated amplifier stablemate?  
 Review: Adam Smith Lab: Paul Miller

It's a well established upgrade path. You begin with an integrated amplifier, progress to a pre/power set-up and then, if money and rack space allow, move up to a pair of monoblocks. Several manufacturers still see this as an extremely effective way of marketing components. One such company is Exposure and its 3010S2 series offers the full range of integrated amplifier and preamplifier, plus both stereo and mono power amplifiers.

## A HOUSE STYLE

In typical Exposure style, its preamplifier, which costs £940, has a neat and subtle look, not immediately distinguishable from that of its integrated sibling. In fact the only visual clue is that the preamp is slightly shorter than the integrated, lending it a sleeker appearance. Other than that, it has the same front panel controls: an on/off switch, volume control and input selector, plus a sensor for the remote control handset.

The unit's six inputs are switched via relays and all are initially configured for line level operation, one being a tape input with matching record output. The 'Aux 1' input may be reconfigured as a phono option through the addition of an extra PCB. Boards are available for MM or MC cartridges at £220 each.

Our review sample had neither fitted, but as they are the same boards that are used on the standalone 3010S2 phono stage [HFN Jan '14], then they are well worth the extra if you own a turntable.

The 3010S2 mono power amplifier (£860), on the other hand, is identical to its stereo counterpart at the front. And it appears to share exactly the same case, with unused holes for the absent channel's input and output sockets blanked off.

Of course, it's what's inside that counts, although a casual glance at the technical specification of the mono amplifier

compared to the stereo model might lead a potential buyer to wonder why the mono is 10W less powerful, on paper. But the design is more than just a stereo amplifier chopped in half as the circuitry between the two differs. Consequently, the unit is specified as having a wider frequency range and lower distortion than the stereo amp, so this could indicate sonic gains.

Internally the mono amplifier boasts a very chunky custom-made toroidal transformer and 40,000µF of power supply capacitance, with the output devices located in the centre of the case on a very solid heatsink.

In general, build quality of both units is very good indeed: they feel sturdy and well made. The remote control handset – a fairly standard and unremarkable item – can control all Exposure components,

including CD players. Internally, the units are neatly laid out and the space within the preamp for the phono boards is readily accessible (a small link PCB must be re-fitted should you later wish to return the phono input to 'Aux 1' status).

After allowing all units a good week or so to run in, listening was carried out

using a Michell Gyro SE turntable with Audio Note Arm Two/II arm and Ortofon Kontrapunkt B through an Anatek MC1 phono stage. A Naim CD5XS and Flatcap XS compact disc player

provided digital duties and loudspeakers were my reference PMC Twenty.24s.

'There's a good sense of intimacy with the right musical material'

## ‘RIGHT’ FROM THE START

One aspect I have always admired about the sonic nature of Exposure's equipment generally is that it is seemingly voiced not

**RIGHT:** Simple is best – the 3010S2 mono power amplifier employs a massive toroidal-based power supply with two pairs of substantial bipolar output devices





to offer any undue artificial impressiveness that might draw in the listener on first audition, but then become tiresome after a while. The 3010S2 units upheld this tradition perfectly, as they simply sounded 'right' from the off.

When reviewing, I generally like to make 'first impression' notes followed by later observations, but it was over two hours into my first session with the Exposures when I realised my notepad was still blank. This was not so much because I was captivated by the particular type of sound that they made, but more that they made me want to dig through my LP and CD collections and hear the music. I soon realised that you don't so much

listen to the Exposure amplifiers as listen through them, and they are very adept at presenting the musical message.

They don't want to blow things disproportionately in soundstaging terms, but when fed a vocal-led performance, they very neatly pull the lead singer gently but positively out of the loudspeakers' plane. This leaves the main action standing proudly in front of the background, and sends the decay of notes from every instrument shimmering off into the distance in a very pleasing manner.

Sarah McLachlan's 'Angel', from her *Surfacing* CD [Arista 07822-18970-2] was a good example of this, with Sarah located solidly front and centre, and the soft tones

**ABOVE:** The 3010S2 range preamplifier and power amplifiers are well made and neatly styled. Build quality is excellent and the units are alternatively available with black front panels

of the backing saxophone murmuring quietly away in the corner of the room.

Even more encouragingly, the dynamic range of Sarah's voice from merest whisper through full-on crescendo swept through the Exposures without them showing a hint of strain or discomfort.

#### A GOOD SENSE OF INTIMACY

The Neil Cowley Trio's *Radio Silence* album [Naim Label NAIMLP157] reinforced this point, with some truly impressive piano action from the band. Again, the Exposures made an excellent job of keeping the piano notes ringing out by just the right amount, and never tending towards the rattly jangle that can result with a lesser design.

The 3010S2 trio has a very smooth top end but one that never robs musical insights – they miss nothing within the recording yet they don't stress the less than perfect aspects of it. The result is an enjoyable musical whole with a good sense of intimacy on the right material.

At the low end, the mono power amps come into their own with a punchy, taut and spry bass that rarely fails to raise a

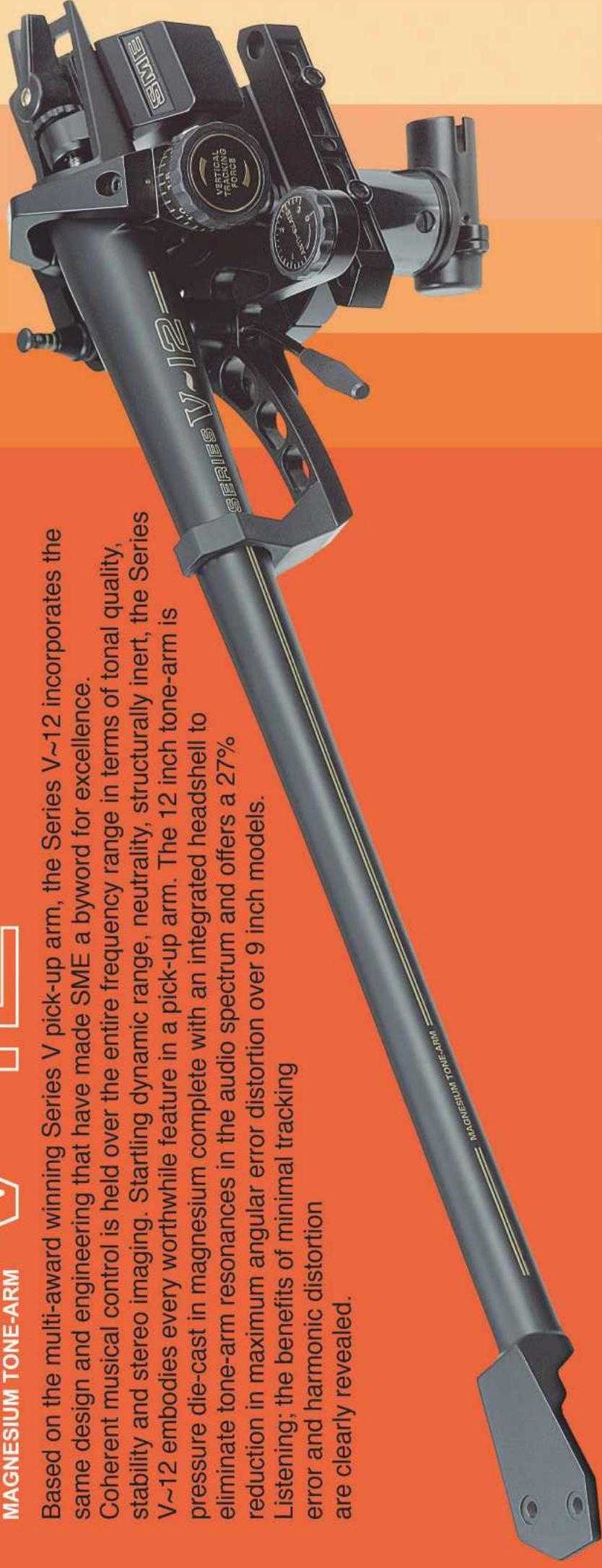
### THE EXPOSURE STORY

Exposure Electronics was founded in 1974 by John Farlowe, who cut his teeth in the world of music reproduction while working in studios alongside the likes of Jethro Tull and Pink Floyd. His aim was to make audio equipment capable of reproducing the recordings he knew with all their 'hair-raising and spine-tingling' qualities intact. Exposure flourished throughout the 1970s and '80s and – although now under different ownership – continues to go from strength to strength, making new components that are true to the original ethos. John Farlowe is no longer involved in the company, but since 2000 senior designer Tony Brady has lent a firm guiding hand to everything from the entry-level models right up to the flagship MCX range. The company is still based in Hove and all models apart from its 1010 series are assembled in the UK.

# SERIES V~12

MAGNESIUM TONE-ARM

Based on the multi-award winning Series V pick-up arm, the Series V~12 incorporates the same design and engineering that have made SME a byword for excellence. Coherent musical control is held over the entire frequency range in terms of tonal quality, stability and stereo imaging. Startling dynamic range, neutrality, structurally inert, the Series V~12 embodies every worthwhile feature in a pick-up arm. The 12 inch tone-arm is pressure die-cast in magnesium complete with an integrated headshell to eliminate tone-arm resonances in the audio spectrum and offers a 27% reduction in maximum angular error distortion over 9 inch models. Listening; the benefits of minimal tracking error and harmonic distortion are clearly revealed.



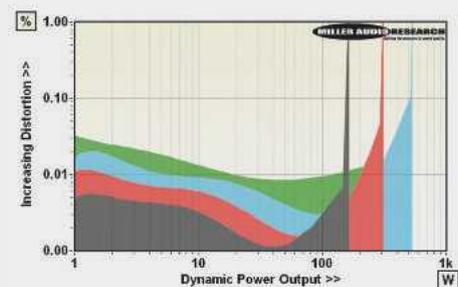
# SME

*“The best pick-up arm in the world”*

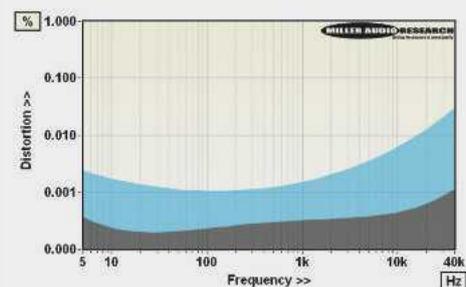
## EXPOSURE 3010S2 PRE/MONO

If these amplifiers seem deceptively simple, then their simplicity is marked by a very refined technical performance. The 3010S2 preamp offers a very low 0.0002-0.0005% distortion across the 20Hz-20kHz audioband [black trace, Graph 2 below] combined with a wide 94dB A-wtd S/N ratio (re. 0dBV), a mildly tailored response (-0.5dB/20kHz to -7.2dB/100kHz) and a substantial 12V maximum output. With a gain of +24.4dB, the partnering 3010S2 mono power amps require just 1.7V to achieve their rated 100W/8ohm output, so the preamp has plenty of capacity to spare. As do the amps, these achieving closer to 145W/8ohm and 260W/4ohm in practice with 165W, 310W and 530W delivered under dynamic conditions into 8, 4 and 2ohm loads [see Graph 1, below]. Protection limits the output to 375W (19.4A) into lower 1ohm loads but the 3010S2 monos are still perfectly capable of wrestling with any likely mid-market loudspeaker.

The power amps, despite dealing with higher voltage and current, still best the preamp when it comes to their flatter and more extended response (-1dB points at 1Hz-40kHz) and even their noise performance which yields a fabulously low 101.1dB A-wtd S/N ratio (re. 0dBV). Distortion, predictably, is a little higher but 0.001-0.013%, 20Hz-20kHz, at 10W/8ohm is still more than low enough [blue trace, Graph 2]. Finally, the 3010S2 amps certainly benefit from a long warm-up time as THD decreases from 0.002% to 0.0008% over 30mins at 10W/8ohm. Readers can view comprehensive QC Suite test reports for Exposure's 3010S2 preamp and 3010S2 mono power amp 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 up to 1% into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads



ABOVE: Distortion vs. extended frequency, preamp (0dBV, black) and power amp (10W/8ohm, blue)



ABOVE: Six line inputs are offered on the preamplifier, with Aux 1 available as a phono stage with optional MM/MC boards fitted. Note bi-wire outlets on the amps

smile. The underpinnings to Mr Scruff's 'Get a Move On' from his *Keep It Unreal* CD [Ninja Tune ZEN CD42] – which features a steady drum machine beat over a fairly simple bass line – were absolutely rock solid and positively bounded along. This particular bass line can sometimes have a tendency to drift into the background if the driving amplifier lacks a firm guiding hand, but this was not a worry here.

### TAUT RHYTHMS AND DETAIL

Equally, the set-up proved that it was not 'all punch and no sophistication', as more complex bass lines were very well catered for. Rhythms were taut and low end detail retrieval was never an issue. When reproducing acoustic bass, the notes had just the right level of woody bloom to them and synthesiser bass lines were as sprightly as one could wish for.

Very occasionally with bass guitar I thought the Exposures were a tiny bit *too* punchy, and a more gentle flow wouldn't have gone amiss, but this only ever seemed to be a fleeting sensation.

Spinning Mark Ronson's *Record Collection* [Columbia 88697736331] had my feet tapping in no time and the whole spectrum of sound from the lowest to highest frequency seemed to come together superbly. The track 'Somebody To Love Me' juxtaposed Boy George's vocals with a solid backing beat in a way that was most impressive. As I said earlier, the set-up really

scores in the way in which it lets you concentrate on the *music*.

As a final stage in this assessment, I wheeled out my Naim Supernait amplifier and removed the links between its pre- and power amp sections, in order to try each Exposure component separately. This suggested that the sense of fluidity and midrange delicacy was largely down to the 3010S2 preamplifier.

Substituting the Naim at the front end added a frisson of extra crispness and precision across upper mid and treble, but simultaneously lost a little space around instruments in the process. With the set-up reversed, the Exposure power amplifiers proved to be the driving force, as the Naim's power amplifier section with the 3010S2 preamp lost some of the impact that I had so been enjoying.

The best sound with these three options was the all-Exposure set-up – these units have been voiced to work together seamlessly. ☺

### HI-FI NEWS VERDICT

The Exposure 3010S2 mono power amplifiers are punchy and detailed, the matching preamplifier is thoroughly competent and the optional phono section is very capable. Add in a price tag that is not unreasonably high and you have a package that makes perfect sense, even when faced with the modern breed of high-spec integrateds as competition. This set-up is warmly recommended.

Sound Quality: 84%



# AKG K812

Apparently stung by repeated criticisms of poor resolution, AKG has changed the recipe for its latest range-topping headphone – but has divided opinion in the process  
 Review & Lab: **Keith Howard**

I have the sense that AKG – one of the oldest, best-respected names in professional audio – is at a crossroads with its headphone products. If you've read my reviews of AKG's previous offerings you may recall that a familiar theme has been praise for a near-neutral tonal balance allied to disappointment at a clouded, veiled quality to the sound that bleeds the music of verve as well as transparency. Moreover, mine is far from the only voice to have uttered this complaint.

AKG, it seems, has been paying heed – although for quite a while it appeared as if it had its head resolutely in the sand over this. Although the £1099 K812, the latest headphone to top the AKG range, is less than brand spanking new and nowhere near as wacky as the old K1000 [see box-out], still it gives every indication when you listen to it that AKG has determined to shed its reputation for making headphones that are worthy but a bit of a dull listen.

## A MIXED RECEPTION

As I've explained before in these pages, as far as possible I don't read other opinions of a product before I review it, but sometimes a product's reputation precedes it, and so it was with the K812. When it arrived, I already knew that it had received a mixed reception elsewhere. Some reviewers, revelling in new-found clarity from an AKG, have loved it unreservedly; others have disliked it, with criticisms levelled at both its bass and its treble performance.

When we progress to a description of the K812's sound quality I hope to make some sense of these disparate reactions, but first let's briefly explore what the K812 comprises. At its most basic it is an over-head, open-back, dynamic design that makes no pretence to being suited

**RIGHT:** K812 retains the distinctive AKG 'look' of previous K-series models by repeating their circular capsules but garish colours are replaced by muted black and silver

to use on the move. To wit: it has a long, 3m lead which does not include a mic/remote for use with compatible handheld music sources; its capsules do not rotate flat or fold up into the headband; and it is not supplied with a carrying case.

But it does arrive equipped with an omega-shaped plywood headphone stand, to enable convenient storage in the listening room. The clear message is that this is a stay-at-home headphone, not one for the peripatetic user.

Although the K812 is conventional-looking it nevertheless remains distinctly 'AKG'. Styling cues from earlier K-series models, particularly the circular capsules, conical perforated rear enclosure and circumferential trim ring, have been retained, but the sometimes garish colours have been replaced by sophisticated black and silver.

*'It puts the old AKG fuzziness of sound firmly in the past'*

The old short capsule flying lead has also been ditched for a cable that plugs directly into the left capsule via a substantial Lemo connector that locks into place.

Most significant of the changes, though, has been to the earpads. Out go the velour-covered circular items of old, giving

way to (faux?) leather-finished earpads that are, of course, circular where they mate with the circular capsules but more D-shaped at their opening, with the straight edge aligned to follow the jaw line

beneath and behind the bottom of the ear.

This is the spot where anatomy contrives to make earpad sealing difficult, with the result that some people just can't use certain headphones without significant loss of bass.

AKG's 'Sound Sealing' earpads are intended to obviate this, and do so without crushing the pinna or squashing the earlobes. I found them very comfortable, aided by the K812's modest head clamping force if not by its weight: on the high side at over 450g including cable. A gimbal bearing – like that of a ship's compass – allows each capsule to rotate both horizontally and vertically for best fit.

If you are someone like me who habitually taps headphones when first putting them on to check how resonant their structure is, the K812 won't impress. Knocks on the capsules and headband elicit distinct 'boings'. Surprisingly, I could hear no significant carry-over of sound from one capsule to the other when performing the impedance test, which injects pink noise into the left channel alone.

Other features of note are that the K812 incorporates a new 53mm diameter drive unit developed, AKG says, from scratch. It has a voice coil wound from copper-clad aluminium wire to save on moving mass and is fitted with a magnet system that produces a claimed





**LEFT:** D-shaped earpad opening is a novelty, designed to improve bass sealing around the critical jaw line beneath the ear. It works effectively and remains comfortable

to sound like a large waterfall (large to ensure sufficient bass), heard from near enough for atmospheric absorption of high frequencies not to be an issue. It should be wide-bandwidth and spectrally smooth and featureless; if any part of the audible spectrum stands out then the frequency response is not flat or there's a resonance issue or both. As is clearly the case with the K812 'phones.

You don't have to look very hard to see what the likely problem is: the peak at around 6kHz in the diffuse-field corrected response, which can only be made more obvious by the hole in output immediately below it. Unevenness in the impedance versus frequency trace between 2kHz and 5kHz suggests the presence of resonances that are likely to be a factor too.

These features, it seems, make the K812's treble unbearable to some listeners, while others appear decidedly less sensitive to them. This alone makes it vital that any potential purchaser listen to the K812 before buying, preferably at leisure over some hours. Then you'll know in which camp you fall.

It goes without saying that if you team the K812 with hard- or harsh-sounding source components then the treble problem will be exacerbated. My Teac HA-501 headphone amp tends to a richer, warmer tonal balance, albeit without sacrificing transparency, and it suited the K812 well – so, while I was aware of some treble forwardness, it didn't prevent me enjoying the AKG's strengths, particularly its otherwise neutral tonal balance and its new-found powers of analysis.

To check out the bass performance I threw a load of tracks at the K812 that →

field strength of 1.5 tesla in the magnet gap – 'the strongest magnet system available on the market'. Yet, as identified in the Lab Report, the K812 does not impress with its sensitivity, despite its medium impedance. In fact its sensitivity is towards the lower end of what modern high-quality headphones typically deliver.

### OPEN AND TRANSPARENT

I promised at the outset to try to reconcile the differing opinions of the K812's sound quality but first let me summarise what I think of it. Overall, I like it, not least because it puts the old AKG fuzziness of sound firmly in the past. The K812 still has a mostly neutral tonal balance, with one important exception, but it sounds much more open, much more transparent, much more informative and therefore enjoyable than its forebears.

Criticisms of the K812's bass I just don't get. Those who think there isn't enough of it must be habituated to bass excess (which is anathema to me). Those who have criticised it *qualitatively* I can't agree with –

on every track I consider to be notably testing of bass quality the K812 delivered clean, 'fast' LF at replay volumes up to the loudest I would care to tolerate.

Criticisms of the K812's treble are another matter, and you don't need to listen to music to appreciate that there's an issue here – try pink noise instead and it's obvious that something is amiss at HF. Pink noise, perfectly reproduced, ought

### CHIP OFF AN ODD BLOCK

**AKG's K1000, launched in the late-1980s, was one of the strangest headphones to have appeared since Stax raised eyebrows with the Sigma or Jecklin with the original Float. In fact it contained echoes of the Jecklin in that the capsules were spaced away from the ears by 'temple pads' that rested against the skull above each pinna, although it had a more conventional headband. The capsules brought new meaning to the term 'open-back' as they principally comprised wire mesh on the inner and outer faces, and their angle to the ear was adjustable. In combination with Ventilated Linear Dynamic radial magnets in the drive unit, they helped realise the principal design aim of having no acoustically reflective parts – or resonant enclosures – in front of the ear, in marked contrast to conventional headphone designs. The K1000 garnered many enthusiastic reviews but if it was intended to remould headphone design, it failed. Even AKG abandoned its radical take on creating the ultimate headphone.**



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## Raidho acoustics



## AKG K812

AKG claims a sensitivity for the K812 of 110dB SPL for 1V input, which is very close to the 109.6dB we measured at 1kHz, averaged for the two capsules. For a modern moving-coil headphone this is on the low side. Given AKG's claim that the K812's 1.5 tesla magnet system is 'the strongest on the market' and the voice coil's use of copper-clad aluminium wire (CCAW), this is surprising particularly as this is a mid-impedance not high-impedance headphone, with a specified nominal figure of 36ohm. We measured a range of 39.1ohm to 51.2ohm (20Hz to 20kHz), a large enough variation to give rise to frequency response changes of 0.43dB with a headphone amp of 10ohm source impedance and 0.94dB with a 30ohm impedance.

The uncorrected frequency responses [Graph 1, below] show virtually flat output from 1kHz down to 100Hz, below which there is a very gentle decline to -6dB at 11Hz. Above 1kHz there is the usual increase in output due to interaction with the artificial ear, which is designed to present a similar acoustic impedance to a real ear. But the initial peak arrives a little late at around 4kHz, and there is a second, larger peak at 6kHz. These are averages of ten response measurements for either capsule, with the headphone removed and replaced between each measurement to assess the changes resulting from small differences in positioning relative to the ear. The resulting error limits are not shown here but were notably small, particularly in the bass where the K812's novel earpad design is a notable success at forming a reliable seal.

Diffuse-field correction of the averaged response for the two capsules [green trace, Graph 2] shows the consequence of the unusual behaviour above 1kHz: there is initially a drop in perceived output above 1kHz, followed by a rapid rise. Almost certainly it is this switchback that has given rise to criticisms of the K812's treble quality. KH



**ABOVE:** Long, 3m cable attaches by means of a chunky Lemo connector that locks securely into its socket

I know to have challenging bass of different types: two from Jennifer Warnes' *The Hunter* [Private Music 01005-82089-2]; two from Daft Punk's *Random Access Memories* [HDtracks]; 'The Saga Of Harrison Crabfeathers' from Brian Blomberg's *Wood* [A440 Records 4001]; 'You Look Good To Me' from The Oscar Peterson Trio's *We Get Requests* [88.2kHz/24-bit rip from the Analogue Productions/Verve SACD]; and 'Limit To Your Love' from the eponymous James Blake album [Atlas Records ATLAS05CD].

### DOES NICELY, THANK YOU

Any headphone that can handle all these with equanimity, combining adequate weight and extension with a lack of boom, precise pitching and clean transients is doing very nicely, thank you, and the K812 delivered exactly that. The Oscar Peterson track in particular I've been listening to a lot recently over loudspeakers that are unusually capable at LF, and I thought the K812 did a very fine job of rendering Ray Brown's double-bass, strings bowed *and* plucked.

Any shelving up of bass output over and above what's currently offered would lumber the K812 with a low frequency excess that begins to thicken textures and drag rhythms - yuk.

As for the K812's treble, it didn't bother me overly; certainly it didn't send me screaming from the room. There were occasions when vocal sibilance seemed overly pronounced, such as on Nat King Cole's voice in 'Welcome To The Club', ripped from

the Audio Fidelity SACD of the same name and converted to 88.2kHz/24-bit PCM, but I was impressed with the way that the trumpets didn't stray over into harshness, which they can easily do.

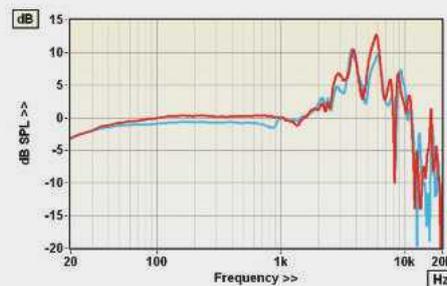
Likewise, I didn't find sibilants a problem with Emma Kirkby singing the moving 'Full Fathom Five Thy Father Lies,' ripped from the BIS SACD *Musique And Sweet Poetrie* and also converted to 88.2kHz/24-bit PCM. Rather, I was captivated by the K812's fine portrayal of the reverberant church acoustic and its faithful rendition of the bell-like purity of Kirkby's familiar voice.

Indeed, that will be my enduring memory of the K821, long after it wings its way back to the UK distributor. It's a headphone that marks a sea change for AKG, largely retaining the tonal neutrality of earlier K-series models but consigning their frustrating opacity to the trashcan of history. I found the K812 a thoroughly engaging and informative design. ☺

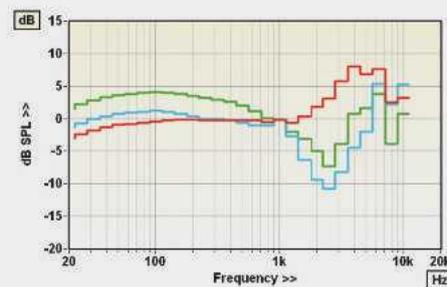
### HI-FI NEWS VERDICT

AKG has moved decisively in the right direction with the K812, casting aside the veiled sound of old. It can't be considered a complete success, though, because of its troublesome, Marmite treble which clearly sends some listeners up the wall. If you don't mind its HF then you'll likely revel in the K812's open, spacious, high-resolution sound, unencumbered by turgidly excessive low frequency output.

Sound Quality: 86%



**ABOVE:** Response is impressively flat below 1kHz but the expected upper-mid peak arrives late at 4kHz. See DF-corrected response (see green trace, below)



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

### HI-FI NEWS SPECIFICATIONS

<b>Sensitivity</b> (SPL at 1kHz for 1Vrms input)	109.6dB
<b>Impedance modulus min/max</b> (20Hz-20kHz)	39.1ohm @ 6.2kHz 51.2ohm @ 81Hz
<b>Capsule matching</b> (40Hz-10kHz)	±6.7dB
<b>LF extension</b> (-6dB ref. 200Hz)	11Hz
<b>Distortion 100Hz/1kHz</b> (for 90dB SPL)	0.2% / 0.1%
<b>Weight</b> (inc cable and 0.25in connector)	456g

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*noun*

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# Atlas Asimi Ultra

Atlas aims to raise the bar with its new flagship interconnect featuring exotic materials. Is this a cable with a silver lining? Review: **Paul Miller**



**S**ilver has long been the conductor of choice for many audiophiles even though its implementation typically comes at a premium price. Atlas's flagship is certainly not timidly priced, but it's far from being the costliest silver-based interconnect to tempt the well-heeled enthusiast.

Befitting of its place in the Atlas range, the Asimi Ultra is beautifully constructed and finished – its new Ultra phono plugs are exquisitely machined and polished, the silver-plated contacts offering a deliciously snug fit with standard RCA phonos (XLR termination is also offered). These plugs offer a 57% reduction in material weight over their predecessors and employ a solid cylinder of Teflon as the internal dielectric.



## CONTINUOUS CASTING

Not only does Atlas specify solid silver conductors for the Asimi Ultra but each strand is drawn using the OCC (Ohno Continuous Casting) process, employing a heated die to minimise interstitial grain boundaries within the metal. Atlas claims one grain boundary per 125m of cable, but this is likely to increase over time due to its physical handling in construction and use. Choice of dielectric is also key to the 'sound' of any cable and here Atlas has chosen a microporous PTFE tape covered by a flexible polyethylene layer.

The new Asimi Ultra adopts a symmetrical geometry with identical signal and return cores comprising six bundles of 12 silver strands surrounding a thicker strand in the centre. The twisted signal/return pair is covered by a continuous copper-mylar electrostatic screen and silver-plated copper braid, offering shielding from RF and other noise. The outer sheath is made from HD PVC and is covered by a very attractive and functional light grey woven cotton.

I mentioned earlier that silver is ideally suited to audio interconnects, not least because it has the highest

electrical conductivity of any metal, ahead of copper and gold. This is reflected in the low 56mohm/m loop resistance I measured for the Asimi Ultra, a figure complemented by its low 86pF/m parallel capacitance, 0.45µH/m inductance and 33Mohm leakage. It's obviously a good choice for long runs, and Atlas offers a range of 0.5m, 0.75m, 1.0m, 1.5m, 2.0m, 2.5m and 3.0m lengths. A 1m set costs £2750.

## SILVER TONGUED

Inserted between my Oppo BDP-105D player/DAC and Krell S-1500 amp, the Asimi Ultra immediately dispelled the notion that silver cables necessarily emphasise treble detail. Recorded live to two-track and mastered by none other than Doug Sax, the percussion and rich guitar work that infuses Jerome Sabbagh's *The Turn* [96kHz/24-bit FLAC; Bee Jazz BEE 064] was dripping with opulent detail. Notes rolled off the cymbals with a casual clarity while the lush tenor sax lit the scene with a warm glow. I was hearing my 'analogue' system at its best, enjoying music with no hint of grain pervading the open, atmospheric and fresh-sounding vista before me.

**ABOVE:** The Asimi Ultra interconnect is terminated with Atlas's own solder-free Ultra phono plugs with self-cleaning contacts

Vocals typically sound superb too, as illustrated by the fabulously unlikely duet between Tony Bennett and Lady Gaga [*Cheek To Cheek*, 96kHz/24-bit FLAC]. The Asimi was party to revealing a powerful set of lungs on the Lady while TB sounded as assured as ever. A fun recording revealed by a great cable. ⬇

## HI-FI NEWS VERDICT

Just as there are audio bloggers who never like an amplifier once they discover it has a Class D architecture, there's a similar myth that silver cables all sound 'bright'. They don't, and the Atlas Asimi Ultra illustrates this beyond doubt. Reflecting the mood of the music, the Asimi Ultra allows the very best hi-fi systems to sing – sing loud, sharp and clear when required or soft, slow and relaxed as the recording demands. It's a true flagship cable.

Sound Quality: 86%



# iFi Nano iDSD

Compact, keenly priced and with high-end heritage, this DAC/headphone amp caters for current high-res and beyond, with 12.4MHz DSD and 384kHz LPCM capability

Review: **Andrew Everard** Lab: **Paul Miller**

As can sometimes happen when dealing with a multinational jury, when the £165 iFi Nano iDSD portable DAC/headphone amplifier was judged the winner in the Hi-Fi Accessory category of the 2014-15 EISA Awards, we here at *HFN* hadn't actually reviewed it.

Odd, perhaps, that a product designed and engineered by a British company – iFi is a sub-brand of Abbingdon Music Research – should reach a wide range of reviewers in Europe and beyond before it 'lands' in these parts. Anyway, it's here now, trailing plaudits in its wake following a relatively recent firmware upgrade to the limits of current consumer audio technology – and beyond, by incorporating both DXD and extended DSD capability, and very much a part of a current trend toward compact components for desktop audio or even portable use.

We've seen a whole slew of these products, usually combining the functions of digital-to-analogue conversion and headphone amplification, many of them designed with internal rechargeable batteries for use on the move with tablets, smartphones, etc, besides your laptop/notebook computer.

New brands have sprung up to produce DAC/amps, like the Kickstarter funded Geek Out [*HFN* Sep '14]; Audioquest has reinvented itself from being just a cable company with the arrival of its DragonFly models [see *HFN* Mar '14]; and brands from Cambridge Audio and Meridian to Onkyo, TEAC and (coming any day now) Denon have joined the fray with devices designed for use almost anywhere.

Just about every manufacturer has its own spin on the design of such devices, from the 'USB stick' of, say, the Audioquest DragonFly, to the rather larger Meridian Explorer and Director models, which sit at the end of short USB cables and thus are

**RIGHT:** Inside views show audio components laid out logically and for short signal paths on the underside, while on the upper side are the lithium-polymer battery and indicator LEDs

perhaps a little less vulnerable to damage when used in transit.

## INTERNAL BATTERY POWER

If it weren't a desperately unfashionable comparison, I'd say the iFi Nano iDSD was about the size and proportions of a cigarette packet; weight is 162g. That gives it a chunky, substantial but not burdensome feel, and the overall impression is of a product built to last.

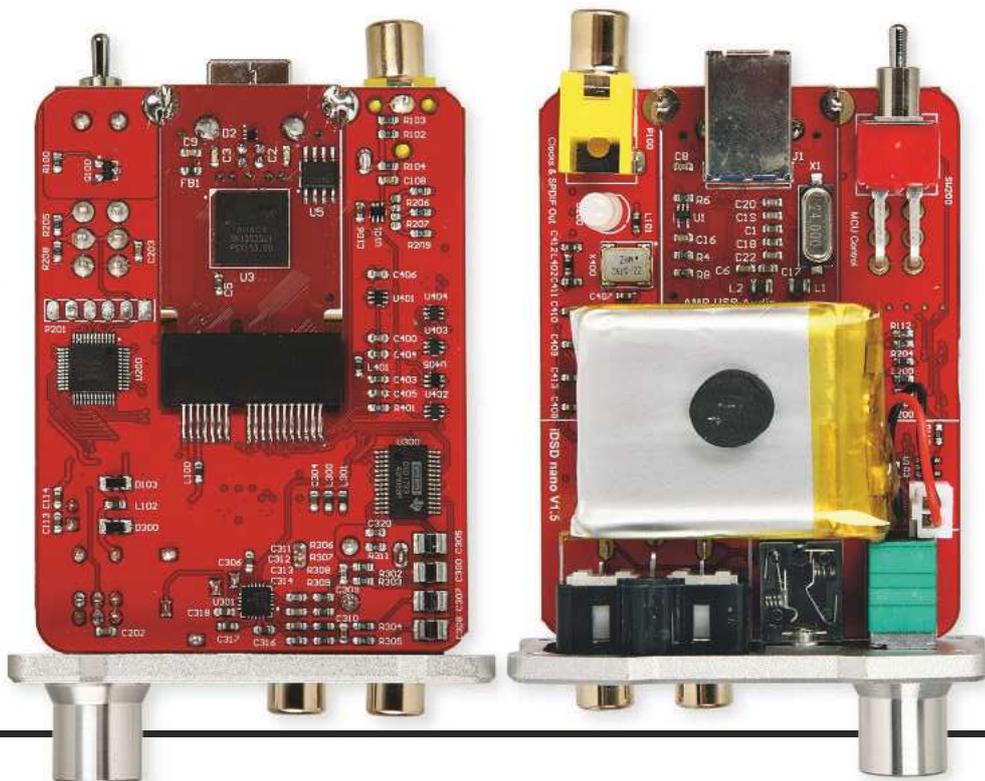
The front panel has a 3.5mm stereo headphone socket and a pair of RCA phonos for line output, both governed by the volume control (which also doubles as a power switch), but with the line out bypassed when headphones are connected. There's no fixed-level line output. At the rear there's a Type B input for asynchronous USB, a coaxial S/PDIF input, and a switch allowing the selection of standard or minimum phase digital filtering. iFi says minimum phase is the best choice for listening. As well as connecting to conventional computers, the USB input

can also be used with iOS smartphones and tablets using Apple's Camera Connection Kit or an Android On The Go cable, plus a third-party software player.

Power is supplied either direct from a connected USB 'host', such as computer, or from the internal lithium-polymer battery, said to be good for more than ten hours' use, which is also charged via USB. (To run the unit on USB power, connect the USB cable first then turn the Nano iDSD on; for battery operation, reverse that sequence.)

A single multicolour LED indicator gives status indication, presenting a whole range of colours, as listed on the instruction card supplied, for the various input modes.

And the Nano iDSD is certainly flexible: courtesy of the recent firmware upgrade, Burr-Brown's chipset and what AMR calls its True Native technology (custom code, used to drive the DAC) it can now handle LPCM at up to 384kHz/32-bit, DXD at 352.8kHz, and DSD at 2.8, 3.1, 5.6, 6.2, 11.2 and 12.4MHz, and all in 'native' form. All of that means that – at least to my knowledge –





it supports more formats than any other compact DAC/headphone amplifier, but iFi says 'we care little for which format is best. Rather, we are obsessed with replaying each format at their [sic] optimum.'

OK, so tortured grammar apart, the Nano iDSD is certainly ambitious, reasonably cute and affordable. Having been playing with a variety of desktop and portable DACs of late, I was keen to hear what it could do. Sources included my Mac Mini and MacBook Air computers, an Acer netbook (purely to investigate the Windows drivers for the Nano iDSD), Apple iPad mini and iPhone 5, both running iOS8, and an Asus MeMoPad Android tablet. Headphones used included the Oppo PM-1 [HFN Jul '14], Bang & Olufsen Play H6, PJB H-850 and B&W P3. Playback software on the Macs was Amarra and Audirvana.

*'It managed to hang on to every touch of bass, drums and piano'*

**LOOKING FOR TEST TRACKS**

One of the problems when it comes to exploring the capabilities of a device like this is the lack of availability of 'mainstream' music in the more extreme formats it supports: when it comes to playing anything beyond 192kHz/24-bit or standard DSD64 (2.8MHz), you're more or less in the realm of the audiophile and

specialist labels, such as 2L and those artists available via Blue Coast Records and others available at *downloadsnow.net*.

Fortunately 2L has excellent samplers offering the same tracks in formats up to DSD128 and DXD 352.8kHz/24-bit. Blue Coast Music has a number of DSD samplers, and Downloads NOW! a range of recordings from the San Francisco Symphony Orchestra's own label.

I used a combination of music from these sources and high-resolution and CD-quality downloads from the likes of HDTracks, Qobuz, Linn Records and The Naim Label, plus a range of rips of my own CDs and some SACD rips made via the old PlayStation method. I know one or two recording companies are already experimenting with DSD256 (11.2MHz) recordings, but as yet nothing is anywhere near available on a commercial basis.

The closest I could get were some DSD128 (5.6MHz) and DXD 352.8kHz/24-bit recordings from 2L, notably the recent *Magnificat* release by Nidaros Cathedral Girls' Choir and the Trondheim Soloists [2L-106], and the Hoff Ensemble's *Quiet Winter Night* (2L-087), an excellent seasonal recording without becoming schmaltzy or cloying, and again recorded in

**ABOVE:** Front panel has just line and headphone outputs and volume/power control, while at the rear the filter switch and coaxial digital input straddle the USB-B connection

a church acoustic. Both were made in DXD (352kHz/24-bit), so that format provided most of my listening, with occasional dips into DSD to see how the Nano iDSD lived up to its billing.

**IT DOES THE JOB... BUT**

I have to say that while the sound is impressive, my jaw remained resolutely undropped: this little DAC does its job, handling all the formats it claims to, so far as I could explore, but displaying some notable limitations when pushed at all hard. The main problem appears to be a distinct lack of 'oomph', especially when running on battery power. Used with the Oppo headphones, the Nano struggled to deliver high listening levels without a very obvious thickening of the sound, especially with the choir and orchestra on the 2L *Magnificat* tracks.

The higher voices of the ensemble took on a steely edge that was not exactly pleasant, and it was difficult to 'listen in' to the arrangement and pick-out the subtlest of the vocal details.

The sound is clearly better when playing the DXD version than the DSD128, but it still never quite shakes off that edginess, which can become fatiguing after a relatively short listen. It's a very 'un-2L' sound – previous experience of this recording reveals it's actually every bit as warm, generous and yet closely observed as the label's other offerings.

Better is the way the simpler, gentler sound of the Hoff Ensemble jazz disc is presented. But the Nano never quite achieves the 'cold wind outside, huddled round the fire' ambience that is so much a part of this recording: its slightly 'technical' or clinical sound is maintained, even when one tries a pair of bass-heavy headphones such as the Phil Jones Bass model.

However, with tightly-defined recordings like this there is good clarity ➔

**TRICKLE-DOWN TECH**

As a subsidiary of Abingdon Music Research, iFi enables the parent company's technology, usually seen in high-aiming full-size audio components, to trickle down to the fashionable desktop/portable market. The iFi brand offering includes a range of Micro products – everything from phono and headphone amps to DACs and even a separate power supply – but things have got *really* small with the Nano range, currently running to the Nano iCan headphone amplifier and the iDSD we have here. AMR is also continuing to expand its iFi offering with the recently-released iFi Retro range. The initial products, both decidedly retro-styled, are the Stereo 50 amplifier and LS3.5 speakers, the idea being to create a simple system requiring only the addition of a computer source. Valve-powered, the new amp features a DAC with 8xDSD and 768kHz LPCM capability, while its styling is reminiscent of classic amps of the past, with symmetrical fascia layout, gold finish and flip-switch for power on/off.



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*HiFi World, July 2013*

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## IFI NANO IDSD



**ABOVE:** The baseplate carries not just labels for the sockets and controls, but also a list of compatible formats, information about drivers, et al

and decent instrumental textures, even if things still get a bit muddled when the music gets 'busy' or the volume levels are pushed.

Switching from the standard filter setting to 'Minimum Phase' does inject a little life into the sound (I used it for almost all of my listening) but the differences are marginal, 'Minimum Phase' softening that occasionally wayward treble.

### CAN SOUND SILKY SMOOTH

Switch to some more available hi-res content, in the form of the recent Led Zeppelin remasters – and specifically the band's first album [Atlantic R2536127] – and the Nano clearly shows the benefits of the 96kHz/24-bit version over the standard CD-quality files. Yet it still manages to sound a little splashy and insubstantial – which does Led Zep tracks no favours whatsoever! Again the effects are minimised by playing at sensible levels, but who wants to do that with music like this? Cranking the level to something more content-appropriate manages to make things even more hard-edged, but not in a good way – it really does sound as if the iFi Nano DAC/amp is struggling to keep up, and is in danger of running out of puff.

You're on much safer ground with perennial demonstration favourite Holly Cole, and her eponymous album remastered by the 2xHD label, and available in 88.2kHz/24-bit, where the Nano manages to sound silky smooth, and hang on to every touch of bass, drums and piano in best shimmering demo style, while reliably bringing out the slight huskiness, and sometimes slightly hard edge, of Cole's voice.

The recorded acoustic sounds suitably intimate, the rhythms and tonality of instruments and voices

are relayed in winning fashion, and above all the sound is involving, smooth and generous. In fact, listen to that album alone, or other sets of similar genre, and you might be captivated by the iFi DAC's abilities.

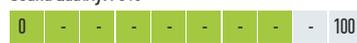
Trouble is, when fed a more varied diet of music – the kind of stuff to which normal people and not just we hi-fi enthusiasts listen – the presentation there can be found wanting. Play things safe, both with your choice of music and your volume levels, and you won't go far wrong with the Nano.

Ask it to rock out, with anything from the bass-heavy Daft Punk to the histrionics of Elbow to the chugging, effects-laden Medicine Show from *This Is Big Audio Dynamite* [Columbia 88697 48239 2], and you may find it under-delivers on occasion, lacking the wherewithal to generate real musical involvement. The Nano iDSD is very precise, just not always so very interesting. ☹

### HI-FI NEWS VERDICT

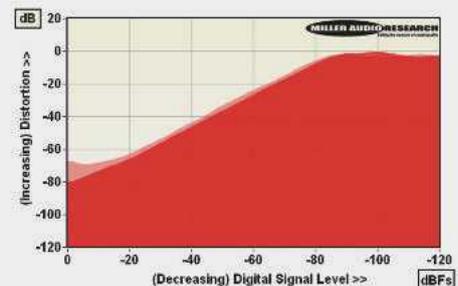
It's nicely put together, and impressive that the company has managed to build native capability for so many formats into a unit so portable and so affordable. However, it can sound a bit fragile and undernourished, lacking the ability to drive all headphones really hard when high levels are required. There are one or two (albeit dearer) rivals with which I'd be rather happier hitting the road.

Sound Quality: 73%

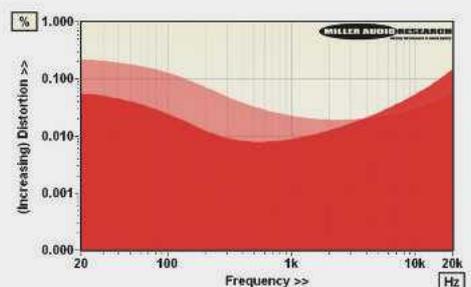


iFi offers some basic measurements on its website, including a power specification of >130mW/16ohm which accords well with the 99mW/25ohm measured here. The usefully low 0.45ohm source impedance (headphone and RCA outs) is also proven but other figures, including the <0.005% distortion and the >104dB dynamic range, are arguably more ambitious. In practice the Nano's technical performance is closer to that of Cambridge Audio's DacMagic XS [HFN May '14] than the superior Geek Out [HFN Sep '14], the latter offering lower distortion, higher voltage and power output and, crucially, a wider A-wtd S/N ratio in our tests. Under identical test conditions the Nano proved noisier than both, offering an 80dB A-wtd S/N (and a practical resolution of ~16-bit) in place of the DacMagic XS's 90dB and 94dB achieved by the Geek Out.

At maximum output the Nano incurs 0.01-0.21% distortion, falling to 0.007-0.15% at -3dBFs from 20Hz-20kHz, but increasing to 0.2% through bass frequencies at 10mW/25ohm [see Graph 2, below]. THD is only marginally higher at midband/treble frequencies under load [see Graph 1]. In fact it's the choice of minimum phase filter that delivers the higher treble distortion and poorer stopband rejection (-7dB versus -53dB with the standard filter). Both filters have a -0.3dB/20Hz bass roll-off but the min. phase shows the greatest treble loss (-4dB/20kHz vs. -1dB/20kHz). The min. phase filter's improved time domain behaviour will give it some subjective advantage, but I'd recommend it for 96kHz+ downloads rather than CD. Readers may view comprehensive QC Suite test reports for iFi-Audio's USB DAC/headphone amplifier 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 at 1kHz (red = unloaded; shaded red = loaded where 0dBFs = 99mW, -10dBFs = 11mW and -20dBFs = 1.1mW and -20.3dBFs = 1mW)



ABOVE: Distortion versus frequency from 20Hz-20kHz (solid red, 1V unloaded; shaded red, 10mW into 25ohm load)

### HI-FI NEWS SPECIFICATIONS

Maximum output (re. 0dBFs into 47kohm)	1.64V
Max. power output (re. 0dBFs into 25ohm)	99mW
Output Impedance (20Hz-20kHz)	0.45ohm
A-wtd S/N ratio (re. 0dBFs)	80.0dB
Distortion (20Hz-20kHz, re. 10mW)	0.019-0.21%
Freq. resp. (20Hz-20kHz/45kHz/90kHz)	+0.0 to -0.9dB/-2.3dB/-4.9dB
Stereo separation (20Hz-20kHz)	57dB to 65dB
Digital jitter (unloaded/loaded at 25ohm)	250psec / 1500psec
Dimensions (WHD)	68x28x87mm

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# Classical Companion

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

## Herbert von Karajan *The Technophile*

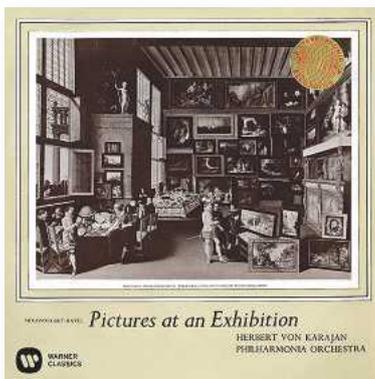
He was the first conductor to actively embrace each new phase in recording: from 78s to digital discs. His last obsession was with video. **Christopher Breunig** looks back

‘He was a fantastic salesman – he sold the music, he sold himself and he sold us too. We knew this and that’s why we wanted him.’ Berlin Philharmonic timpanist Werner Thärichen (who evidently preferred working under Karajan’s predecessor Wilhelm Furtwängler) can be seen in the Teldec documentary *The Art of Conducting*, talking about Herbert von Karajan’s appointment to the orchestra in 1954-5, when he’d asked to be appointed ‘conductor for life’. This was ratified after the success of their tour of the United States in 1955.

Karajan would become the most discussed, photographed and written about musician of his time (nowhere better than by Richard Osborne in his masterly Faber biography). The 16th of July 2014 saw the 25th anniversary of his fatal heart attack in the company of Sony executives, at his home in Anif,

➔ Warner transfers of Philharmonia/Karajan tapes are available as 96kHz/24-bit downloads [see boxout]

⬅ Herbert von Karajan, intent at the mixing desk in the Berlin Philharmonie control room



Austria. Whether or not his dream of reincarnation as an eagle came true we’ll never know. But I doubt that his prophecy in a 1967 interview will be fulfilled: speaking of a visit to Japan he claimed that 20,000,000 viewers had seen his televised concerts. ‘In six years,’ he suggested, ‘that will be two hundred million.’

Karajan spent years working out methods of filming himself in performance...

But first let me wind back. There were sound recordings up to and during the Second World War, the most intriguing, perhaps, being the experimental stereo finale of Bruckner’s Eighth Symphony, with the Berlin Staatskapelle (the deleted Koch CD now sells for around \$130).

But Karajan’s big break came in war-torn Vienna, short of both food and electricity, when Walter Legge sought permission for him to record with the VPO. When it came to Brahms’s *Ein deutsches Requiem*, Legge was amazed when Karajan presented a list of all the most suitable 78rpm disc side-changes!

The two became musical ‘alter egos’, Karajan just the man to develop and hone Legge’s new

orchestra, the Philharmonia. Apparently when rehearsing his London debut programme he tried to influence his soloist, the great Dinu Lipatti over every phrase of the Schumann Concerto.

Later, he did seem to ‘collect’ young players like Christian Ferras, Géza Anda, Christoph Eschenbach, or fashionable ones like Evgeny Kissin and Lazar Berman when they came to the West, and the controversial Ivo Pogorelich: a collaboration that never was! Anne-Sophie Mutter was, of course, his most notable protégée, recording Mozart concertos with him when she was only 15.

### THE DG BEETHOVEN CYCLE

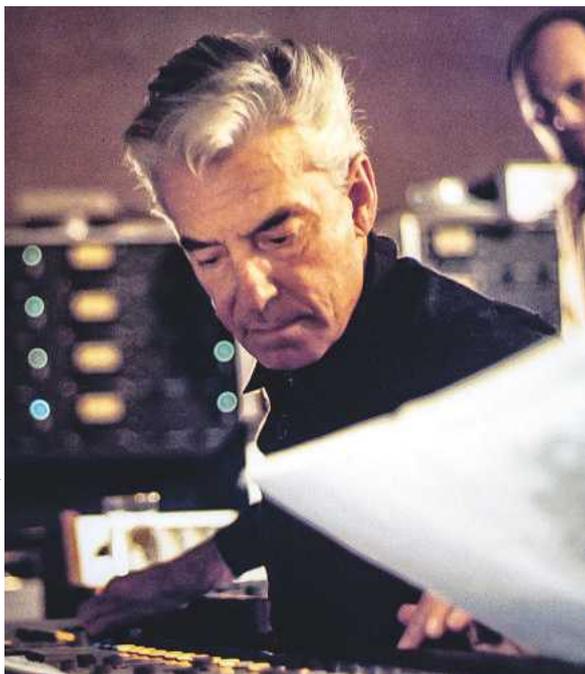
Legge and Karajan built up an extensive Philharmonia LP catalogue for EMI. Now that Warner has these recordings, they are being reissued as box sets, with selected titles appearing at [highresaudio.com](http://highresaudio.com) at 96kHz/24-bit

resolution. Frustratingly, the first Beethoven symphony cycle is now republished with a previously lost stereo Ninth as well as the original mono – it’s a pity Warner doesn’t make that separately available.

Legge realised that he’d virtually lost Karajan to DG when the BPO Beethoven set appeared. It’s been variously reissued, the current box [479 3442] containing the nine symphonies on five CDs and one Blu-ray disc at 96kHz/24-bit, which also has rehearsals for the Ninth.

True the ‘Pastoral’ was better done in the earlier 1953 EMI recording, and the Eighth most impressively in the 1984 digital version, but this would be my ‘album choice’ – Strauss’s *Ein Heldenleben*

‘Karajan’s big break came in war-torn Vienna in 1946’



a close second: the first LP recording or the 1985 London concert performance on Testament [DG 449 7252/SBT1430].

With each successive step, mono to stereo, analogue to digital, Karajan was quick (but far from unique) in re-recording his repertoire. He declared that digital technology meant 'all else is gaslight'. In editing, for example, it superseded the need with tape to find a suitable point in a score for cutting and rejoining a different 'take' – you could virtually insert a semiquaver, if needed.

But often, the first recordings were musically more successful – Holst's *The Planets* Suite with the VPO, for example [Decca], or the beguiling Waldteufel 'Skater's Waltz' from 1953 [EMI]. And while digital LPs introduced new repertoire (Nielsen's Fourth Symphony;



PHOTO: ROGER HALLERT

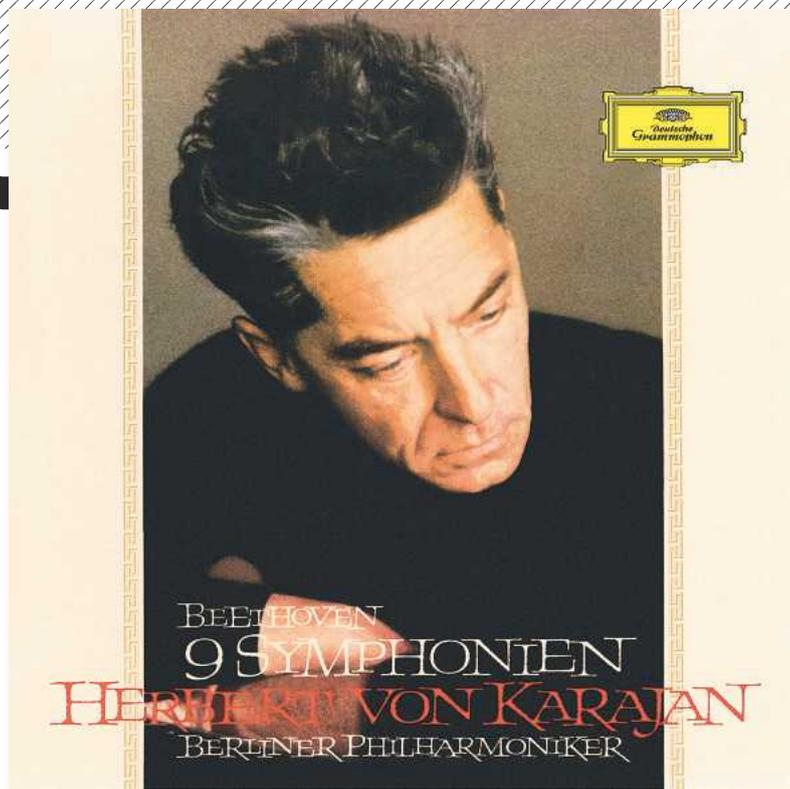
Saint-Saens's Third; Sibelius's First) much of it was unlovable. His completion of symphony cycles by Tchaikovsky, Schubert and Mendelssohn were perfunctory, yet the late VPO Bruckner Seventh and, with the Berlin Philharmonic, Richard Strauss's *Alpine Symphony* were glorious (the latter remixed and improved for DG's 'Gold' CD series).

Karajan briefly worked with L'Orchestre de Paris – its website pointedly reminds us that he conducted in occupied Paris in 1944, as film attests – and they made a very dynamic Ravel *La Valse* for EMI (but a Debussy *La Mer* much inferior to the 1964 BPO/DG).

### THE FILM LEGACY

Another Karajan innovation was to pre-record his singers in opera, months before staging rehearsals for his Easter Festival productions. Each singer would have a study-tape and

➔ Alas, Speakers Corner's boxed LPs are gone but there's a CD/Blu-ray audio set on DG of the 1963 Beethoven cycle with extras



mime to sound played back in the theatre during blocking.

Yehudi Menuhin remarked that Karajan 'became far nicer when he became aware of his own mortality'. He became a figure crippled by back pain – there's a world of difference between his urbane earlier self and Karajan in later years. Rigid in posture and no longer conducting eyes closed (a trait that had always attracted criticism) he ended up a rather sad figure.

There's a documentary DVD *Maestro for the Screen* [Arthaus Musik 101 459] on Karajan the film director: a passion to which he dedicated his last years. It shows how he fell out with various directors, such as Henri-Georges

Clouzot and (a disgruntled) Hugo Nibeling, and so masterminded every shot himself. Every scrap of unedited material was destroyed immediately he died. The highly stylised filming which Karajan liked – his players side-lit in a black gloom, a row of double-basses, gleaming brass, timpani sticks bristling in closeup – all looks rather dated now. (The conducting student would be better off with the 1965 VSO Schumann Fourth rehearsal, filmed by Clouzot – YouTube.)

But there's a huge and satisfying legacy in the sound recordings (from all periods). The question remains: how many younger generation classical music lovers will come to realise their attraction? ☹

⬅ 'Musical alter egos' Walter Legge, looking rather self-conscious, sitting with Karajan (1955)

## ESSENTIAL RECORDINGS

### R Strauss *Metamorphosen* (various)

Even those who dislike the conductor concede greatness to his postwar VPO 78rpm set [now in Warner 2564633618, 10CDs]. DG has recently boxed all the analogue Strauss [479 2686, 11CDs+Blu-ray], which has a 1969 BPO remake. It's on a single disc too [447 4222] with the superb 'Four Last Songs' sung by Gundala Janowitz.

### Prokofiev *Symphony 5*

DG 'Originals' 463 6132 (CD) Outstanding – one of only three Prokofiev works Karajan recorded, this (from 1968 comes with the earlier BPO 'Sacre du Printemps' – scorned by the composer, but much admired by Glenn Gould (me too)!

### Mussorgsky *Pictures at an Exhibition*

Highresaudio.com (Warner) The Philharmonia Orchestra and early stereo. Comparing WAV rips from the CD shows there's more resolution offered by Warner's remastering at 96kHz/24-bit. HRA's selection of Karajan downloads is well worth exploring. 'Philharmonia Promenade Concert' has the magical 'Skater's Waltz'; I also admire his Mozart 29 and 'Prague'.

### Shostakovich *Symphony 10*

Speakers Corner DG SLPM 139020 (180g LP) Perhaps the live Moscow version was even more intense [Melodiya – now deleted] but this 1966 Berlin is preferable to the digital remake. On CD: DG 429 7162.

# Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

## Eddie Cochran *Memorial Album*

A dozen hits and two of the greatest rock 'n' roll songs ever written... **Steve Sutherland** examines the legacy of Eddie Cochran as his last LP is reissued on 180g vinyl

This is a shaggy dog story. The dog's called Buster. He's a Pyrenean Mountain Dog, a great big fluffy white thing, basically the Spanish version of a German Shepherd.

Buster lives with Mr & Mrs Harmon, a trendy, middle-aged couple who've recently moved into quite a grand house on the posh estate that's just been built over the water meadows down by the river in Laverstock. Me and my mates have gotten into the after-school habit of making a pilgrimage down the hill, past the church, past the shop to Mr & Mrs Harmon's house where we knock on the door and ask, very politely, if we can take Buster for a walk.

### TERRIBLE TRAGEDY

Now I know what you're thinking, but this ain't some Bob A Job money-raising scam for the Scouts. You see, although the Harmon's have custody of Buster so to speak, he actually belongs to their son David, but he's too busy touring round the world and being wonderfully famous to care for Buster right now. David's showbiz

name is Dee – Dave Dee – and with his goofy accomplices Dozy, Beaky, Mick and Tich, they are Wiltshire's sole claim to pop stardom. We make our daily treks totally because we are in high hopes that one day he might be home and we might actually – whisper it – meet him!

The reason I'm telling you all this is because, before he became Dave Dee and racked up ten consecutive top 20 singles, the 16-year-old David Harmon was a trainee copper with the Wiltshire constabulary and it is in this previous incarnation, just before midnight on the 16 of April 1960, that he is among the first to arrive at the scene of a terrible tragedy.

A Ford Consul driven by a 20-year-old local called George Martin blows a tyre, skids on an accident black spot just off the A4 outside of Chippenham, and collides, backwards, with a concrete lamp post.

Young George is dazed but ok, as is the passenger who was sitting upfront next

'Cochran was really cool – some called him James Dean with a guitar'

### 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...



to him, a tour manager by the name of Pat Thompkins. But the passengers who were travelling in the back are in pretty bad shape. There are three of them and police cadet Harmon finds them sprawled across the grass verge where they've been thrown by the impact of the crash. They are surrounded by loads of scattered black and white photographs and there's a guitar over there that's been hurled from its case.

To his surprise, Dave discovers that the injured parties are infamous American rockers Gene Vincent and Eddie Cochran, and Eddie's American girlfriend, Sharon Sheeley. The ambulance arrives to take them to the nearest hospital, St Martin's in Bath, where Gene is treated for a broken collar bone, Sharon for a cracked pelvis and Eddie for head injuries from which he dies at 4.10 in the afternoon of the next day, Easter Sunday.

Dave's job is to tidy up after the crash. He takes Eddie's guitar – a lovingly customised Gretsch 6120 – back to the police station. In his later guise as Dave Dee he will tell journalists that he learned to play guitar on Eddie's Gretsch.

### TERRIFIED OF FLYING

It transpires the tragedy unfolded like this: British entrepreneur Larry Parnes, in cahoots with Jack Good, the magnate of UK teen TV, had the notion to import Gene Vincent to tour the UK in 1959. Gene was past his sell-by date in the States and had become a paranoid alcoholic. Good restyled him in brooding black leather and Parnes' stable of cute homeboy acts.

The tour was a roaring success, ticketwise, and Gene was kept on, Parnes determined to keep the gravy train rolling by adding Eddie Cochran to the bill. Cochran was really cool – some called him James Dean with a guitar – but he was terrified of flying since his pals Buddy Holly, The Big Bopper and Richie Valens



➔ Eddie Cochran pictured in the late '50s with his iconic customised Gretsch 6120 guitar. Performing 'Twenty Flight Rock' in the movie *The Girl Can't Help It* was an early success



↗ Priced £11.99, the 180g Wax Time reissue of *The Eddie Cochran Memorial Album* is available online from [www.juno.co.uk](http://www.juno.co.uk)

had perished in a plane crash in February '59; a flight, some say, that Cochran was originally due to be on. It was only the promise that he would travel around the UK by rail, not air, that convinced Eddie to cross the Atlantic and join Parnes' rock 'n' roll package tour in January 1960.

### FATEFUL CAB

Again the jaunt went well, culminating in a week's residency at the Bristol Hippodrome, after which Eddie and Sharon were due to fly home from London Airport, some said to get married. But as anyone who commutes will know, British trains don't run much after tea time so Eddie collected his bags at Bristol's Royal Hotel and, at 11pm, called the fateful cab for the trip back to London.

Eddie had a single out in the UK at the time of the crash. It was called 'Three Steps To Heaven'. It went straight to number one.

He also had a new album just out, his second. It was called *12 Of His Biggest Hits*. Most albums in those days were pretty much a few hit singles and some filler. His record company, Liberty, quickly withdrew it and re-released it, in mono, with the same catalogue number but a different, more reverential cover: Voila! *The Eddie Cochran Memorial Album*. By any standards, it's stunning.

For starters it features two of the greatest rock 'n' roll songs ever written. 'Summertime Blues' takes Chuck Berry's cute teen angst model and acutely ups the quota of arrogant, snotty anger. Nothing written or performed since has bettered it for expressing the pure frustration of being young. Then there's 'C'Mon Everybody', equally revolutionary, a middle-finger raised to mom and pop and their get-a-job-and-work-till-you-drop aesthetic. Unusually for the time, Cochran co-wrote these and much more of his own material, including the mighty 'Teenage Heaven', pretty much a kid's version of the ten commandments.

## THE EDDIE COCHRAN MEMORIAL ALBUM



Then there's 'Somethin' Else', an explosion of pure teen lust, amazingly co-written by Sharon Sheeley. And his rockin' hot versions of Ray Charles' soulful 'Hallelujah, I Love Her So' and the hillbilly classic 'Cut Across Shorty', songs which, while still in his teens, he self-produced with a new deep rhythmic feel while playing most of the instruments in the recording studio himself.

These songs alone would be legacy enough but it was arguably his guitar technique which did most to shape the future of rock music. Cochran was the first guitar player to use an unwound G string – basically allowing the third string to bend and back his smart-arse lyrics with a bluesy hip-swivelling howl never heard before.

Among those who bought the album, caught the last Cochran tour and took notes were Jimmy Page, who later performed 'Somethin' Else' and 'C'mon Everybody' with Led Zeppelin, Pete Townshend who heaved-up 'Summertime Blues' with The Who, T Rex's Marc Bolan who claimed, as a 12-year-old, to have carried Eddie's Gretsch for him after a gig (and in 1977 also died in a car crash), and George Harrison, who got Eddie's jacket as a keepsake from Tony Sheridan, who'd supported Eddie on the tour and would soon after headline over The Beatles.

Jimi Hendrix said he wanted Eddie Cochran songs played at his funeral and

Paul McCartney first got together with The Quarrymen when he showed John Lennon how he knew all the chords and lyrics to Cochran's 'Twenty Flight Rock' at a church fete in Liverpool in 1957.

Even the hapless solo Sex Pistol Sid Vicious got a posthumous hit thanks to Eddie – Sid's gauche version of 'Somethin' Else' hitting No 3 in the charts in 1979, three weeks after he died.

So, in rapid conclusion, this is what the Memorial Album proves: Jerry Lee, he was wild, Elvis was great and Gene dripped cool, but Eddie... well, Eddie had the lot. ☺

### RE-RELEASE VERDICT

Released on the Wax Time label, this limited edition reissue retains the running order of the original but adds two extra tracks per side. Side A gains 'Jeannie, Jeannie, Jeannie' and 'Sweetie Pie' while side B ends with 'Boll Weevil Song' and 'Twenty Flight Rock'.

Unsurprisingly the guitar work is brash at times, but it's also rich while a sonorous quality to the mixes ensures none of the tracks lacks punch or presence. Little to be excited about in terms of packaging, but this is great value at the price. HFN

Sound Quality: 87%





## Sly & Family Stone *Riot Goin' On*

Released as the optimism and hippy ideals of the '60s counter culture were at their peak, the band's fifth album was to prove a watershed in black music. It was a dark masterpiece that spoke of social and inner unrest, the buzz of Woodstock replaced by boiling tension...

Words: **Mike Barnes**

Released in 1971, *There's A Riot Goin' On* was destined for success. Its predecessor, *Stand!*, had gone gold after its release in 1969, and it was coming off a wave of hit singles: 'Stand!', 'I Want To Take You Higher' and the US chart-topping 'Everyday People'.

Sly & The Family Stone were a multi-racial, mixed-gender group whose star was in the ascendant and whose reputation had been enhanced by a triumphant appearance at the Woodstock Festival in 1969, which was featured in the film of the event.

Yet in many ways, *There's A Riot Goin' On* was also one of the darkest albums ever to hit the top spot on the US album charts.

### BORDERLINE INSANITY

The band had effortlessly crossed the boundaries between psychedelic rock, pop, soul and funk, attracting fans both black and white, and were still spreading positive vibes as the '60s drew to a close. *There's A Riot Goin' On* came out two years after *Stand!* – a long time to wait for a follow up in those days. Epic put out a stop-gap greatest hits compilation and manager David Kapralik made a conciliatory press statement to the fans: 'Two years is a short time to wait for a work of genius'.

One wonders how *There's A Riot Goin' On* would have fared if released by a lesser known group. And even in those heady days, when it was considered cool for an artist to use a little chemical stimulation to free that genius, few could have guessed that Sly Stone had already begun a descent into an almost inconceivable level of drug abuse, which would result in borderline insanity and an alleged attempted murder by a fellow band member. It was a situation from which the group and their leader would never fully recover.

The story started back in the early '50s at the strict Church of God In Christ in Vallejo north of San Francisco where Sly – or

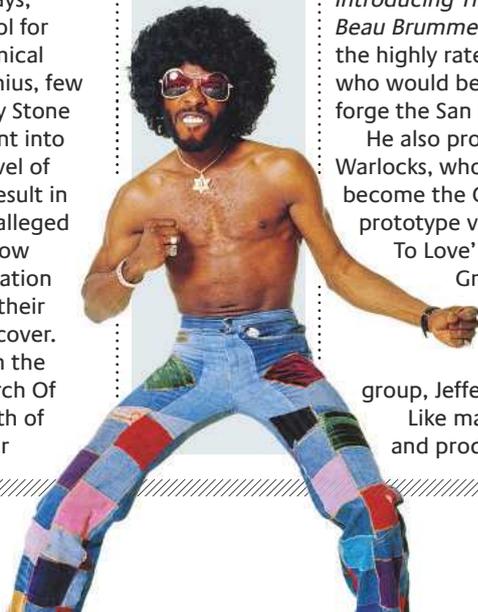


↑ Mock cover of newspaper produced by Epic records to promote the LP

↗ The group

(l-r): Greg Errico (drums), Rosie Stone (piano), Sly Stone, Cynthia Robinson (trumpet), Freddie Stone (guitar), Jerry Martini (saxophone) and Larry Graham (bass)

↓ Sly Stone photographed in 1975



Sly, as he was also known – and his family sang as the Stewart Four. He had aspirations beyond this rather austere musical outlet and learned to play the guitar and keyboards at an early age, going on to study trumpet and music theory in college.

### SHARP HIPSTER

Later he became a radio DJ and cultivated a sharp hipster look based around Beatle boots and straightened, dyed hair. In 1965, at the age of 21, he produced *Introducing The Beau Brummels*, the debut LP by the highly rated Anglophile group who would be credited with helping forge the San Francisco Sound.

He also produced music by The Warlocks, who would go on to become the Grateful Dead, and the prototype version of 'Somebody To Love' by Grace Slick And The Great Society, a song that would become the theme tune of her subsequent group, Jefferson Airplane.

Like many aspiring musicians and producers at the time, Sly

'Sly blew out 26 of the 80 shows, simply to show who was boss'

recorded under a number of aliases while striving to make a hit single. He succeeded with 'The Swim',

written for R&B singer Bobby Freeman, which earned him a gold disc.

In 1967, Sly & The Family Stone coalesced from two groups

featuring members of the Stewart family, Sly & The Stoners and his brother's group, Freddie & The Stone Souls. Sister Rosie Stone, née Stewart, joined soon after on vocals. She also stood out visually, wearing a platinum blonde wig. Meanwhile, the group's backing vocal trio, Little Sister, included the Sly Stone's youngest sibling, Vet Stewart.

Cynthia Robinson was in the unusual position of being an African-American woman who was an occasional vocalist, but principally an accomplished trumpeter, and together with white saxophonist

## PRODUCTION NOTES

*There's A Riot Goin' On* was partly recorded at home when Sly was living in Bel Air Road and also at the Record Plant in LA. The singer would be driven there in his Winnebago motor home and park outside.

Sly had been a hot-shot as a producer from an early age, but was searching for something else now, obsessively recording instrumental tracks, then recording over them again. Rumours were that this produced scores of unfinished tracks, which were often recorded over, and so the slight murkiness in the sound of the finished product was a result of the over-used and degraded tape.

It is hard to over-emphasise the effect that cocaine had on the recording sessions. Bobby Womack, for example, who contributed to the LP, has recalled putting down vocal tracks in Sly's home studio and being excited by what was being achieved. At other times, stoned out of his mind for days without sleep, he became paranoid about his ability to sing, about being busted by the Feds and about the presence of Sly's heavily armed coterie.

Drummer Greg Errico and bassist Larry Graham had had enough of the situation and left. Then Sly obtained PCP – a powerful sedative and disassociative hallucinogenic – which at times completely ground him to halt. Luckily this was introduced late on in proceedings.

Miles Davis was a huge Sly Stone fan. 'The sh\*\* he was doing was badder than a mother\*\*\*\*r,' he wrote in his autobiography, *Miles*.

In a weird twist, Columbia records sent him around to the forbidding Bel Air Road house to see if he could hasten things along. It proved a fruitless task. 'I told Columbia I couldn't make him record any quicker,' Davis wrote. 'We snorted some coke and that was it.'



Jerry Martini, formed a razor-sharp horn section. The other white musician in the lineup was the prodigiously talented drummer Greg Errico. He and Larry Graham, one of the most influential bassists of all time, and who pioneered the 'slap' funk bass style, made a peerless rhythm section. At the helm was multi-instrumentalist, singer and main songwriter Sly.

If this was ostensibly a pop group, it was one made up of musicians with real chops.

## INNER TURMOIL

Although the band's debut album, *A Whole New Thing* (1967), failed to make waves, *Dance To The Music* (1968), featuring the epoch-making single of the same name was like a party album, with elements of the Fifth Dimension, Bob & Earl, James Brown and a lot more besides. All this came together in a singular way on the album *Stand!*.

As well as a hippyish feeling of positivity, there was an added urgency now, a stridency about 'Let Me Take You Higher' and a sharper focus on the outspoken 'Don't Call Me N\*\*\*\*r, Whitey', a bold statement of intent that was released the year after Martin Luther King's assassination.

From 1967 Sly Stone had been taking to cocaine with a vengeance. Whether it prompted his increasing need for control or merely reinforced it, is open to conjecture, but he began to assert himself as the leader of the group, cutting out the musicians' live solo spots. Running a tighter ship in an era known for musical self-indulgence was no bad thing in itself, but Sly Stone took

this to a level bordering on megalomania. In 1970, he blew out 26 of the group's 80 shows on a whim, simply to show who was boss. This act alone severely damaged the group's reputation as a premier live act.

The LP had originally been titled *Africa Speaks To You*. But hearing Marvin Gaye's *What's Going On* – a subdued but powerful rumination on the fall-out from the

Vietnam War and the injustices faced by blacks in the US at the turn of the decade, released in May 1971 – Stone answered the question with *There's a Riot Goin' On*.

But in Sly's case, rather than reaching out to listeners, the album spoke more of isolation and inner turmoil. He had holed up at 783 Bel Air Road, in LA's Coldwater Canyon, with some very heavy friends. He had rented

the house from John Phillips of The Mamas & The Papas, who was alarmed by his new tenants. 'These people were rough. They laughed at me. There were lots of guns, rifles, machine guns, big dogs,' Phillips notes in his biography, *Papa John*. ↪

'Sly had holed up at 783 Bel Air Road with some very heavy friends'



← From top (clockwise): Larry Graham, Freddie Stone, Greg Errico, Sly Stone (front), Rosie Stone, Cynthia Robinson, and Jerry Martini

← Sly pictured at 783 Bel Air Road, where he began recording the material that would make its way onto the LP. The four-bedroom Beverly Hills mansion was said to be decorated in a 'funky black, white and red colour scheme' and have shag carpet and Tiffany lamps in every room. The master bedroom boasted a round water bed

↓ Sly on stage in trademark space cowboy outfit and Star of David necklace

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# Alternate Format Discography



➔ Epic Records promo shot from the early '70s of Sly on stage

The band was still ostensibly a unit, but a significant amount of the music was recorded by Sly on his own. Four decades on it remains a strikingly original statement, with something strange and impenetrable at its core. 'Thank You For Talkin' To Me Africa' is a decelerated and ominous version of the single 'Thank You (Falettinme Be Mice Elf Agin)', a funk workout in tolling, syncopated 4/4 time, but 'Luv 'n' Haight', with its wah-wah guitar and skittering drumming sounds sounds jazzier and more fragmented, with Sly's vocal line skidding over the top.

'Runnin' Away' harks back to happier times, with Robinson's trumpet complementing a lovely vocal melody, a ray of sunshine into an otherwise dark record. 'It's A Family Affair' finds Sly's heavy-lidded baritone vocal melody punctuated by ecstatic yelps over electric piano chords and a drum machine.

## GRINDING HALT

Sometimes Sly used this device in conjunction with real drums, but while 'Africa Talks To You "The Asphalt Jungle"' wants to be a full-blooded funk track, with little propulsion from the drums the instrumental interplay sounds disembodied. Some songs, particularly 'Like A Baby' and 'Poet' sound semi-formed, but carry their own logic. 'Spaced Cowboy' sounds like just that, with Sly yodelling high in the saddle.

All the groovy Aquarian age sentiments of the recent past slammed to a grinding halt after the LP's release. Due to their increasing rivalry it was rumoured Graham was going to take out a hit on Sly. A post-show brawl ensued in which one of Sly's entourage was seriously injured. Never has the announcement of a musician leaving a group because of 'musical and personal differences' left so much untold. ☹



## ORIGINAL VINYL LP

*There's a Riot Goin' On* was originally released on vinyl in the US and Canada, in a gatefold sleeve with a lyric insert, in November 1971 on Epic [KE 30986]. The front cover featured the Stars And Stripes flag, there was a photocollage on the back cover and live photos on the inside gatefold. Some versions bearing this catalogue number have one of the live shots from the inside gatefold duplicated on the front cover in place of the flag image.

The original US LP version also came out that year on 3 1/2 ips reel-to-reel tape on the Epic label [ER 30986] and on 8-track cartridge with a different track sequence [EA 30986].

Meanwhile, the album was released in the UK with a free four-track EP – or 'mini EP' as it was described on the cover – as well as the lyric insert [S EPIC 64613]. The EP was aimed at promoting the previous 'Greatest Hits' album and contained no bonus or previously unreleased tracks.

The packaging of the 1971 release was also tailored differently for specific territories: Netherlands (gatefold sleeve) and Spain (gatefold sleeve) Epic [EPC 64613], Australia (single sleeve) Epic [ELPS 3618], and India (single sleeve) Epic [KE 30986].

The original album was certified gold in 1972, having sold half a million copies.

## LATIN AMERICAN VINYL

A specially packaged LP version of the album was released in Venezuela by Epic's parent company, CBS [CS-10.090] as *Hay Una Manifestacion* in 1971.

The album was released in a single sleeve with the American flag cover, but a plain blue back cover. In 1972 a Brazilian version was released as *Family Affair* on

Epic [144084], although the track listing and the cover were the same as the original *Riot*....

## STONE FLOWER RELEASE

There is also rare and 'unofficial release' of the album – possibly a promotional copy – which appeared in the US on the Stone Flower label [SS6005], and was distributed by Atlantic.

Stone Flower was the name of Sly Stone's production company and the cover bears a photograph of the crown jewels beneath a yellow flash on which is written the title of the album. The album is dated 1970, which is clearly an error as the material was mostly recorded in 1971.



## FIRST CD & VINYL REISSUE

The first CD issue was, surprisingly for such a successful album, on the British reissue label, Edsel [EDCD 165] in 1986. Accompanying the CD was an LP reissue in a gatefold sleeve [XED 165].

This shows that after the album's initial high sales, it slipped out of the spotlight. Its reputation as a groundbreaking work grew slowly until it began featuring in magazines' 'Best of' lists.

## EPIC AND SONY CD

Epic got back on the case in 1993 for the next round of CD reissues with releases in Europe and the US. Both shared the same catalogue number [EPC 467063 2].

Sony re-released the CD again in Europe and the US in 2001, this time in a fold-out Digipak [MM 505066 2] and later, in 2010, both companies released the album in the UK and Europe as part of their joint Original Album Classics Series [88697653482].

## DIGITAL RE-MASTERS

It wasn't until 2007 that this famously murky-sounding album

was actually digitally remastered for release on CD. Issued by Epic, in Japan it came in a mini-gatefold sleeve [MHCP 1307]; in the US it was released as a limited edition [82876 75911 2]; and in the UK and Europe [82876759112] it came with a 12-page insert.

More importantly, all three 2007 versions have extra tracks: the mono version of the single 'Runnin' Away', plus three sketchy instrumental works-in-progress – 'My Gorilla Is My Butler' (stereo) plus mono tracks, 'Do You Know What?' and 'That's Pretty Clean'.

In 2008, Sony Music Entertainment Japan introduced the Blu-spec CD. A year later Epic released a remastered, limited edition Blu-spec CD of *There's a Riot Goin' On* for the Japanese market [EICP-20002].

## AUDIOPHILE VINYL

In 2007, the album was reissued for the first time on 180g vinyl by Sundazed Music [LP 5147]. This was followed in 2013 by a similar format reissue for the Netherlands, on Music On Vinyl [MOVLP 640].

In the same year a double LP version, also on 180g vinyl, but playing at 45rpm was released in the US on ORG Music [ORGM-1079]

## BOX SET

*There's A Riot Goin' On* was reissued in the US as a limited edition box set in 2013, although oddly enough without the three extra tracks that had been included with the 2007 reissues of the album.

Billed as 'the gold edition', the package came in an embroidered flag cover, included a 24k gold CD, plus a 48-page hardcover book of photographs and notes by the veteran music critic A Scott Galloway. The box was released by both Epic and Sony [88765404332] and was also licensed to Get On Down [GET 9009 CD].



# Copa Room, Sands, *Las Vegas*

It was once the hottest ticket in town, the venue whose glamour and glitz forged the desert city's reputation as the playground of high-rollers and Hollywood royalty alike. **Steve Sutherland** takes you to the heart of the live music experience at The Copa

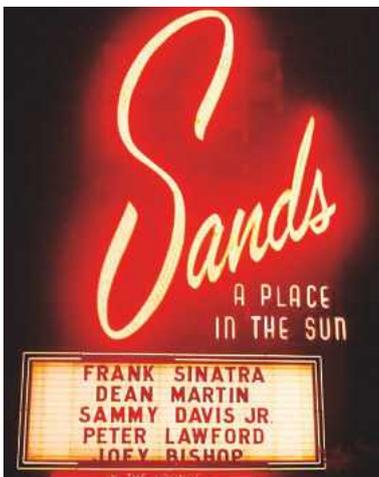
**H**e was wearing a shoebox on his head to keep the sun out of his eyes. The rest is a bit of a blur.

Frank's at the wheel of a golf cart. His new wife, the actress Mia Farrow, is riding shotgun. Mia is 29 years younger than Frank. The golf cart crashes through the plate glass window of the restaurant and the next thing you know, Frank is piling up chairs and trying to set them on fire with his lighter.

He is an unsuccessful arsonist so, screaming and cursing, he leaves. His last words to the shell-shocked staff: 'I built this hotel from a pile of sand and, after I'm through, that's what it'll be again!'

## PLACE IN THE SUN

Frank then flies back on his private jet to his pad in Palm Springs. He makes some calls to some scary figures in organised crime demanding they take some people out for him. The scary people advise him to sleep it off and forget about it. Frank sleeps it off but he can't forget, so he flies back to Vegas late the next night demanding to see a bloke called Carl Cohen who is the Vice President of The Sands Hotel, 'the place in the sun' which Frank has called home for the past decade



↑ Views of The Sands from the early '50s (top) and 1996, the year in which it was demolished to make way for The Venetian

← The Sand's roadside sign stood 56ft tall – by far the tallest on the strip when the venue opened. The red neon attraction board listing Copa room headliners was added soon after

and a half and the venue, far from the prying eyes of the press, of his recent, quiet marriage to Mia.

It is just after six in the morning on the 13th of September, 1967. Mr Cohen is asleep. Frank is screaming and cursing again and threatening the staff. Mr Cohen gets up, gets dressed and comes downstairs to meet Frank in the restaurant.

Frank's not a happy bunny. The night before he'd waltzed into The Sands with a couple of astronauts to have some big fun and show off but when it came to playing Blackjack, Frank was rebuffed. His credit, he was told, had dried up.

Frank, who was used to no-one blinking an eye at regular markers of 100 grand or so, went ape. And he's still going ape right now.

'I'll get a guy to bury you,' he tells Mr Cohen and throws a cup of hot coffee into the VP's lap.

Mr Cohen is well in with the mob. He is also about six foot three. He stands and punches Frank out. Nose bleed. Capped front teeth all over the place. Frank's heavies make to

move in. Mr Cohen sighs. 'You make one move and they won't know which part of the desert to find you.'

Frank is helped out, whining and spluttering. He flies back to Palm Springs, licks his wounds and then signs a contract to appear at The Sands' biggest rival, Caesar's Palace. And back in Vegas, this weird, bearded, unwashed guy with really long toenails is laughing his head off.

## JUST THE TRICK

That guy is Howard Hughes, the crazy, reclusive multi-millionaire. He now owns The Sands and he hates Frank even more than the germs he's grown mortally terrified of.

He hates Frank so much he wants him gone because many moons ago, they were both addicted in love with a fierce actress called Ava Gardner. Frank won. Ava and Frank got married. It ended in tears.

Hughes laughed then but he's laughing more now. Reducing Frank's gambling tab to three grand was just the trick to weasel him out. And so one of the great love affairs

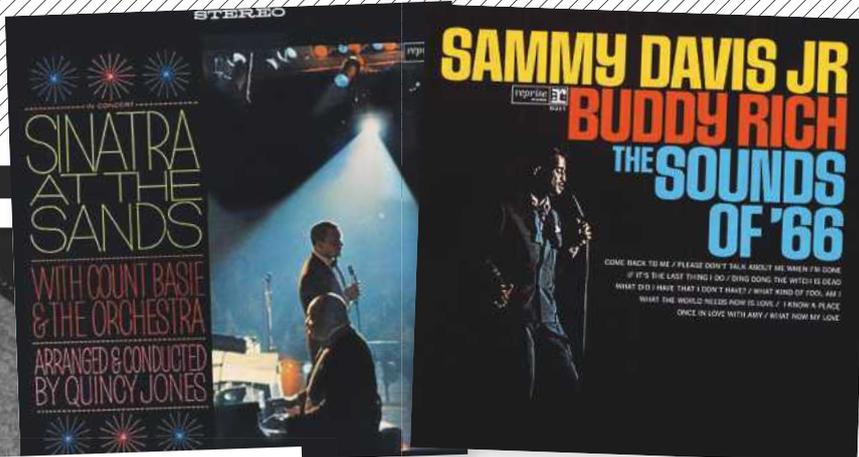
ROADSIDE PICTURES



## CLASSIC VENUES



WILLIAM P. GOTTlieb



of two nightly shows in The Copa Room. Billed as The Summit At The Sands, there was no formal structure to the shows.

The eight o'clock dinner one tended to be a little less 'blue' than the late one. Dean would normally start off proceedings, introduced as 'Ladies and gentlemen, straight from the bar...' Sammy would invariably be the willing butt of a bunch of racist slurs few would stomach today, and Frank would sing and mug along with the rest of them.

They'd interrupt each other, drop their pants, booze from the bar cart that was wheeled

on stage, wisecrack like the world was theirs, and genuinely enjoy having tons of fun effortlessly doing a job that no-one else in the history of the planet has ever been any better at.

### UNSEEMLY SHENANIGANS

The public loved it – there were 18,000 requests for tickets. The Copa held 250 max. The critics loved it. The other stars loved it – in the crowd on any given night you might find yourself on the next table to Kirk Douglas, Elizabeth Taylor, Yul Brynner, *et al.* And The Sands owners loved it because the punters came in their droves to gamble away their hard-earned cash and rub shoulders

with the stars who, once the shows were over, would take over and deal at the Blackjack tables. Dean was an ace dealer. Frank not so good. Frank would bet big though.

The night that probably sealed The Copa Room forever in the national psyche came when Senator Jack Kennedy (soon to be President JFK) attended the show then hung out afterwards as Frank's guest, getting up to all sorts of unseemly

shenanigans that people are still making a living writing books about today.

By the time the circus rolled out of town, The Sands was

the coolest venue on the planet, identified forever with the Rat Pack whose members frequently returned to do their own shows, usually under the aegis of The Copa's ace musical director, Antonio Morelli.

Sammy recorded two albums there in 1966, *Sammy Davis Jr That's All!* and *Sounds Of '66*. Dean, who'd started out his Vegas career in fealty at doomed gangster Bugsy Siegel's Flamingo, did his *Live At The Sands Hotel* LP there. And Frank did his first ever live album, *Sinatra At The Sands*, at The Copa Room in 1966.

It wasn't all about Frank. Other big stars like Nat King Cole and Lena Horne also played their part in packing the crowds in, but The

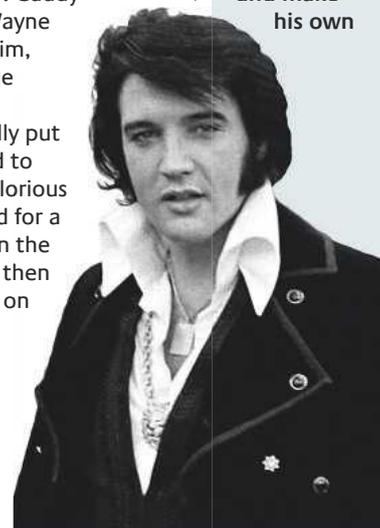
Sands, in common with all the other hotels and casinos on the strip, practiced segregation, which meant that while African American superstars could entertain the guests they could not stay in the rooms or play the roulette wheels. Eventually Frank had a word and very quietly The Sands dropped the code, affording Sammy and other African American entertainers the equality due to them.

One of Frank's big rivals also benefited from a visit to The Sands. In April 1956, Elvis Presley was in Vegas, performing at the New Frontier Hotel & Casino. Things were not going well and attendances were low. To buck himself up, Elvis decided to take in a show by Freddie Bell & The Bellboys who were burning it up at The Sands.

Their hammy version of the Big Mama Thornton hit 'Hound Dog' tickled Elvis, and he returned, night after night, until he had the song down pat. Soon it was such a big hit for Elvis, most people assumed it was actually *his*.

### IGNOMINIOUS END

When Frank stormed out, the game wasn't entirely over. Gaudy showboaters like Wayne Newton replaced him, crooning to the blue rinse set until the changin' times finally put an ignominious end to The Sands and its glorious Copa. It was abused for a plane crash scene in the movie *Con Air*, and then publicly 'imploded' on the 26th of November 1996 to be replaced by a big, bland resort called The Venetian. Gone but never, ever forgotten. ☺



← *Sinatra At The Sands*, recorded in 1966 with the Count Basie Orchestra and (top) Sammy Davis Jr's live album from the same year

← A live concert given by Nat King Cole at The Sands in January 1960 was released by Capitol after the singer's death

← Lena Horne, in 1961

↓ The Sands was where Elvis heard 'Hound Dog', which he would take and make his own



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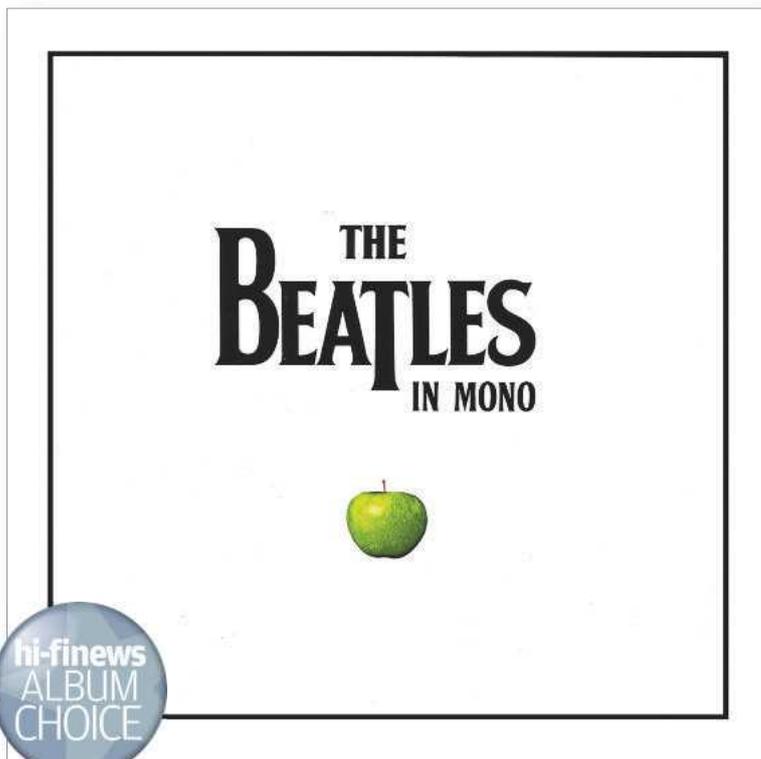
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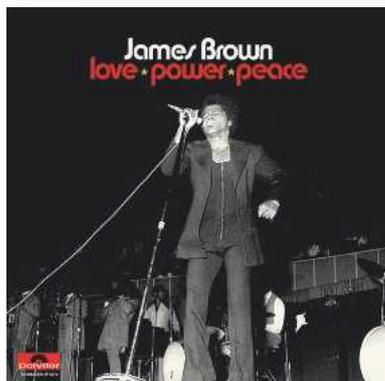
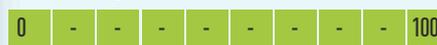
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Apple 099963 378716 (14 LPs)

**A no-brainer? Perhaps, because The Beatles are the greatest rock/pop band of all-time, period. However, following the stereo LPs box controversy, with mixes taken from digital transfers, this avoids a contretemps by being purely analogue. And it sounds it, too. I compared the LPs with mint originals, as did other reviewers, and agree with the consensus that this most important of formats – The Beatles themselves regarded mono as *the* medium – sounds different enough from the originals to keep pundits busy, but the results are utterly illuminating ... and wholly positive. The material is beyond criticism. The sound? So much better than you had ever hoped it might be. KK**

Sound Quality: 95%



**JAMES BROWN**

Love Power Peace

Sundazed LP5470 (three LPs, 180g vinyl)

Like the Beach Boys' *Smile*, there's a sub-genre of planned albums that were never released – perfect for archive retrieval. This 'First release of a 3LP set as envisioned by James Brown' betters the CD by seven tracks and is sequenced like a proper show, a live performance given in Paris, in March 1971. It gives us Brown at his peak – I saw him during that era and he was incredible. Mastered from Brown's 1971 mixdown reels, the music is truly staggering. One of his best-ever bands plays 'Sex Machine', 'Papa's Got A Brand New Bag', a killer 'Georgia On My Mind' and more, a mix of old and (then) new. A fabulous souvenir from the Godfather of Soul. KK

Sound Quality: 87%



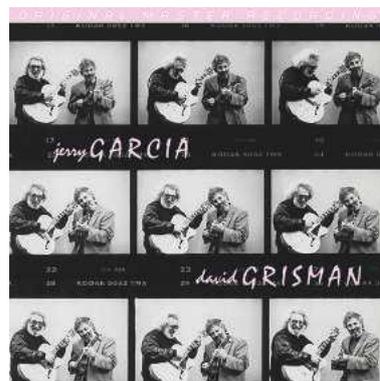
**WENDY CARLOS AND JOURNEY**

Tron Original Motion Picture Soundtrack

Audio Fidelity AFZLP2 177 (two LPs, 180g blue vinyl)

A perfect companion to Audio Fidelity's fabulous *Blade Runner* soundtrack, this is as pioneering as the film it accompanied. Back in 1982, CGI was a brave new world, and *Tron* was a genuine eye-opener. Wendy Carlos was tasked with combining orchestra and synth to develop a perfect soundscape for the movie; two songs by Journey humanise it. The copious liner notes by analogue evangelist Michael Fremer explain the full story of this soundtrack's creation in depth – and he should know because he worked on it. With Fremer involved, this just had to be an audiophile-approved vinyl masterpiece. One suspects that the limited edition pressing will sell out quickly. KK

Sound Quality: 89%



**JERRY GARCIA/DAVID GRISMAN**

Jerry Garcia/David Grisman

Mobile Fidelity MFSL 2-430 (two LPs, 180g vinyl)

Grateful Dead main-man Jerry Garcia's side trips included myriad ventures into American roots music, and this was one of the most rewarding: a Grammy-nominated album with bluegrass mandolin virtuoso David 'Dawg' Grisman. Dating from 1991, it sounds so 'now' that it serves as a reminder of how well the unplugged folk/roots revival has succeeded. The duo, backed by bass and fiddle, picks its way through four originals and two traditional numbers, plus – with typical Garcia wit – three unexpected covers: BB King's signature tune 'The Thrill Is Gone,' Irving Berlin's 'Russian Lullaby' and Hoagy Carmichael's 'Rockin' Chair'. The sound? Blissfully authentic. KK

Sound Quality: 89%



# AUDIOPHILE: DIGITAL



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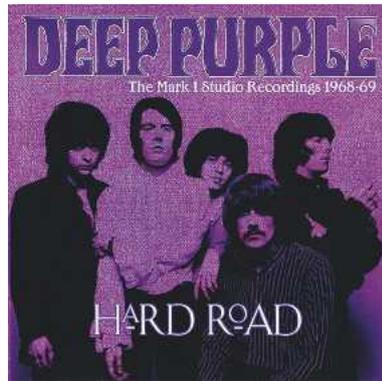
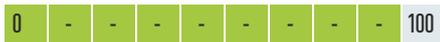


## BLOOMFIELD KOOPER STILL'S Super Session

Audio Fidelity AFZ5 186 (SACD 2ch/5.1ch mixes)

Possibly antagonising those who despise multichannel, I adore this latest version of the oft-reissued jam from '68. It excels in surround form – something I would never have expected. But, if this helps calm you down, Al Kooper himself oversaw the 5.1 surround mix, and it's mastered by Bob Ludwig. Unconvinced? Steve Hoffman took care of the stereo mix. Whatever way you play it, this is one of the earliest occasions where three disparate rock geniuses joined forces, a high-pressure session that yielded magnificence, from deep blues to a sublime Donovan cover. If you don't already know this treasure, read Kooper's notes before playing. Momentous? Absolutely. *KK*

Sound Quality: 90%



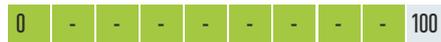
## DEEP PURPLE

The Mark 1 Studio Recordings 1968-69

Parlophone 2564633741 (five CDs)

Like all A-list bands with massive catalogues, Deep Purple has been treated to a number of confusing box sets. This ties up one part of the catalogue with authority: the first three albums, with the initial pair in mono and stereo, plus plenty of extras. The 'Mark 1' appellation is familiar to fans as handy identification for the original band, out of roughly eight lineups. This material pre-dates their ascent to giant status, that is, before 'Smoke On The Water', but it's no less remarkable hard rock. Unusually, they were happy to record cover versions, and their takes on 'Hush', 'Help', Kentucky Woman', 'River Deep, Mountain High' and others are ear-openers. *KK*

Sound Quality: 88%

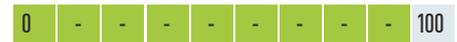


## DARYL HALL & JOHN OATES H2O

Mobile Fidelity UDSACD 2116 (stereo SACD)

Reviewed in *HFN* Sept '14 in LP form, this pre-dates CD but it certainly shows an affinity for digital playback. As mentioned in the previous review, the duo was massive by this time, their sound both radio- and club-friendly. It's punchy, airy, crisp and produced with the sort of studio expertise that comes with the freedom of financial clout. (Not, I hasten to add, a guarantee of great music, *viz* U2, Coldplay, Radiohead, *ad nauseam*.) From the opening bass/drums salvo of 'Maneater', the music builds, layer upon layer, but so slickly that it may upset those who prefer a rougher edge to their funk. For the rest, just glorious blue-eyed soul balladry with panache. *KK*

Sound Quality: 88%



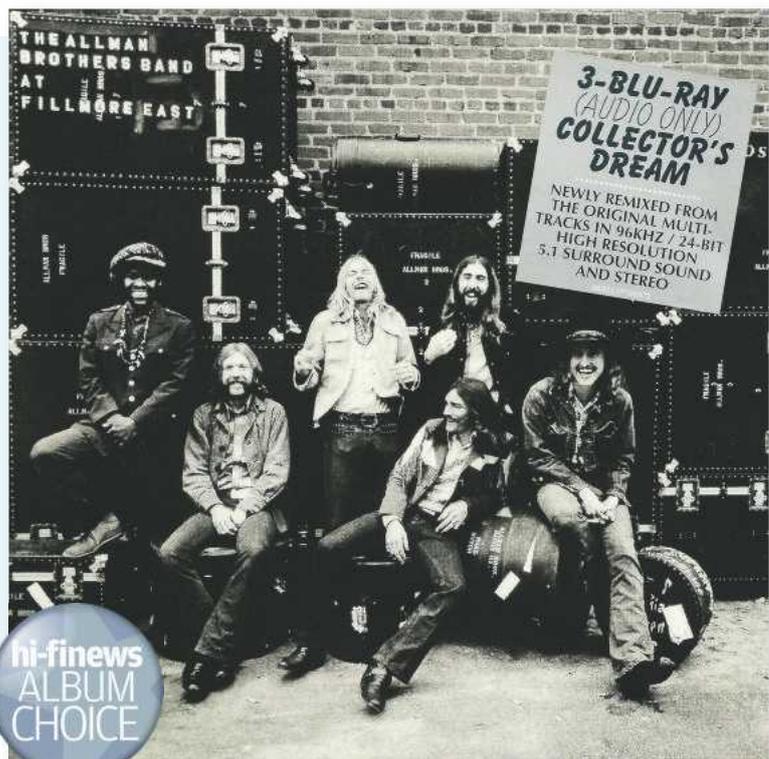
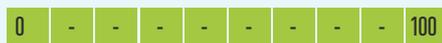
## THE ALLMAN BROTHERS

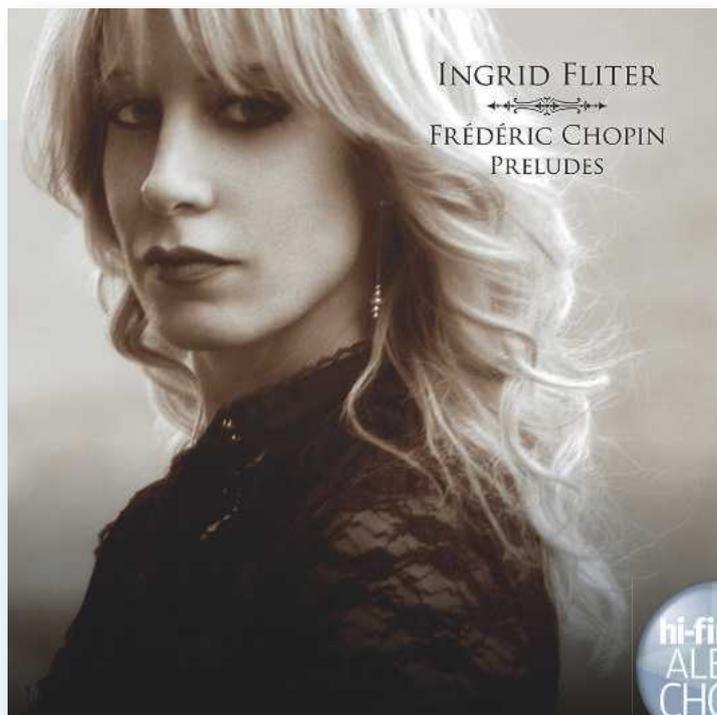
The 1971 Fillmore East Recordings

Mercury 00602537736973 (three Blu-ray Audio discs)

It was inevitable that *Live At Fillmore East* – one of the greatest live sets of all time – would get the high-res treatment. Unlike the 2003 CD with six bonus tracks, this gives you all four of the original gigs from March 1971 in their entirety, plus the end-of-tour show in June. With this to hand, it's apparent the best tracks made the original release, but this isn't filler: the Allmans were one of the finest blues-based rock bands of all time. On both musical and academic grounds, this 'ultimate' 96kHz/24-bit set with both stereo and 5.1 channel remixes (DTS and Dolby TrueHD) on Blu-ray audio, from the original tapes, is one of the most remarkable examples of rock archaeology ever. It's also offered as a 6CD set. *KK*

Sound Quality: 93%





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### CHOPIN

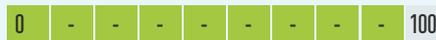
24 Préludes; 3 Ecosaises, etc; Ingrid Fliter (192kHz/24-bit; ALAC/FLAC)

[www.linnrecords.com](http://www.linnrecords.com); Linn Records CKD475

Chopin collectors will (should) have the Preludes with Friedrich Gulda [Audite/DG, 1950s] or his one-time pupil Martha Argerich [DG, 1975]. Add fellow-Argentinian Ingrid Fliter to the list! Unsurprisingly, her Chopin readings have become more interesting since her 2008/09 EMI debut CDs with the Waltzes, etc. Boldly individual she's particularly thoughtful in the quiet tracks, while in, say, the thunderous F-minor (No.18) you never feel that

her powerful sound will run out of reserves. The pacing of No 2 might put you in mind of Mussorgsky's 'Polish oxcart' from *Pictures At An Exhibition* while the evergreen 'Raindrop' (No 15) makes me long to hear Ingrid Flier in Ravel's *Gaspard de la Nuit*. Linn's sound is truly realistic (Potton Hall), close and rock-solid. This release also has five Mazurkas and two popular Nocturnes to make up a 76m programme. **CB**

Sound Quality: 90%



Stefano Bollani  
Joy In Spite Of Everything  
Jesper Bodilsen Morten Lund  
Mark Turner Bill Frisell

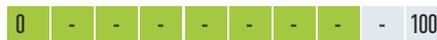
### STEFANO BOLLANI

Joy In Spite Of Everything (88.2kHz/24-bit; FLAC)

[www.hi-resaudio.com](http://www.hi-resaudio.com); ECM 2360 378 4459

Italian pianist Stefano Bollani has covered many musical styles since becoming a professional player at the tender age of 15, his jazz collaborations with trumpeter Enrico Rava gaining him international recognition. Recorded in NY's Avatar Studios last year, but only recently released, *Joy In Spite Of Everything* sees Bollani alongside drummer Morten Lund and bass player Jesper Bodilsen (both from Bollani's working trio) joined by Mark Turner and jazz guitar maestro Bill Frisell. From the laid-back calypso style of the opener 'Easy Healing', with a tremendous contribution from Turner's tenor sax, this modern jazz quintet sparkles with musical inventiveness and tremendous playing throughout the album. A bit more 'air' to the sound would have been welcome, nevertheless the tonality and textures of the band's instruments are colourfully depicted. **JB**

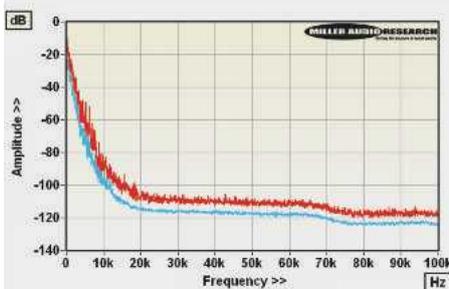
Sound Quality: 75%



### OUR PROMISE

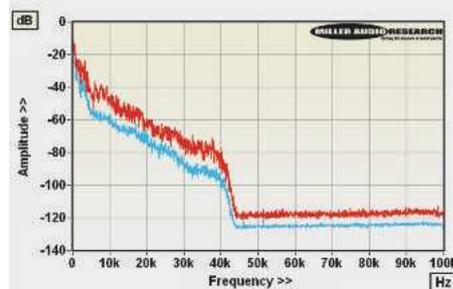
Following our Investigation feature [HFN, Jun '11] where we examined the claimed quality of high-resolution downloads, *Hi-Fi News & Record Review* is now measuring the true sample rate and bit-depth of the HD music downloads reviewed on these pages. These unique reviews will be a regular source of information 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



Sampling at 192kHz may seem excessive to record a piano with a harmonic bandwidth that rarely exceeds 20kHz, but the noise floor is exceptionally clean and the 'window' so wide it captures every ambient nuance. **PM**

### LAB REPORT



Recorded at an unusual 88.2kHz sample rate (though perfect for decimation to CD or upsampling to DSD), this download shows plenty of energy >20kHz including brassy harmonics and, possibly, noise/distortion from downstream limiters. **PM**



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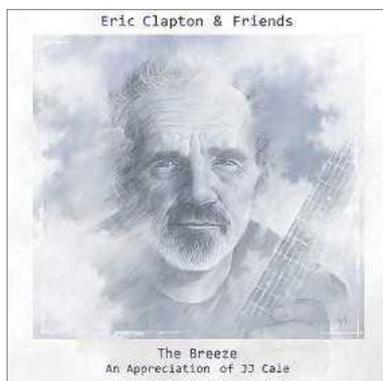
## JAN LUNDGREN TRIO

Flowers Of Sendai (96kHz/24-bit; FLAC)

[www.highresaudio.com](http://www.highresaudio.com); Bee Jazz BEE 067

Classically trained Swedish pianist Jan Lundgren has made some 40 albums under his own name since graduating from Malmö's Academy of Music in 1991. *Flowers Of Sendai* was recorded late last year in Italy, for the French BeeJazz label, since when Lundgren has further released a collection of standards from the great American songbook entitled *All By Myself* for Barcelona-based Fresh Sound Records. Here Lundgren is accompanied once again by bassist Mattias Svensson and highly accomplished Hungarian drummer Zoltán Csörsz Jr (who famously filled the seat of Jaime Salazar in Swedish prog-rock outfit The Flower Kings and has taken over from drummer Morten Lund in Lundgren's Trio). Audiophiles will be impressed by the recording quality that puts the trio in a natural acoustic with the instruments clearly delineated in 'open' space. *JB*

Sound Quality: 80%



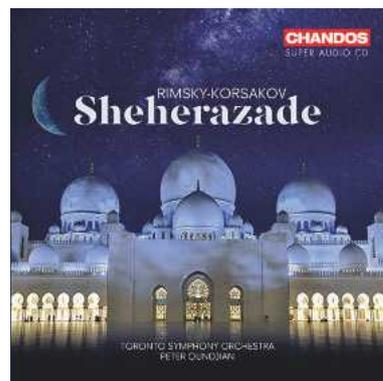
## ERIC CLAPTON & FRIENDS

The Breeze (96kHz/24-bit; FLAC)\*

[www.highresaudio.com](http://www.highresaudio.com); Polydor 378 630-8

Eric Clapton is joined by an all-star cast – including Tom Petty, Mark Knopfler, bass supremo Nathan East and many others – in this tribute album honouring singer-songwriter JJ Cale. It was Cale, of course, who penned two of EC's greatest solo hits: 'After Midnight' and 'Cocaine'; and this collection of songs is named after 'Call Me The Breeze' which was the opening track on Cale's 1972 debut album *Naturally* – it opens this set too. Sound quality varies from uninspiring ('Rock And Roll Records' and 'Train To Nowhere') to slightly better than average ('Someday' and 'Songbird'). Highlights are John Mayer's vocal performance in 'Magnolia' and Don White's charming rendition of 'Sensitive Kind'. It would be lovely to describe this as a fitting tribute to JJ Cale's body of work, but it's a missed opportunity that many will judge to have fallen short of the mark. *JB*

Sound Quality: 65%



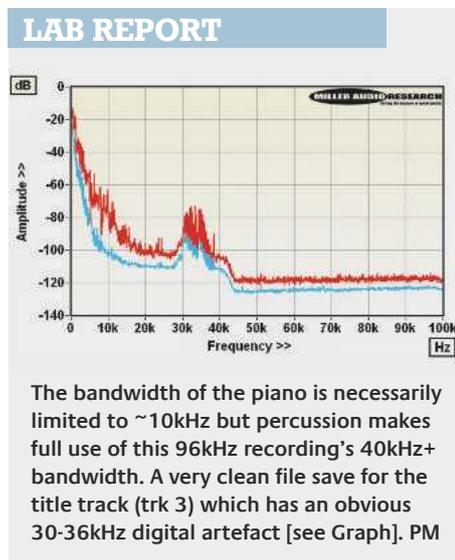
## RIMSKY-KORSAKOV

Sheherazade; Toronto Symphony Orchestra/Peter Oundjian (192kHz/24-bit; FLAC)

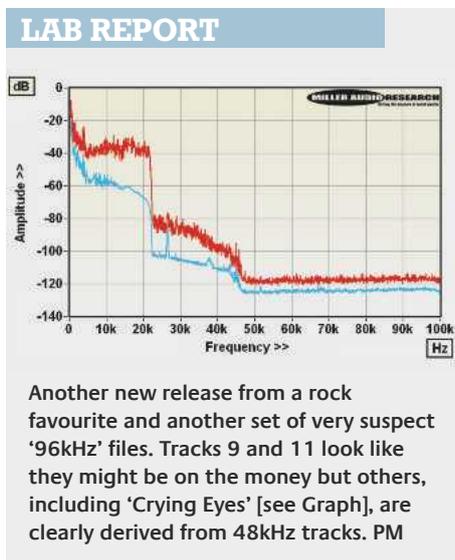
[www.theclassicalshop.net](http://www.theclassicalshop.net); Chandos CHSA5145

This appears to be the first Chandos orchestral recording from The Classical Shop at 192kHz/24-bit resolution – like the SACD, it has no extra work so is low-priced. It was produced live in mid-2013 by Soundmirror Inc at Toronto's Roy Thomson Hall: the first of three Chandos projects with the orchestra. The interpretative benchmark *Sheherazade* was set by Beecham in 1958, a simply mic'd early stereo recording by EMI; the 1960 Reiner RCA 'Living Stereo' remains its chief rival. This is not in the same class as either. The leader's solos are not at all seductive, least of all in (iv), although there's fine work from principal cellist and wind colleagues. But the real problems lie with Oundjian, who has, as it were, the handbrake on for much of the time and we rarely feel the flow and tension of the piece. It's never exciting. *CB*

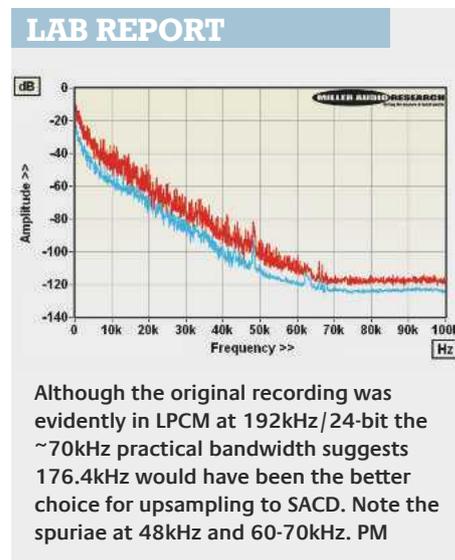
Sound Quality: 70%



The bandwidth of the piano is necessarily limited to ~10kHz but percussion makes full use of this 96kHz recording's 40kHz+ bandwidth. A very clean file save for the title track (trk 3) which has an obvious 30-36kHz digital artefact [see Graph]. PM



Another new release from a rock favourite and another set of very suspect '96kHz' files. Tracks 9 and 11 look like they might be on the money but others, including 'Crying Eyes' [see Graph], are clearly derived from 48kHz tracks. PM



Although the original recording was evidently in LPCM at 192kHz/24-bit the ~70kHz practical bandwidth suggests 176.4kHz would have been the better choice for upsampling to SACD. Note the spurious at 48kHz and 60-70kHz. PM



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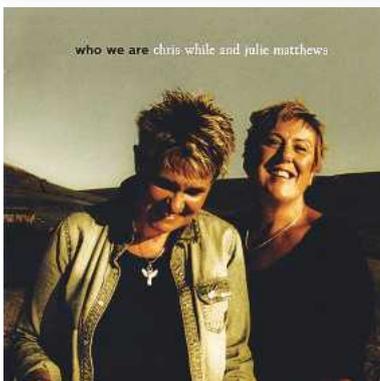
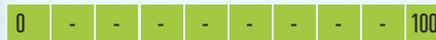
### IN-FLIGHT SAFETY

Conversationalist

Conehead Records CONE49

Canadians, of course, punch a long way above their weight when it comes to making great rock music. Think Neil Young, Joni Mitchell, Leonard Cohen and, in more recent times, Arcade Fire. Nova Scotia-based duo In-Flight Safety have the songs and musicianly skills to join that elevated pantheon. The core twosome, guitarist John Mullane and drummer Glen Nicholson, fill out their sound in the studio and on stage with carefully chosen buddies and, if that's an unusual *modus operandi*, it works. On this, their third album, several songs, notably 'Animals' and 'Tie A String', come complete with chiming guitar ambience, solid beats and soaring vocal melodies that tend towards the anthemic. They deserve greatness. *JBk*

Sound Quality: 93%



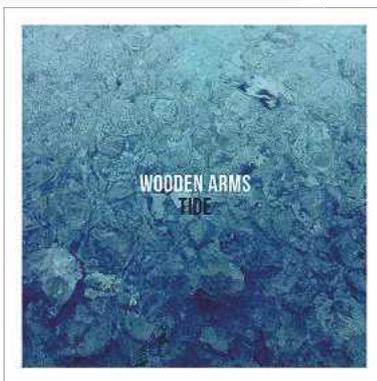
### CHRIS WHILE AND JULIE MATTHEWS

Who We Are

Fat Cat Records FATCD029

If you've never heard of this country-folk singer-songwriter duo, it's not for want of trying on their part: they've worked together on and off for 20 years. For several years, they were mainstays of the venerable Albion Band, but as a duo they exhibit a less traditional folk style. After all those years, they should be burnt out, but opener 'If This Were Your Last Day' and the banjo-driven 'I Don't Know' are fresh as daisies and on a par with the work of more high-profile American combos like Lady Antebellum or The Band Perry. They're lyrically astute, rhythmically powerful and melodically delightful; let's hope their next two decades bring them even greater rewards. *JBk*

Sound Quality: 92%



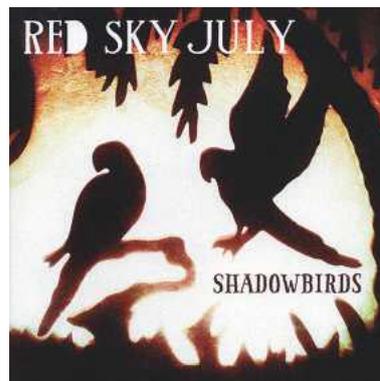
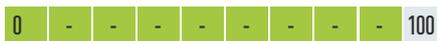
### WOODEN ARMS

Tide

Butterfly Collectors BFLY-010

A signature combination of chamber music elements with heavily reverbed guitar and well-chosen samples means that Wooden Arms, a Norwich-based sextet, merit consideration by anyone who's had about all they can take of indie guitar rock. The band make subtle and delicate use of cello, violin and brass to bring their thoughtful songs into sharper focus. Think in terms of an under-stated Mumford And Sons or Noah And The Whale, and you're not too far away. They really don't do rockin' out, but their unusual instrumentation and lyrical intelligence render the entire album splendidly coherent, and quite unlike anything else you'll hear this year. *JBk*

Sound Quality: 89%



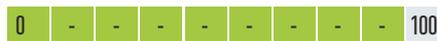
### RED SKY JULY

Shadowbirds

Absolute Records SHADOWCD1

Any group which unites former Texas guitarist Ally McErlaine with Shelly Poole of Alisha's Attic deserves careful attention. The couple are now married, so working together makes sense and, having roped in Charity Hair, formerly of The Ailerons, as their third element, they're making a vibrantly optimistic sound that is not at all what their heritage might suggest. This is unashamed country-rock, with Poole and Hair's close harmony vocals delivering bittersweet melodies, while McErlaine decorates the backgrounds with tasty licks. Folksy songwriter Jack Savoretti shares vocal chores on 'Any Day Now', fitting in so well he could qualify as a fourth member. *JBk*

Sound Quality: 90%





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TRIOLOGY \* CHICK COREA TRIO



### CHICK COREA TRIO

Trilogy

Concord Jazz CIA-35685-02 (three discs)

As the 17 tracks in this 3CD set were recorded on tour in the USA and six other countries, you hear the sound change from venue to venue, but all have been beautifully captured by engineer Bernie Kirsch. Guesting on two of the three tracks from Madrid, 'My Foolish Heart' and, appropriately, Corea's 'Spain,' are flautist Jorge Pardo and guitarist Nino Josele. To end the third CD there's a vocal from Mrs Corea, Gayle Moran, recorded before an appreciative audience in Japan; but otherwise, it's the trio all the way. Corea's zest and vigour is undimmed, while bassist Christian McBride and drummer Brian Blade match his every move with brilliance. *SH*

Sound Quality: 85%



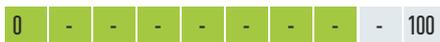
### EYESHUTTIGHT

Resonance

Hungry Bear Records HBR001

Composer and bassist Paul Baxter launched his Leeds-based piano-trio-with-a-difference in 2010 as Eyes Shut Tight, recording *Evolution* that year and following up with *The Thaw*. It was possibly no accident that the group shared initials with a major influence, the late Esbjorn Svensson's trio, but reducing the name to one word ended any confusion with a German indie band. Baxter, with his woody bass sound, is the driving force, while pianist Johnny Tomlinson offers warm harmonies that hang in the air against drummer Kristoffer Wright's varied and subtle beats. These are at their gentlest on 'Theism', written for a new-born child, expressing calm delight. *SH*

Sound Quality: 80%



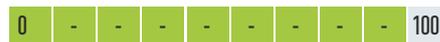
### JOHN SURMAN/BERGEN BIG BAND

Another Sky

Grappa GRCD4459

Plenty of Surman's baritone sax here, and soprano too, but much more besides. He's collaborated with the Bergen band on several past projects, and here he is composer, arranger and director in a suite that originated with a commission for a 2011 concert in Parma. Setting the mood, and revealing the excellent recorded sound, the title piece is evocatively airy with spacey guitar from Ole Thomsen. There's room enough later for the band's horn soloists, and as an ensemble they bring a translucent beauty of sound to Surman's arrangements. The Monk ballad 'Ruby My Dear' has a Surman baritone solo that's majestic and mellow. *SH*

Sound Quality: 85%



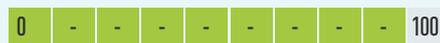
### ELIO VILAFRANCA AND THE JASS SYNCOPATORS

Caribbean Tinge: Live From Dizzy's Club Coca-Cola

Motema 233864

This great pianist has already made half a dozen albums since arriving in NY in 1995, including last year's *Dos y Mas*, a duo recorded with his fellow Cuban, percussionist Arturo Stable. But the music here, recorded live in 2011/12, has more in common with his quintet effort *The Source In Between*, whose title tune is heard in extended form as the closing number. And the new album's own title track is like a supercharged Horace Silver blend of hard bop and island influences. Though there are two different lineups, both are superb, with trumpeters Sean Jones and Terell Stafford and saxophonists Vincent Herring and Greg Tardy, along with some great Cuban percussion. *SH*

Sound Quality: 90%



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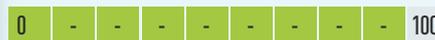
**HAYDN**

Symphonies 92 'Oxford', 93, 97-99  
LSO/Sir Colin Davis

*LSO Live LSO-0702 (SACD hybrid; downloads up to 96kHz/24-bit resolution)*

Sir Colin Davis made a very fine Amsterdam/Philips set of late Haydn symphonies for LP, and these LSO performances complement them perfectly. He really makes you appreciate anew the composer's wit, formal dexterity and skills in orchestration, in beautifully timed and paced readings cleanly recorded at The Barbican in 2010/11. The 'Oxford' is particularly outstanding. In the finale of No.98 Haydn suddenly throws the keyboard continuo into the spotlight, duetting with the leader – the harpsichord balance is good, but (contrary to claims in another review) I don't hear the continuo elsewhere in this symphony. Hyperion has high-res files for this two-disc set. *CB*

Sound Quality: 90%



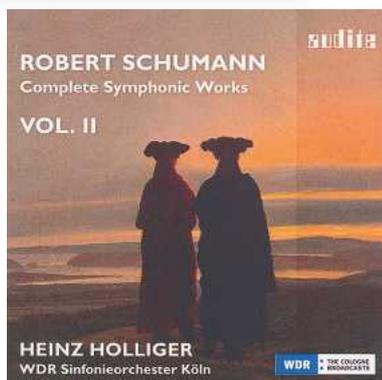
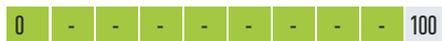
**CHOPIN/TCHAIKOVSKY**

First Piano Concertos  
Ingolf Wunder, St Petersburg PO/Vladimir Ashkenazy

*DG 479 0670 (downloads up to 96kHz/24-bit resolution)*

In these 2012 live performances with the young Austrian pianist, Ingolf Wunder's partner is Ashkenazy, who himself had made a concerto recording debut in the Tchaikovsky [Decca, 1963]. This one starts unpromisingly but all is fine as soon as the opening cadenza begins, and I particularly like the sense of gaiety and mischief Wunder brings to the middle section of (ii). Here and there pianist and orchestra are slightly out of sync but this hardly matters. The Chopin is boldly projected by the St Petersburg Orchestra while the solo part offers far more poetry than heard in the acclaimed Fliter/SCO Linn recording. *CB*

Sound Quality: 85%



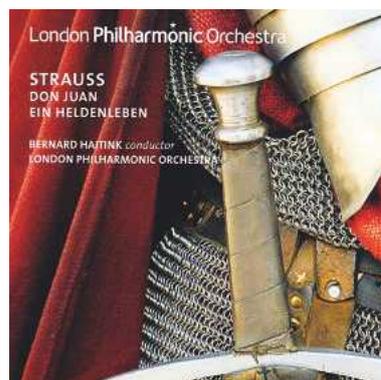
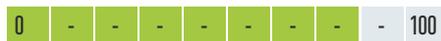
**SCHUMANN**

Symphonies 2 and 3 'Rhenish'  
WDR Orchestra Köln/Heinz Holliger

*Audite 97.678 (downloads up to 48kHz/24-bit resolution)*

As an instrumentalist (oboe) Holliger's Schumann discography dates back to 1981. In the role of conductor here, he's scaled the orchestra back to a size which the composer would have known, in order to refute the old *canard* about opaque scoring in the four symphonies (this Audite cycle will include both versions of No.4). The 'Rhenish' is marginally the stronger performance, as there's more tenderness in No.2 than Holliger acknowledges. His positive manner is to secure incisive, clean playing from all departments and to drive the music forwards (not at unreasonable speeds) with no fussy 'interventionism'. *CB*

Sound Quality: 80%



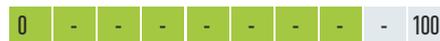
**R STRAUSS**

Don Juan; Ein Heldenleben  
London Philharmonic Orchestra/Bernard Haitink

*LPO LPO-0079*

Bernard Haitink's Concertgebouw versions of these two Strauss works [Philips] date back to 1975/70, and he's re-recorded neither of them. These paired live performances – Festival Hall 1992, Albert Hall 1986 – are dedicated to the LPO's then principal horn, Nicholas Busch, who died in July '13. *Ein Heldenleben* receives a typical Haitink reading: measured and balanced so that no orchestral detail is lost. David Nolan's solos are well executed and the overall effect is profoundly satisfying. *Don Juan* is projected with perhaps unexpected elan, and both works were servicably engineered by the BBC. *CB*

Sound Quality: 80%



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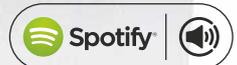
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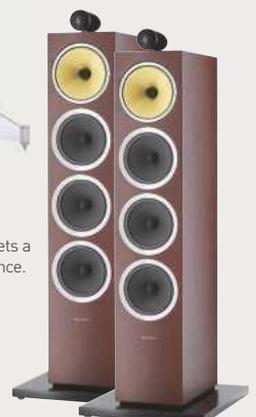
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**Paul Miller**  
Editor

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 download jungle

This month's Investigation [p26] celebrates the crossing of international boundaries as HDtracks opens its high-res doors to UK audiophiles. **Paul Miller** is on cloud nine, but there's rain in the air

It's a jungle out there. The hi-res download superstores are turning into global hypermarkets as Germany's highresaudio.com wins the rights to sell into the US just as HDtracks.com spreads its wings over the pond to the UK. Anglo-audiophiles have been waiting impatiently for legitimate access to HDtracks' vast repository of music, and while there have always been nefarious 'work arounds' the plain fact is many of the major labels still jealously guard the distribution of their content into different territories.

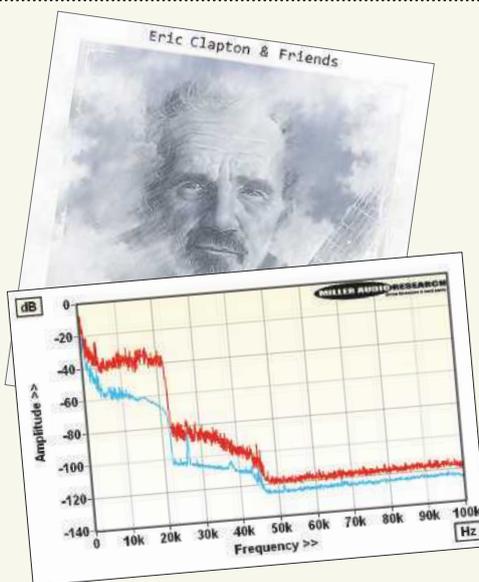
Personally, I'm delighted to see access to high-res downloads proliferate, for while they lack the tactile satisfaction of LPs and even CDs, the sheer immediacy of their availability – from online store to your demo room hard disc in seconds – makes them very attractive indeed.

Ten or more years ago, the prospect of obtaining a copy of a studio master was pure fantasy. And yet not all in this virtual garden is so rosy. As we reveal every month in our HD music reviews [p98] the definition of what passes for '96kHz/24-bit' etc, is still open to debate.

## QUALITY CONTROL

In his interview with *HFN* this month [p26] David Chesky confirmed that, 'Because we [HDtracks.com] hand process and test each and every file, the delivery and upload of a hi-res file to our store is not automatic.'

Highresaudio.com goes further with a mission statement on its website, 'The high-resolution music that you purchase from us is guaranteed native (true original) 24-bit "HighResAudio Studio Master" material. We do not accept nor offer upsampled or converted material. Our quality control checks and evaluates each album



**ABOVE: A new Eric Clapton release sold as 96kHz but clearly contains 48kHz content**

with professional studio software.' But Chesky (HDtracks) was shrewd enough to qualify, 'We're still dependent on the artist, producers and engineers to record and master at 96kHz/24-bit or even better at 192kHz/24-bit. The labels are all on board but it's not always easy to control what happens in the studio.'

Perhaps this is why every month we still test files from a variety of major e-tailers labelled as '96kHz/24-bit' that clearly contain content derived from a 48kHz source. (Own-label stores that have control over all facets from recording to delivery are typically a different matter.)

Sometimes it's a blatant upsample – 48kHz media bagged in a 96kHz envelope. With others, and multi-tracked rock recordings in particular, we find elements of different sample rates mixed into a 96kHz master. We also

see SACD bitstreams asymmetrically downsampled to 96kHz. Our view at *HFN* is that 96kHz content should be *natively* 96kHz, in other words recorded at 96kHz, mixed and mastered at 96kHz with no DAC-ADC chain or re-sampling midway through the process. At a push I'd accept a native 192kHz recording symmetrically downsampled to 96kHz!

## OLD NEWS

This is not a new phenomenon. I wrote an investigative piece for sister title *Hi-Fi Choice* back in 2001 having discovered that some early DVD-A releases contained badly upsampled content. I wouldn't be at all surprised if there are 96kHz music DVD/BDs based on the same media. It just seems like it's a recent problem because we're now making a concerted effort to test 'high-res' downloads. Up until the last few years we've simply taken on trust the output from major record companies. But perhaps we shouldn't. ☹



**ABOVE: Although this recording is available on SACD the download is a true, native 96kHz**

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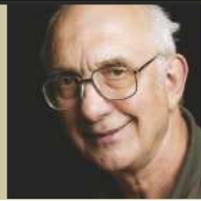
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## Barry Fox Technology journalist

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

# Slave to the algorithm

As hi-res downloads catch on, new technology claims to upscale compressed music files to near high-resolution quality by adding data. Where does the data come from? **Barry Fox** finds out...

The idea of using Blu-ray for Pure Audio high quality audio has fizzled out, but the hi-res download business is booming. The IFA show in Berlin saw Japanese majors moving back into hi-fi hardware. Panasonic re-launched the Technics brand, which it ditched a dozen years ago. It remains to be seen whether the old name means anything to a new generation brought up on listening to MP3 music through giveaway earbuds and krutty dock speakers, and judging fidelity by how loud mini speakers will play without rattling.

### THREE CHEERS

Sony has never really given up on hi-fi, and three cheers for that. At IFA Sony was promoting new hi-res Walkman portables and running audio tech seminars. So I went along.

Together with several other people who have been writing about hi-fi for decades, I sat silently and politely while two gentlemen from Sony's HQ in Japan inflicted a 37-page Death-by-Powerpoint presentation on us, carefully explaining how PCM and DSD recording work.

We were then told how Sony's new high resolution headphones have been designed for 'up to 100kHz reproduction'.

'Has Sony found much recorded music with 100kHz content?' I queried. 'Oh no, it's just for measuring,' was the reply.

More intriguing and possibly of more real significance was the talk of DSEE HX, a souped-up Digital Sound Enhancement Engine. This is 'a unique Sony technology which up-scales existing sound sources to near high-resolution sound quality, not only from CDs but also from MP3 and/or AAC etc (and) it refines and



**ABOVE: Sony's DSEE HX technology is explained at a seminar held at the 2014 IFA show in Berlin**

restores the audio signal to recreate the subtle high-frequency harmonics that are typically lost in compressed files'.

CDs are not compressed, so why does DSEE HX need to restore CD sound lost by compression?

Says Sony's Audio Division in Tokyo: 'Standard CDs are recorded at 44.1kHz/16-bit in PCM format. DSEE HX augments the high-range sounds, which are lost

under these conditions. This creates a richer, more natural sound.'

The Powerpoint graphs showed what DSEE HX is supposed to do. It magically creates frequencies above 18kHz that

are missing from the original. We got no demonstration of how this sounds. But the brief explanation of 'the technology behind DSEE HX' is intriguing.

Allegedly, DSEE HX restores lost sound by 'the comprehensive analysis of various sound sources'. The Powerpoint slides show pictures of a drum kit, guitar and female singer, and this was confirmed at the briefing to mean that DSEE HX listens to a CD or MP3 of a band or orchestra or opera, pinpoints what it thinks is the sound of a drum kit, guitar or singer and then

improves it by blending in the sound of some pre-recorded samples of drums, guitar and voice.

This, we were told, borrows from a technique used in Sony's 4K Ultra HD TV sets and projectors, where the image on screen is enhanced by a database of reference images, stored inside the TV. When detail in a movie scene is missing, the database fleshes it out. Because the pictures are appearing at 50 or 60Hz, or 24Hz for film, the system can work fast enough to fool the eye.

But the human ear is more sensitive than the eye, and music does not come in chunks at 50 or 60Hz. It flows and is digitally sampled at tens of kiloHertz.

Can DSEE HX really be working on the fly, fast enough to cope with transients like drum rim shots, while all the time trying to tell the difference between Buddy Rich, Ringo Starr, Eric Clapton, Segovia, Kylie Minogue and Maria Callas? If so it would be truly extraordinary.

### UNIQUE ALGORITHM

Since returning from Berlin I have been pushing Sony in Japan for some hard facts. The only comment I've got adds nothing meaningful: 'The sound sources are analysed, a unique Sony algorithm (based on the study of various instruments and sound sources), simulates and upscales the lost ranges to near High-Resolution quality.'

In the meantime a search through Sony's recent patent filings shows no system that works in the fantastical way claimed for DSEE HX. But there are new patents for systems that work in more conventional manner, by splitting the music into 16 sub-bands, analysing their content and extrapolating, *ie*, guessing and creating what frequencies above 15kHz are missing.

I look forward to hearing the opinions of *HFN's* trusty reviewers when they get to hear the new Walkmen with DSEE HX later this year. ☺

'DSEE HX improves sound by blending in pre-recorded drums, guitar and voice'

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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

# Paying the piper

Music is now mostly free to listen to, provided you are connected to an internet music service. But it's easy to forget that our favourite artists have to make a living. **Barry Willis** has some ideas...

**A** question: 'What do you call a musician without a girlfriend?' The answer: 'Homeless.' Jokes like this abound. Their cynicism reflects an enduring reality: how little value is placed on the creative personalities upon which our culture depends. Two reminders of this reality hit me recently with more-or-less equal intensity. One was a conversation with saxophonist Stephen Dreyfuss, remarking about the raw deal given him and other musicians by internet music services.

'People can listen to all my stuff online – basically, everything I've ever recorded – and for each mouse click I get something like a hundredth of a cent. Musicians aren't organised to negotiate anything better.'

### SONIC LUBRICANT

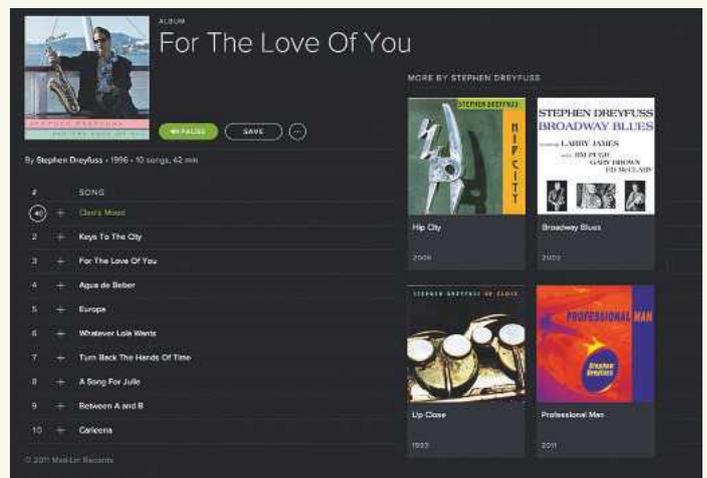
A versatile and talented artist, Dreyfuss (see [www.stephendreyfuss.com](http://www.stephendreyfuss.com)) has dozens of recordings under his belt but still finds it necessary to perform constantly. He's a long way from the homelessness of the brunt of our joke, but also a long way from the upper one percent of popular musicians, those whose recordings sell by the millions and who can fill stadiums at three-figure ticket prices.

Most music, he points out, is used by online enterprises as a lure to sell other things, primarily

advertising. It's a sonic lubricant facilitating the extraction of funds from consumers to for-profit enterprises.

My conversation with Dreyfuss happened to coincide with a flurry of news about the unresolved (as of this writing) dispute between Amazon.com and publishing conglomerate Hachette Book Group over the pricing of e-books; the bottom-line issue being

**RIGHT: As with most artists, you can find the music of Stephen Dreyfuss on both iTunes and on Spotify. Alternatively, you can buy the very same material direct from the artist**



how much writers receive for their work. The struggle reached fever pitch this past summer, when a group of 900 top-tier authors signed a widely publicised petition denouncing Amazon's attempt to 'harm their profession'.

What's baffling about this business is that according to [forbes.com](http://forbes.com), Amazon founder and CEO Jeff Bezos now has a net personal worth in excess of \$30billion. Given that Amazon started as an online

bookstore in a middle-class garage, one might assume that its founder feels some degree of gratitude toward the profession that helped launch him into the financial stratosphere. If the

authors who signed the petition are to be believed, that assumption would be wrong.

Exploitation of artists – online or elsewhere – is one of the world's oldest stories, of course. When jazz singer Peggy Lee passed away in January 2002, she had just won a preliminary settlement against Vivendi Universal for accounting irregularities reaching back to her first recording contracts with Decca Records

in the 1940s. The settlement was to be used to seed a fund of \$4.75 million to compensate as many as 300 artists who may also have suffered from the shoddy practices experienced by Ms Lee.

### NO CHOICE

Dismayingly, there have been many lawsuits by short-changed artists launched against record labels – some successful, some not. Peggy Lee had the resources and public standing that enabled her to make a challenge and emerge victorious. The overwhelming majority of artists have no choice but to accept whatever they are given and feign appreciation for it.

There are simple ways for music fans to fight this. Attend local performances by your favourite musicians. Buy their recordings directly from them at concert venues – proceeds from direct sales are about 95% profit for them, versus the pittance they receive from record labels, or the trickle they get from download and streaming services.

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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

# Sight and sound

Have you ever removed your spectacles when listening to music and noticed a difference in the way you've perceived the soundstage? **Jim Lesurf** did just that and now wonders what's going on

I've had poor eyesight for as long as I can remember, though at primary school I actually had no idea how bad it was. If you did well in lessons you were 'promoted' by being moved to sit at desks nearer the back of the classroom. If you did badly, you were moved towards the front.

I'd assumed this was because the teachers thought that being clever meant you didn't need to see the blackboard as clearly as other pupils. It was only when an optician came to the school to check our eyesight that it was discovered that I was very short-sighted.

## EYE TUNES

I nearly always remove my glasses when listening to music, despite the fact that I also close my eyes and dim the lights. Until recently I'd taken for granted the common explanation for this, which is that it enables a listener to concentrate more easily on the sound as they're not distracted by what they might see.

However, I've now started wondering whether there is more to this. I recently removed my glasses while listening to an LP – a performance of a Beethoven Triple Concerto by the Berlin Philharmonic



ABOVE: The Beethoven Triple Concerto used features Oistrakh, Richter and Rostropovich

Orchestra [EMI ASD 2582] – and I noticed that the stereo image altered, even though I'd been careful not to move my head.

The change was quite subtle. Sounds that apparently came from instruments that were about half-way to the left or right of centre seemed to have shifted slightly towards the centre. In effect, what I had previously perceived to be a slight hole in the middle of the soundstage had vanished. As I replaced and removed my glasses I could repeat this shift.

When playing other material the effect was less noticeable. But now I'd noticed the phenomenon, I could hear it happening frequently. And it helped to explain why the stereo image seemed more convincing and 'natural' with my glasses removed.

I'm not sure why this occurs, although two ideas came to me initially. One is that the pressure of the arms of the spectacles is physically affecting my ears. Either it is altering the shape of my ear lobes, or squashing the inner ear. The other is that the glasses interfere with what headphone designers call my head transfer function.

This determines how much of the audio from one speaker makes its way around the head to the opposite ear.

For example, how much signal reaches your left ear from the right speaker. As this happens the sound is diffracted and, of course, spectacles present an added obstacle as the sound follows its path.

Another intriguing possibility is one raised by Paul Miller in these pages [see *HFN* May '12]. This is that by removing my spectacles I am altering the effect of ultrasonic sound components via my eyes.

Whatever the cause, the effect made a useful difference, though I would have thought the fact that I wear my glasses throughout the day would have meant my hearing would have acclimatised by now



ABOVE: Listening to music with and without glasses is one experiment you can try at home

to any effect they were having. However, the reality is that getting a stereo image from two speakers is a trick that sees

the brain 'fooled' into hearing sound from directions that are essentially being 'faked' by the stereo arrangements.

So maybe human hearing reacts differently

to sounds from a hi-fi system than it does to real soundfields. I've yet to reach a conclusion, but it has me wondering: have you experienced similar effects?

'One idea is that wearing glasses interferes with my head transfer function'

## STUDIO POP

The effect may be different when listening to pan-potted studio pop, or Proms broadcasts engineered to convey hall ambience. My problem with doing research into this phenomenon is that I keep finding that I'm listening to the music and forgetting to experiment with removing my glasses. Still, it's a good excuse to listen to yet more music... ☺

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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

# Cut out and keep

It seems that Radio 3's attempt to appeal to a wide audience is losing the station older listeners. **Steve Harris** has a cunning idea on how technology might be used to retain its more mature fans

By the time you read this, the BBC Trust's 12-week Public Consultation for its Review of BBC Music Radio will have drawn to a close. If you're a keen Radio 3 listener you might have done your bit by filling in the questionnaire. Or, particularly if you were one of those who signed the petition 'Radio 3 – the big turn-off' [[www.activism.com](http://www.activism.com)] a couple of years ago, you might have thought it wasn't worth bothering.

The Review will consider how well the BBC serves its audiences with 'music radio', how well all the stations currently perform against the terms of their service licences, and how well they'll do so in the future. Ultimately, it will ask whether the terms of the service licences should be changed.

### 'DUMBING DOWN'

In the case of Radio 3, the existing remit is 'To offer a mix of music and cultural programming in order to engage and entertain its audience. Around its core proposition of classical music, its speech-based programming should inform and educate the audience about music and culture... The service should appeal to listeners of any age seeking to expand their cultural horizons through engagement with the world of music and the arts.'

However, that [www.activism.com](http://www.activism.com) petition protested against 'The "dumbing down" of Radio 3 to an entertainment station merely punctuated by music,' and concluded: 'In short, we just want *music*, not chatter, celebrities or entertainment. And more of it – uninterrupted!'

Personally, I couldn't agree more. As Radio 3's audience figures fall further

**RIGHT: The BBC's Playlister site can be found at [www.bbc.co.uk/music/playlister](http://www.bbc.co.uk/music/playlister). Meanwhile, a report setting out the findings and recommendations of the BBC Trust's review will be published in the spring of 2015**



behind those of Classic FM, it seems that the BBC is losing old listeners without gaining new ones. But it's probably wrong to blame the programme makers, who are just doing their best to meet the catch-all terms of Radio 3's service licence, and to change with the times.

Part of this evolution, I think, is Playlister, added to the BBC music website in October 2013. This allows you to build your own playlist from music tracks or

music clips heard anywhere on BBC radio or TV and export it to Deezer, iTunes, Spotify or YouTube. It's a nice idea, although not so effective with classical as it is with rock and pop.

When I tried Playlisting four pieces from Rob Cowan's Sunday morning programme, Spotify and Deezer managed to find Bizet's *Carmen* suite, though not the same extract or artists, but drew a blank on the other selections. Not surprisingly, iTunes did better, offering to sell me three out of the four items, though again not the same recordings, for £2.97.

Whatever changes are proposed by the BBC Trust, it's unlikely they will take much

account of us crusty old stick-in-the-muds who just wish that Radio 3 could return to the pre-Birt era.

Technology could offer a solution, though, for beleaguered R3 listeners who currently feel impelled to switch off every time they hear an annoying trailer or irritating banter between presenters.

### VOICE RECOGNITION

It would be a simple matter to create a device that would automatically cut out unwanted material. Voice recognition could be used to detect and differentiate presenters' voices and, once these had been sampled and stored, the system could be set up to silence all or any of them automatically as they appeared, according to taste.

A few seconds of buffer memory would ensure an unwanted presenter need never intrude. In the absence of announcements, full details of the music being played could be viewed on-screen at the end of each selection, using the information on the BBC website.

In a more advanced system, an application could be devised to have this information provided audibly by a suitably-chosen synthetic voice.

Perhaps emulating one of the great presenters of yore... ☺

'Voice recognition could offer a solution for beleaguered Radio 3 listeners'

## 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.

## NAD WITH ML SPEAKERS CAN LITTLE AMP DRIVE BIG US ELECTROSTATICS?

Being an electronics engineer, I trust only one thing when it comes to assessing audio equipment: the oscilloscope. Foggy, subjective terms such as 'warmth' and 'openness' tell us nothing.

*Hi-Fi News* appears to be the only magazine to publish measurements on the internet, which has prompted my question. If the NAD D 3020 amp reviewed and tested in the August 2014 issue is 1ohm stable – as it appears to be looking at the dynamic 1ohm power you have measured – does this mean that I can use the NAD to drive my MartinLogan ElectroMotion ESL loudspeakers?

The MLs are rated at 91dB/W/m and have a 6ohm impedance, dropping to 1.6ohm at 20kHz. Except for power vs frequency vs load impedance, there's no other



**ABOVE:** MartinLogan's ElectroMotion ESL speaker has a 34in-tall XStat panel



**ABOVE:** The D 3020 from NAD is a Class D integrated amp costing £400

hidden magic describing if an amp can drive a speaker.

I plan to listen at moderate levels from about 3.5m.

*Djordje Nijemcevic, via email*

Paul Miller replies: Looking back over my lab data I see the NAD D 3020 offers 60W/65W into 8/4ohm with sufficient dynamic headroom to accommodate 76W, 140W and 215W into 8, 4 and 2ohm loads and 130W into 1ohm (or 11.4A for 10msec at <1% THD). On the face of it this is more than sufficient to drive a loudspeaker of nominal 6ohm impedance and 91dB sensitivity to 'moderate levels' although I note that independent measurements of ML dipoles often find them slightly less sensitive than specified. A dip in HF impedance is typical too, but it's the attendant swing in phase angle that can prove the real crunch for any partnering amplifier.

This combination of a low modulus with a high impedance phase angle is best reflected in the EPDR (equivalent peak dissipation resistance) published in our loudspeaker reviews. It gives a far more realistic indication of just how tough a load the loudspeaker presents. Sadly, we've not tested the ElectroMotion ESL but I think it better to err on the side of caution and not push your D 3020 too hard. On a more positive note, it's not unusual for the impedance of these panels to increase at low frequencies so at least your amp won't have its reserves of current sucked dry by deep bass notes.

## Listening to hi-fi in unusual places

HOW OVERLY LONG WIRES BROUGHT SOUND UNDERGROUND

Recently I decided to begin insulating my house against heat loss in order to save money. This meant spending quite some time in the crawlspace beneath the flooring. In order that I could listen to music while I worked down there I first thought of buying a construction work radio, one of those rugged battery-powered affairs that are designed to be used on building sites. But then a much better idea occurred to me: why not partly use my existing equipment?

First I bought some new Q Acoustics 2020i speakers. I put them in the crawlspace, resigned to the fact that they would, well... take a beating. Then I connected them with 2 x 12.5m lengths of standard speaker cable to my NAD M51 DAC and twin Cyrus X power amps used as monoblocks, all safely setup in the living room, and normally connected to a pair of KEF R103/4 speakers.

Pushing music files to the M51 from 'down under' by remotely controlling JRiver software on my laptop using my mobile phone, I was actually surprised by the quality of the sound I was hearing. For sure, the crawlspace was hardly an acoustically optimal environment and the lengths of cable I was using were far from ideal, but I was



**ABOVE:** Cyrus X power amp – used in monoblock mode

certainly enjoying my music. More importantly, it was simply a lot more fun to use beloved equipment, rather than one of those construction work radios. I wonder if there are other readers out there who have ever setup their systems to play music in unusual places?

I enjoy *Hi-Fi News* very much. It provides us readers with wonderful reviews of vintage hi-fi, hi-res downloads, and budget 'esoterica'. Thank you for such a wealth and quality of information, and be assured that I will be binding my issues for future enjoyment and reference.

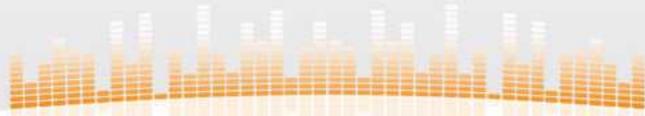
*Herm Hofmeyer, The Netherlands*

Paul Miller replies: I admire your ambition to enjoy top-quality sound in the crawlspace between rooms, Herm, but I hope you were soon able to return into the daylight and hear the 'real thing' from your main system. I'd echo your request though, and ask other *HFN* readers to write and tell us whether they've had to improvise a hi-fi in a broomcloset, shed or septic tank...

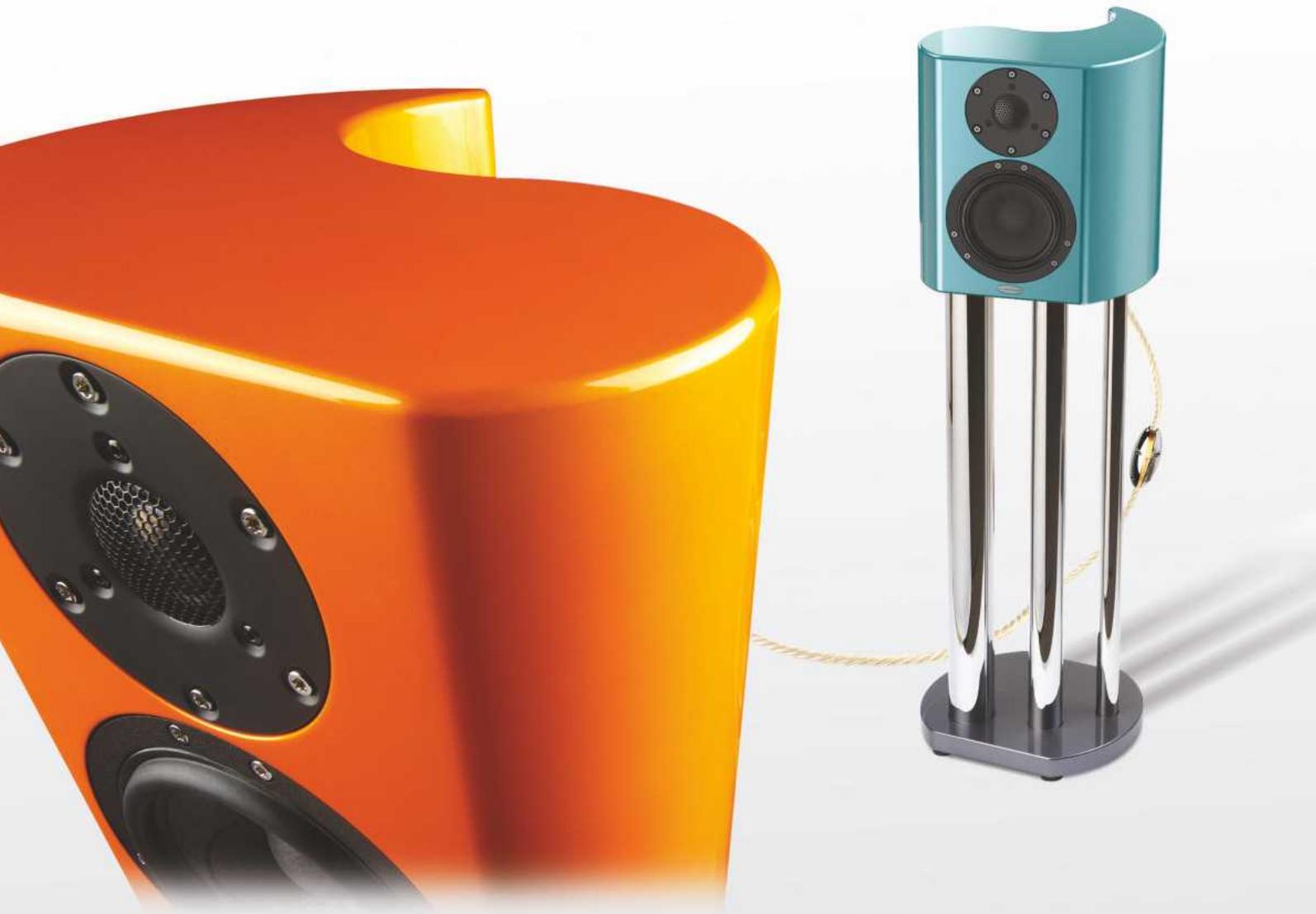


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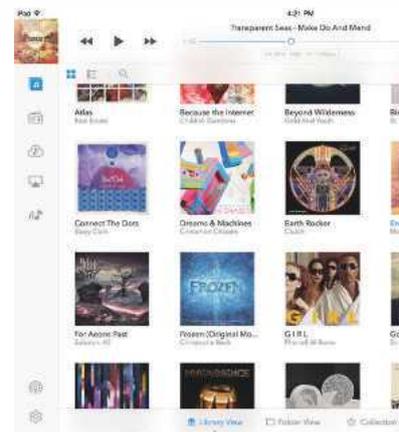
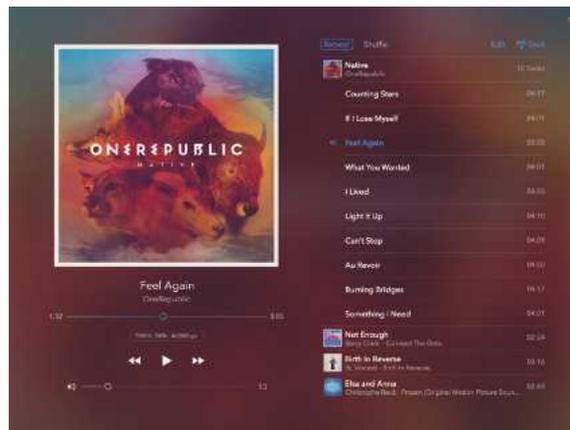
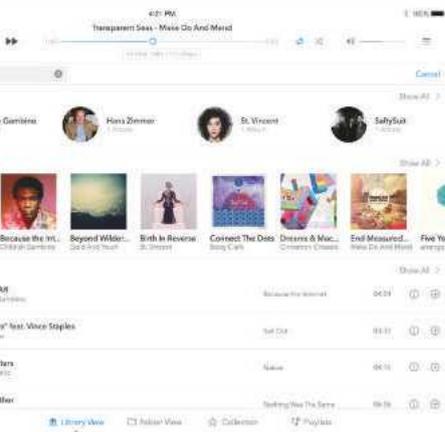
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# Danes, Dylan and HDtracks

WE TAKE TIME TO RESPOND TO SOME OF YOUR REVIEW AND MUSIC-RELATED QUESTIONS...

I'm sitting with the October 2014 issue and wondering why the Danish artist Tina Dickow is referred to as Tina Dico in the review of her latest album, *Whispers*. As far as I can see, she has not changed her name on her official website at <http://tinadickow.dk/>.

Hans Henrik Pedersen, Denmark

Johnny Black replies: Tina's Danish website is, as you say, in the name of Dickow, but presumably because her UK record company felt that we Brits were incapable of comprehending this incredibly complicated Danish spelling, they have reduced it to Dico. I guess it's just a marketing convenience. Her English language website is <http://tinadico.com> by the way.

Actually, I can see that perhaps Tina Dico is neater, or at least better balanced, in terms of graphic reproduction on posters, album covers etc, so that may be the reason for the change but, really, only her record company and, presumably, Ms Dickow herself, would know for sure. I hope this helps clarify the matter for you.

Ken Kessler continues to show himself to be the worst record reviewer ever. So, Dylan has 'been having a hard time lately' [see *HFN* Sep '14]. He seems to have been on rather a roll over the past 15 years or so, releasing a series of solid efforts. And your cheap shot at the Christmas record was beneath you. Dylan is singing songs that surrounded him in his younger days, with appropriate care and effort. And the period arrangements are spectacular! Sorry,

ORIGINAL MASTER RECORDING



ABOVE: Dylan's *Desire* on Mobile Fidelity earned a KK 'rave review' in *HFN* Sep '14



ABOVE: Tina Dico's Danish website where the singer's surname is spelt 'Dickow'

'Joey' is still awful after all these years, you old crank!

Alan Bushell, Victoria

Ken Kessler replies: I don't know which rock critics you read, but Dylan has *not* been having a five-star decade-plus – it's been up-and-down. Moreover, I've raved about the album in question, so your venom puzzles me. The Christmas album a 'cheap shot'? I don't know anyone who bought it who doesn't feel ripped-off by it. Ah, well, to each his own.

'The album is dead' writes Barry Willis in the September 2014 issue, 'and it's not simply due to the fact that we are now able to purchase and download individual tracks, but because many releases offer music that's mostly "filler".'

Alright, but what about individual HDtracks (24-bit/192kHz, DSD, etc)? As far as I can see on the company's UK website, it is almost impossible to purchase and download individual tracks. It is usually 'album only'.

Or have I not looked hard enough?  
Christian Roiseux, Belgium

Barry Willis replies: Thanks for bringing this up. It would seem that the album is still very much the business model of the recording industry, despite widespread theorising that it is a disappearing format.

The point I was making was that a great many albums have been released with little to recommend them other than one or two good tracks, and that too many musical artists never equal their best single effort. As for finding individual songs, both iTunes and HDtracks offer them as well as entire albums.

# 8

## 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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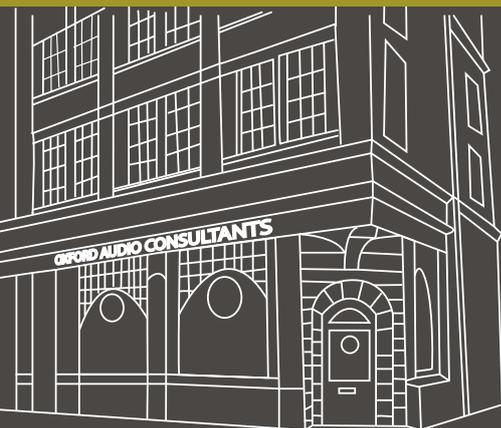
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## Help with music streamers

IS THERE A DIFFERENCE IN SOUND QUALITY BETWEEN DIFFERENT STREAMING DEVICES?

I read the Group Test of network media players [see *HFN* Sept '14] with great interest, but it raised one question which your reviewer John Bamford (whom I always read with great pleasure) didn't go into. This is the relative importance of the streaming electronics and the DAC.

It might have been interesting, for example, to test the Cyrus Stream X with another DAC, to see whether the reason for its lacklustre performance could be isolated. Have your reviewers noticed great differences in the sound quality between pure streaming devices?

The background to my question is this: I use a Naim HDX-SSD in my main system, but do not have any streaming capability in my second system. While it would be logical to buy another Naim streamer, these always come with an integrated DAC, and I have a perfectly serviceable DAC in my (shamefully under-used) Mark Levinson 390S CD processor.

After reading your review, I asked myself the question whether a Pioneer N-50 feeding the digital inputs of the 390S would provide a sound as good as that which I get from my HDX. Any views?

*Peter Brock, via email*

John Bamford replies: Together with last month's letter from David Lovell, in which he asked why the same DAC wasn't used throughout the Group Test, your correspondence highlights the complexity of this issue, Peter.

Indeed, the performance of a network music player is necessarily determined by the streaming client that renders the file working in harmony with its on-board DAC, and – of course – the player's analogue output stage. 'Streamers' that have no DAC on board are sometimes

referred to as 'Ethernet-to-S/PDIF converters' for want of a better term, and are extremely thin on the ground. Their purpose in life, of course, is to add network player functionality to an existing DAC that may be a prized possession in an enthusiast's system, but they are terribly poor value when you think about it, since such functionality comes virtually free of charge in any network-connected AV receiver today.

Our editor *might* be persuaded to arrange a Group Test of Ethernet-to-S/PDIF converters in the future as it would certainly be an interesting experiment to listen to a selection all via the same D-to-A converter, but as things stand it would be a very small group!

Having listened to countless DACs over the years I've concluded that the overall design is more critical than the type/brand/technology of the DAC chipset(s) employed, a D-to-A converter's analogue output stage having as much influence on subjective sonic character as any other part of the replay chain.

Your idea of feeding the S/PDIF output of a Pioneer N50 into your Levinson 390S is perfectly logical. Indeed the N50 is such good value that a couple of my hi-fi hobbyist friends use them in their systems – and with perfectly respectable results.

One friend uses it as a network player as he owns a NAS drive and an iPad, while another uses it as a USB DAC fed from his PC running JRiver Media Center file management and playback software.

Whether it will provide a sound as good as you get from your Naim HDX-SSD, however, is a question that nobody can answer for you.

Even if the unlikely event that the Pioneer and Naim rendered a music file nominally identically, only you can determine how much you like the sound of your Mark Levinson 390S's DAC and output stage.



ABOVE: Winner of an EISA Award last year, Pioneer's N-50 offers superb value at £500

## 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.

For the most sophisticated power-transfer cables, for the best sound and video, please visit [audioquest.com](http://audioquest.com) for more details.

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## Floorstander suggestions?

BUDGET OF £2K FOR SPEAKERS TO FILL BARN CONVERSION WITH SOUND

Having moved into our barn conversion some five years ago, I have finally found enough funds to replace my ageing Arcam A60 amplifier and Alpha 7 CD player with the well-reviewed Marantz Pearl Lite integrated and CD player. My speakers are AVI Biggatron standmounts on Atacama stands. I bought them secondhand many years ago and they still sound good to me.

However, the listening area measures some 6m<sup>2</sup> and has a ceiling 5.5m high. I suppose the total room volume is some 135m<sup>3</sup> and it has wooden boards on a solid floor.

I haven't noticed that the system struggles to fill the space with sound but note comments in reviews that floorstanders are better at filling space and wonder which models you might suggest I audition. I have a maximum budget of £2000.

*Christopher Lycett, via email*



ABOVE: Sonus faber's Toy Tower speakers

Ken Kessler replies: Christopher, you might take a look at the Sonus faber Toy Tower, which is within your budget, or PMC's twenty.23 (a bit over your limit).

Equally, there are plenty of sublime standmount two-way loudspeakers

that would work, too, so I wouldn't automatically assume that floorstanders do a better job of 'filling the space'.

## Praise for *Sound Bites*

READER RELISHES BOOK PUBLISHED IN 2005 CELEBRATING 50 YEARS OF HI-FI NEWS

I have just read *Sound Bites* cover to cover. Great job, I would love to see another volume, as this was a truly singular experience of the inside world of journalists and manufacturers. I'm giving it five stars on Amazon and I thank you for an amazing experience.

You guys really are fair and balanced, and to publish my letter back in September last year in which I took issue with Ken Kessler for criticising the '80s music scene only increased my respect for *Hi-Fi News*.

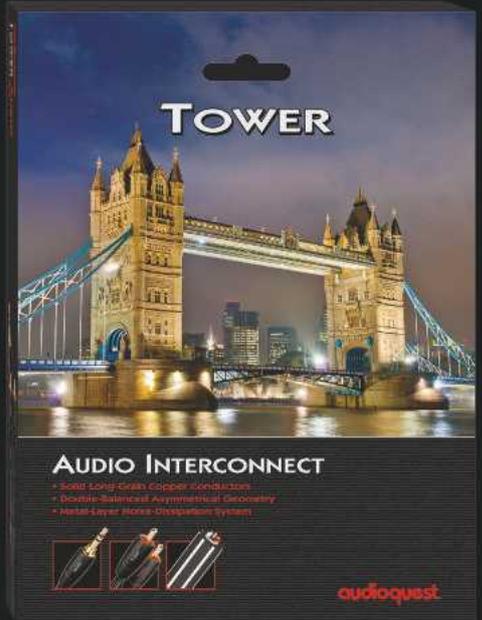
*Sound Bites* has taken that respect and my entire experience of the hobby to a wonderful new level, particularly in its coverage of the earliest years, of which I knew little before. This book didn't change my life but it has solidified my passion

for this marvellous hobby to the point that I hope to become involved in the industry on some level. If I succeed, your book *will* have changed my life!

*Max Welsh, Hants*

Ken Kessler replies: Thanks for the kind words about *Sound Bites*. The idea was to provide the first, reasonably comprehensive history of the high-end, as well as of *Hi-Fi News*.

Regarding your earlier defence of the 1980s, I see Spandau Ballet are back. I promise I won't write a single, derogatory word about what is possibly the worst band of the last 50 years, responsible for lyrics so inane and poorly assembled they may have contributed to the global drop in literacy, and whose crimes against fashion make Vivian Westwood look like Yves St Laurent. Enjoy!



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# Alphason HR-100S tonearm

Unveiled in 1983, at first glance this S-shaped arm appeared to be a throwback to the 1950s, yet it was a design that broke new ground. How does it perform today?  
 Review: **Adam Smith** Lab: **Paul Miller**

**B**ack in the 1960s, high mass tonearms were the norm. As cartridge and stylus technology improved, so the pendulum began to swing the other way until low mass designs became king. Styli became more compliant and manufacturers vied to offer cartridges that tracked as close to zero grams as possible.

By the early 1980s a sense of equilibrium was beginning to be restored, and cartridge compliance values settled back closer to the middle ground. Unfortunately, this rendered more than a few lightweight, skinny tonearms from the 1970s somewhat out of date, and so newer designs began to appear. There were many excellent creations during this period but one particular arm didn't so much move the goalposts as dismantle them, pack them up and reassemble them in a completely different playing field. It was called the Alphason HR-100S.

## A STEP FURTHER

The HR-100S was the brainchild of Mike Knowles, a Chartered Production Engineer, graduate in Mechanical Engineering and audiophile who actually made the first arms in his garage with the help of a 35ton press. This may be unusual in itself, but the arm and its constituent parts were also quite unlike most that had been used before and they paved the way for many designs that were to follow.

The main armtube, for example, was made from aircraft-grade titanium, shaped into a flowing and elegant 'S'. While true that both SME and Technics has used this material to great effect in their Series III and EPA-500 models respectively, Alphason took things a step further.

In the case of the HR-100S, the entire armtube was a one-piece construction with the end flattened to form the headshell, albeit with the addition of a strengthening plate bonded underneath.

The arm was incredibly rigid and an early Alphason publicity stunt at hi-fi shows involved handing over a raw armtube to punters with the challenge that if they could bend it with their bare hands then



**ABOVE:** The titanium armtube of the HR-100S was made using a press, then the end was flattened to form the headshell. This made the arm as light as its competitors, yet more rigid

they would be rewarded not just with a free arm but a free turntable too. A similar stunt was used by SME a few years later on the launch of its Series V. In both cases, no free arms ever needed to be given out!

The tube was then press-fitted into an elegant gimbal assembly that made use of ceramic bearings. These were chosen as Knowles felt they offered the best combination of low friction and robustness, and minimised the likelihood of free play even if the arm was subject to stress. The faces of these bearings were also diamond-polished to ensure that their surfaces were as smooth as possible.

At the rear of the arm, a rotating end-stub supported one of three supplied counterweights, ensuring that it could

cope with a wide range of cartridges. A headshell ballast weight kit was also offered for compatibility with cartridges exhibiting a particularly low compliance.

The counterweight assembly was a neat affair as the rotating stub was unscrewed to a marked point before the chosen weight was adjusted by hand and locked in place to balance the arm horizontally. From this point, each complete rotation of the end-stub forwards applied 0.25g of tracking force.

## INTERNAL WIRING

Bias was applied using a conventional thread-and-weight arrangement, but the thread passed over a small roller to help minimise friction while the weight itself was located in a tube to protect it from outside influences and limit the amount it could swing if disturbed.

Internal wiring was high quality copper, although the later MCS variant offered the option of van den Hul mono-crystal silver cable, which commanded a £50 premium on the standard arm's 1985 retail price



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**ABOVE:** While often casually described as an 'S-shaped' arm, the graceful and unusually shallow curve of the HR-100S's tube sets it apart from the S-shaped tonearms that preceded it

Ghosts' from the album *Snowbird* [Bella Union bellav434] hung mystically between my loudspeakers and in the midst of the backing instrumentation, sending a shiver down the spine thanks to its ethereal nature.

Fortunately, the HR-100S never fails to engage when things move more up-tempo. It has a perfectly rounded and taut low end with fine levels of detail and it can grip a rhythm with the tenacity of a terrier. The track 'Bangarang' from The Lee Thompson Ska Orchestra's *The Benevolence Of Sister Mary Ignatius* [Absolute AXELP1] was an absolute riot from start to finish, with the Alphason bounding along enthusiastically and the brass section rasping beautifully.

Another aspect of the HR-100S's performance that captivates is the way in which it deals with less than perfect recordings. The arm's innate sense of control and insight means that it copes with such music in a surprisingly effective manner. I would go as far as to say that its rendition of my copy of Fleetwood Mac's *Tusk* [Warner Bros K66088]

was possibly the best I have heard. The recording is decent enough, but rather dull and lacklustre. With the HR-100S in control, however, it seemed to lift out of its inner gloom and very nearly gain a sense of sparkle – no mean feat.

### BUYING SECONDHAND

The Alphason's exceptional build quality ensures that there isn't a great deal to go wrong with it. That said, the ceramic bearings can disintegrate if the arm is mishandled to a great extent. Perform the usual push, pull and twist tests on the armtube and there should be no play at all. Some movement may mean a simple bearing adjustment but can also be a sign that the ceramic is crumbling. If this is the case, fear not as there more than a handful of tonearm repair gurus who can fix the problem.

One other thing to bear in mind is that the silver wiring on the MCS version is none too robust. Cartridge tags are prone to falling off and the wire breaking, and it doesn't take too many re-soldering missions before there is too short a length to solder to. Again, however, the arm can be re-wired, so all is not lost. ☺

### HI-FI NEWS VERDICT

A real British success story, the Alphason HR-100S was a groundbreaking design that never quite achieved the stellar reputation it deserved. Sonically, it is reminiscent of the mighty SME V but a little softer-sounding. Good examples are becoming rarer and increasingly sought-after but are worth seeking out as it is an immensely rewarding performer and still more than a match for most modern arms.

Sound Quality: 88%

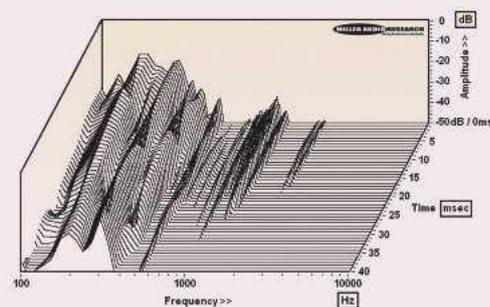


## LAB REPORT

### ALPHASON HR-100S-MCS

Despite the age of this arm (about 28 years young) its polished ceramic bearings proved positively youthful with friction as low as 15mg in the vertical plane and, with the bias counterweight disabled, less than 10mg lateral. Neither was there any discernable play. The counterweight is calibrated insofar as, once nulled, each rotation effects a 0.25g change and this proved accurate to within -5%. The standard counterweight is sufficient to accommodate cartridges in the 5-12g range although Alphason did offer alternatives to suit lighter and heavier designs. The latter, which typically have low compliance, are arguably less suited to the HR-100S which offers a low/medium 11g effective mass.

As with other S-shaped tonearms, Alphason's one-piece titanium tube offers a distributed resonance [see cumulative decay spectrum, below]. This trades the clear bending mode of most straight-tubed designs for more complex bending/twisting modes at, in this instance, 185Hz and 290Hz. These are impressively high in frequency and reflect the inherent stiffness of the tube while the internal foam damping reduces their Q. The higher frequency modes around the midband are linked to the gimbal, cueing lever and associated platform. Readers may view a full QC Suite report for the Alphason HR-100S-MCS tonearm by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Cumulative resonant decay spectrum, illustrating various bearing, pillar and arm vibration modes spanning 100Hz-10kHz over 40msec

### HI-FI NEWS SPECIFICATIONS

Bearing / bias type	Gimbal / thread and weight
Effective mass / length	11g / 229mm
Offset angle / overhang	24 degrees / 18mm
Friction (vertical/lateral)	15mg / <10mg
Downforce accuracy (at 2g)	-5%
Cartridge weight/compliance range	5-12g / 10-35cu

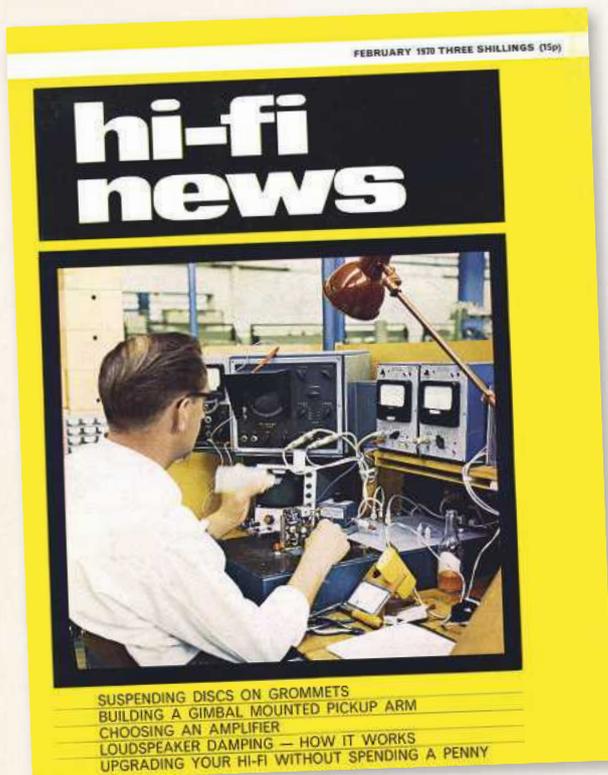
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**ABOVE:** Original Alphason price list from March 1985 for arms and accessories

# Choosing an amplifier

Some brief advice for prospective purchasers by **R Hindle**



**ABOVE:** Atop the wood-cheeked B&O Beolab 5000 amp are pictured (clockwise l-r) a Goodmans Maxamp 30, Leak Stereo 30 and Sony TA-1120 – all available in 1970

## Hi-Fi News February 1970

Each month *HFN* will bring you an article from our vast archive of features and reviews from yesteryear

In spring a man's fancy turns to, well, frankly, if he is a hi-fi man, to what new equipment he should acquire. The cold misery of winter weather has given him many opportunities for listening but probably no inclination to work. Nevertheless, during his listening the thought has been born that the time has come to renew the stylus (do not procrastinate!) or even to invest in a new cartridge or arm. Maybe the turntable has developed a squeak or the speakers a grunt; maybe it is the amplifier that has fallen into disfavour; maybe the whole system has to go or a first system be acquired.

### MAKING THE CHOICE

There is no doubt that a balanced complete system is desirable, and although the present purpose is to talk amplifiers, the consideration should not be completely isolated from the rest. You have to start somewhere and this is as good a place as any, and although there is nothing perfect in this world the

enthusiast is likely to approach closer to perfection with his amplifier (if carefully chosen) than in any other part of his system. His choice now, if it incorporates current techniques, is unlikely to be seriously outmoded in the near future and he is likely to be using the amplifier for a long time to come if just a little care is taken making the choice.

We knew where we were, up to the end of the valve era, and those who are looking for real economy could do worse than look at current offers of valve amplifiers rather than search for a cheap transistor model.

No one minded pumping many watts of mains power into a valve amp to get appreciably fewer watts of signal power output. Valves had also gone through the gamut, including Class A, quiescent push-pull, Class B and the degrees of 'A-ness' and 'B-ness', which gave rise to hybrid terms like Class AB1.

But the basic lesson seemed to be that it was far better never to have

had distortion at all than to have had it and then to have 'eliminated' it with clever circuitry. The fly in the ointment was clearly identified: it was the inevitable matching transformer in the output circuit.

One sighed for some semblance of basic affinity between the output

*'Any listener who requires watts in double figures is a dangerous crank'*

valves' optimum load impedance and the likely voice-coil impedance of a loudspeaker.

The transistor answered that prayer! It was

perhaps a pity that transistors were first recognised as useful devices for battery amps, for they seem never to have entirely lived down the aim for power economy.

### IMPROVED SPECIMENS

Of course, they were temperamental devices in their early days, very susceptible to ailments when subjected to heat, and power dissipation means heat.

Logic was, therefore, on the side of the designer who started off with a distorting Class B amp circuit of moderate power consumption and

who, by clever circuit development, reduced that distortion to extraordinarily low levels.

Not all designers were equally successful (very likely costs had a hand in it), the handiwork of some giving distortion levels higher than were commonly experienced in valve circuits.

Others succeeded in presenting measurably low distortion – and ‘transistor’ sound. The amplifier did not sound quite right. Some of the latest transistor models, however, are much improved specimens which stand comparison with any of their valve predecessors.

The measured distortion is not necessarily an absolute criterion of distortion as detected by ear. Some distortions sound more ‘distorted’ than others when judged by a listening test, the test that really matters in the end. It just happens that the distortion produced by poorly designed Class B operation is of a subjectively worse type than that produced by Class A; a factor that the RMS type of meter usually employed is unable to indicate.

This is emphasised, for instance, by Quad. Its literature makes the point that conventionally measured distortion in a Class B amp must be a fraction of the distortion produced by a Class A amp for an equivalent result, and this fraction is, if you like, a weighting factor.

It is not enough to know the amount of distortion at high signal level, since one rarely listens at such level. Unfortunately there is a tendency for distortion in



conventional Class B circuits to increase at low power levels. While it is high power that one tends to pay for when choosing an amplifier, it is low power that one listens to most of the time, and only the occasional peaks call for the full power handling capacity of the amplifier.

Consequently, it is the distortion at lower power output that one is conscious of during the greater part of the listening time, and it is one of the facts of life that Class A output stages are inherently less distorted at lower levels, whereas for comparable results in Class B amps greater design effort is called for.

### OLD-FASHIONED CAUTION

Of course, the Class B stranglehold has been broken and Class A solid-state high fidelity amplifiers are now available, since modern devices can withstand high temperatures. But the user of a Class A amplifier must bear in mind the need for ventilation. It cannot do any harm to choose the technique that starts off with lower distortion, and it may not surprise the reader to learn that the author, faced with this problem of choosing a new amplifier,

**ABOVE: A well regarded transistor amp from the early '70s was the Braun CSV 500 stereo integrated, rated at 35W per channel. Its cosmetics came courtesy of the influential German industrial designer Dieter Rams**

**BELOW: The Grundig SV 85 was rated at a hefty 80W per channel. Another tempting transistor amp from Germany, it boasted ‘flat track sliders’ while its fascia was adorned with more than a dozen knobs. Still, R Hindle’s view was that you could never have enough...**

indulged his old-fashioned caution and plumped for Class A, with exceedingly satisfactory results.

Not that you are being asked necessarily to follow suit – live and let live. But if you decide on a Class B amplifier, do take that extra bit of care to see that the designer took extra care and reduced his distortion appreciably below the comparable Class A performance.

What has so far been said might seem to suggest that power is not of any importance, and that is not really true. It is not as important as many think, however; so often it seems to be taken as the only criterion worthy of consideration.

The point has already been made that practically the whole of one’s listening is actually at quite low power levels, and any listener who habitually requires his equipment to deliver an average level up into double figures of watts (even with modern, inefficient speakers) is no hi-fi enthusiast – he is a dangerous crank who would be better living in the middle of a desert.

The output power does not represent, arithmetically, the apparent loudness. If your present 10W amplifier gives inadequate level before overloading (although working properly) do not be tempted by a 12 or 15W version. The difference (all else being equal) will be unnoticeable. And why?

### HIGHER POWER

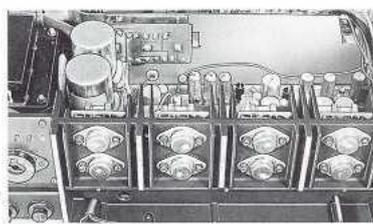
Well, assuming distortion and other factors to be unchanged, an amplifier of higher power – perhaps three or four times higher – will be set by the sensible user to give similar average sound power output to the smaller one. But (assuming that it does not overload the speakers, a point that has to be watched) it will give a sensation of easy, unforced sound and a smoothness (particularly in the bass) that leaves one in no doubt that



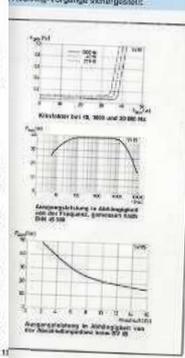
Höchste Wiedergabequalität und höchste Betriebsbereitschaft bei einfacher Bedienung waren die Leitlinien bei der Entwicklung des SV 85. Vom großen Bruder des SV 140, wurden die hohe Qualität und absolute Betriebsbereitschaft übernommen. Dazu ist der SV 85 mit 2 x 40 Watt Ausgangsleistung so dimensioniert, daß er höchste Anforderungen für High-Fidelity-Anlagen in allen Situationen optimal erfüllt. Die besonderen Merkmale des Hi-Fi-Verstärkers SV 85 sind: Schwingkopf für alle Funktionen, sowie modernste Halbleiter- und Kondensator-Schaltungstechnik. Trotz aller dieser Vorteile ist der SV 85 so konzipiert, daß er zu einem vernünftigen Preis angeboten werden kann. Auf dieses Gerät haben viele Hi-Fi-Freunde gewartet. Zerstörer, voll computerisierter Entzerrer, Vorverstärker für Magnet-Tonabnehmer, umschaltbar als linearer Master-Vorverstärker, Verstärker Hauptverstärker mit

Klangnetzwerk Dreistufiger Vier-Trafo, Gegenstand-Treiberstufen im Komplementär-Schaltung mit Silizium-Transistoren in allen Stufen, einschließlich der Endstufe. Eine Kurzschluß-Automatik, die nach Auffassung des Herstellers automatisch wieder einschaltet, ist ebenfalls. Zusätzlich enthält das Gerät einen Thermoschalter zum Schutz gegen thermische Überlastung.

Die wohlgerühmteste Auswahl hochwertiger Bauelemente, übersichtliche Schaltungsaufbauten, exakte und erprobte Fertigungsvorgänge haben die Gewähr für hervorragende Leistungen, die sich in den ausgezeichneten Messwerten der GRUNDIG Hi-Fi-Garantie niederschlagen. Unter Bild zeigt die mit 8 Silizium-Transistoren besetzten Endstufen des SV 85.



den Schaltungen entsprechen 2 Ω. Die abkürzte zeigt, daß auch bei 8 Ω praktisch noch Kennleistung zur Verfügung steht. Bei maximaler Norm auf der Frontplatte zum von Stereo-Kopfhörern, Anschließbar sind alle mit Impedansen von 15 Ω und mehr. Lautstärke-Umschalter des Kopfhörereckers. Bei Rückfront zum Anschluss weicher Vorver-Endverstärker. Ausgangsleistung von 80 W. Ausgangsspannung 125 Volt bei Voll-Last. Innere Gerätedämpfung 200 Ω. Die kleinen Innenwiderstände von 0,2 Ω (4 Ω Belastungsveränderung an Ausgangswert) bis 28 Ω entspricht. Damit ist eine sehr gute Beschäftigung des Lautsprechers gegen Anschlag-Vorgänge sichergestellt.



## FROM THE VAULT

the extra power was worthwhile. At average level the distortion content will be the same in both cases, but because the peak signals may overload the smaller amplifier, giving distortion above the specified figure, the replacement will sound just that bit easier to the ear.

How high an output should one budget for? This depends on the acoustics of the room, the efficiency of the speaker – and on the whims of the listener. There is a social factor: keeping up with the Joneses! Perhaps the latter is one reason for the continually increasing figures quoted in advertisements. You cannot have too much power available – within reason – but you just won't use it all if it is too high. If you have good, big speakers you will often not *need* so much and if you have small speaker they will probably not *take* so much.

### GENUINE WATTS

In practical terms, therefore, it is hard to see any good reason for going up in excess of 20-25W per channel (into an 8-15ohm load) under normal domestic conditions with the amplifier feeding speakers in a single room and not distributing signal all over the house.

This will give a possible peak, both channels going full bore at the same time, of 40-50W of electrical power (*ie*, before conversion to audible sound) which would have been thought quite phenomenal a short while ago in the mono era.

Do let the watts be good old-fashioned British ones though, based on continuous, sine-wave output. Suspect any specification given in any other form, and insist on a translation into continuous sine-wave terms before you consider buying the amp.

The 20-25W per channel suggested, if of the genuine variety, with low distortion figures at rated maximum output and at low level output (and lower with a Class B

**RIGHT:** Original Goodman's catalogue from 1969 shows a Maxamp 30 next to a matching Stereomax tuner. Introduced in 1966 and costing £49 10s, the compact little Maxamp measured just 10in tall, 5in wide and 7in deep

**FAR RIGHT:** Harold Leak holds out a Stereo 30 in this ad. The amp was one of the first transistor designs to be made in the UK and is still well thought of today

**BELOW:** The Richard Allen A21 was the first ever transistor amp to be launched onto the UK market, making its first public appearance in April 1968 at the Audio Fair in London. Rated at 10W/6ohm, the A21 sold for £52, which was the same price as the Leak Stereo 30



amplifier for comparable results) will satisfy most people whilst being within the specified handling capacity of the larger speaker units – but too high for some of the physically smaller specimens.

### IMPRACTICABLE ADVICE

The enthusiast is generally recommended to listen to various combinations of unit before deciding, and also is advised that he is unlikely to compare successfully unless he listens in his own home surroundings. Excellent as this advice is in theory, it is clearly impracticable.

The possible permutations and combinations run into thousands, and even if all this equipment could be gathered together in one place (and in appropriate surroundings) with adequate comparator switching, it is extremely unlikely that the listener could carry in his mind an impression of successive combinations sufficient for comparative purposes.

Any simplification might seem to be less than ideal, but has to be tolerated if equipment is ever to be installed. A reasonable simplification is to evaluate the amplifier by price, facilities, styling, technical specification, *etc*, and to make one's choice accordingly.

The only significant variables left, then, are the cartridge (assuming you are using a record player in the system) and the speakers. A radio tuner may be desired but need not be included in the early comparisons, though it will need to be borne in mind when comparing amplifier specifications.

Perhaps the biggest help in considering specifications is to read independent reviews in technical magazines. The beginner may not understand all that he reads there, but he will learn. Meanwhile, what he does understand will be useful, and in particular the maker's specification will have been the subject of independent scrutiny and any flaw will come to light.

Supposing no such review is available for a model that appears to be suitable? That model cannot be rejected out of hand because the

reviewer might not have got round to testing it, but if it has been on offer for a reasonable while and still hasn't been reviewed, one

tends to have a sneaking doubt, and the manufacturer or the magazines concerned should be called upon to allay this doubt.

*'Do let the watts be good old-fashioned British ones though'*

### A LOOK AT FACILITIES

There are two other considerations to be looked into: input and control facilities provided. Generally there are far more inputs than any single user requires, but as long as the individual's needs are catered for (both in terms of variety and in terms of sensitivity of individual inputs) the 'extras' are not going to cost anything to keep.

But is one of the Gram inputs right for your type of cartridge, or one that you intend to buy? When having a demonstration, using your cartridge and speaker, you should see that the volume control of the amplifier leaves lots in hand (say it is not much more than half-way) when playing at normal listening levels. ☺



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## FROM THE VAULT

The business of compensation is almost certain to be reasonably well taken care of in a modern design by a well-known manufacturer. Other required inputs should be investigated for input sensitivity (the higher the sensitivity and input impedance the better) and as a matter of convenience, it should be seen that the method of switching inputs is acceptable, although one becomes accustomed to almost any arrangement in the course of time.

There can be a few or a lot of knobs to turn or buttons to press according to one's personal preference. Again, perhaps within reason, there cannot be too many, because you can always leave untouched those that you don't want to use, and meanwhile they look very impressive.

### ESSENTIAL CONTROLS

Volume, bass and treble controls there must be. No matter what some technicians might say, the writer cannot bear those concentric efforts that permit separate adjustment of channels. He always suspects (perhap unfairly) that the designer could not be bothered to equalise the channels but some people, perhaps you, prefer them. There has to be a balance control for stereo, and one that fades each channel is probably the most useful.

The fashion now is for integrated pre- and main amplifier, or even integrated tuner-amplifiers fitted in



elegant little cabinets. It is all right if you want that sort of thing and aim to put it on an open shelf in full view. There is probably more sense in integrating tuner and preamplifier than pre- and main amplifier wherever there is a place to hide the main amplifier away.

The unit with controls (which must be handy) can then be smaller and can be tucked away – in a place alongside the turntable, for instance, where the integrated unit would not fit, for many of

them are quite bulky.

Separate units are still a great convenience when fitting into a cabinet, but there are not many of them around anymore. Not everyone wants the units to sit in full, naked glory on an open shelf. Besides, the separate amplifier concept fits in with the idea that in the future integral power amplifier/speakers will be introduced, to be fed direct from a preamplifier.

The ultimate limiting factor will be price, no doubt. If a complete system is given a maximum price tag, probably a third of it should be allocated to the amp. But having selected speakers and record playing equipment on the basis of the chosen amplifier you could dare to ask for the amp further up the price range, one that you would have had but for its price, to be demonstrated with the same peripherals, just to see the extent of the difference. But hold on to your purse. ☺

**ABOVE:** Pages from the February 1970 issue of *Hi-Fi News* in which R Hindle looks at the current state of the transistor amplifier market with the prospective purchaser in mind

**LEFT:** The Sansui AU555 from Japan first came onto the market in the very late '60s and sold for around £150 when it reached UK shores. Rated at 60W, it's another transistor amp that remains highly regarded to this day



'Allocate a third of a system's maximum price to the amplifier'



Also in *HFN* this month in 1970

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Comment from Austin Uden.

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Recent starred recordings re-examined for sound quality.

### LOUDSPEAKER DAMPING

Notes by Vivian Capel.

### GIMBAL MOUNTED PICK-UP ARM

Nigel Thornbory provides full details for this DIY project.

### THE BASSETT REVISITED

By Trevor Attewell.

### COUPLING DOMESTIC SOUND SYSTEMS

F W Sutherland takes a look.

### GROMMET DISC SUSPENSION

Brian Stiles explains how to modify a Thorens TD150 for use without a rubber mat.

### HOW TO UPGRADE YOUR HI-FI

Advice from P N Heidenstrom.

### FRICTIONAL DRAG AND BIAS COMPENSATION

An in-depth look by Roderick Snell and Alec Rangabe.

### SCOTT 342C TUNER-AMPLIFIER

Assessed by Gordon J. King.

### PEAK SOUND AMP MODULES

L Norman Hulley takes a listen.

### ARENA HT25 LOUDSPEAKER

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### READERS' PROBLEMS

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*..Wow.. The sound had changed, and not a tiny change either, quite a discernible change. The sound stage has grown, the whole sound has matured not just at the high frequency range but across the whole range! Vocals sound fuller and more correct, breaths on wind instruments were real, violin and strings in general sounds as real as I've heard on my system to date and atmosphere on live recordings were more perceptible. Without exception one of the best purchases I have made within Hi-Fi. If I could compare Hi-Fi to food it would be like adding a little bit of salt to the food, the flavour was always there, but the salt just makes the flavours stand out more and adds a further dimension to the complete flavour.*

*That's what the Maximum Supertweeters have done for my set up. Just as a well set up subwoofer adds to the fullness and roundness of the sound, the Supertweeter does the same also, just tailor the level to your preference and system matching and away you go.*

*Removing them after a few days has made the sound dull, flat and even two dimensional. Was that really what I was calling decent quality Hi-Fi a couple of weeks ago?! What I had thought was a pretty good sound was now without the Supertweeters only mediocre in terms of sound quality. The difference was a night and day one. So obviously they were welcomed with open arms and re-instated into the system once I had established there was a "gap" without them. On first play the smile returned to my face and I earnestly started to rummage through my*

*music collection to get another playlist together.*

*At which point I should also tell you that I found the effect was still there even at night time listening levels, but it does need a few decibels to be "magical".*

*My 15W per channel Leak valve amps had no problems with the load on top of my speakers and when using full range "horn" speakers, these Supertweeters are simply a must have item and being quite minimal in operation they don't seem to destroy the single driver sound of a good Lowther or Fostex, rather adding to it to give a fuller sound so long as you are careful with the volume level. Discretion is the key, and blending without over exuberance or understatement is a must and worth taking the time to tune in and get right because when you do, the sound is simply stunning...*

*...In conclusion, my humble opinion can only be used as a guide because we all hear differently and we all like a different sound. The Townsend Maximum Supertweeters are well executed, well made, capable, very discrete super tweeters. In my opinion in terms of user friendliness and sound they are the best passive super tweeters I have heard on the market today and the fact I have purchased a pair with my own hard earned money is testament to how good they are and the impact they have had on the sound of my system. I am not going to get into the "snake oil" debate because they work within my hearing range and with all of the formats I use. Lossless on the MacBook, DAB, Cd and analogue, vinyl and tape cassette all benefit from a fuller more emotional sound.*



*Science is great, and will one day crack cancer and HIV but it struggles to quantify certain things in life and one of those things is emotion. I'm sure my hearing doesn't extend much above 16kHz or so and yet the super tweeters work and work well for me.*

*I think transients, atmosphere, detail, attack and sustain all benefit as does timbre between instruments, sounds and especially vocals within the hearing range due to less distortion, less smearing and better definition at frequency extremes. Definitely not snake oil in my opinion..*

*..A worthwhile investment and I will not be returning them or selling them on.*

*Many Thanks and keep the music musical..  
Patrick Thomas.*



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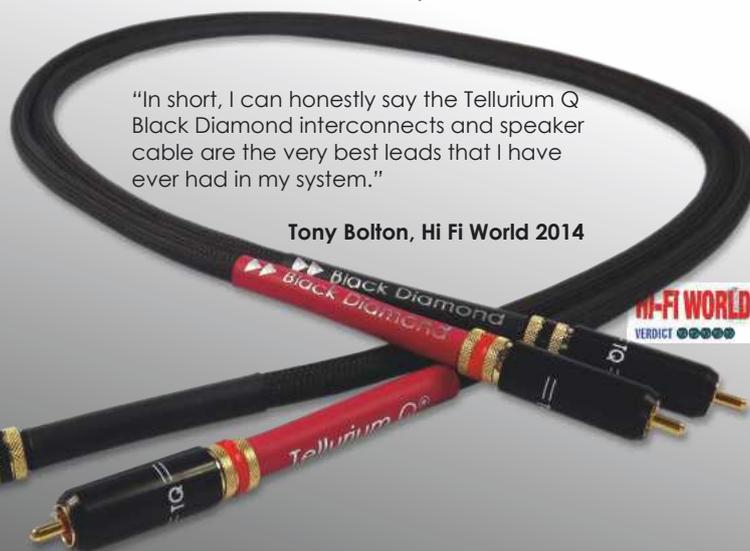


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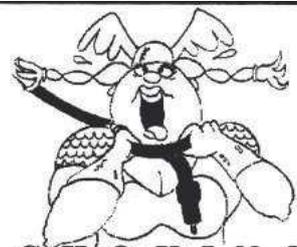
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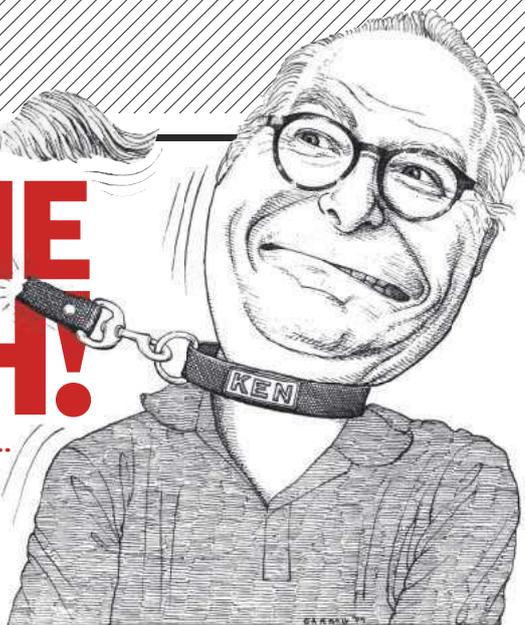
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# OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

Why make big-ticket integrated amps? It can't be to cut costs or save space, says **Ken Kessler**



Elsewhere in this issue is a review of the D'Agostino Momentum Integrated Amplifier [see p32]. It begs a question outside of the purview (and space allocation) of the review *per se*, but it makes for a dandy discussion. With high-end audio's appeal growing ever more rarefied, it is worth investigating one aspect of the amplifier's design – even for an audience that 'gets it' without any deliberation from the likes of me?

## ENTRY LEVEL IDEAL

Note that it is an *integrated* amp. The concept of a pre and power amp in a single chassis is an ideal solution for the entry level sector, where using one metalwork case instead of two means cost savings. But it doesn't apply to components priced like cars. Indeed, its virtues are the antithesis of high-end audio liberation and ego, not least the space-saving element.

(Humour me: While realising that the Momentum occupies two chassis because of its outboard power supply, it is still a pre/power combo in a single enclosure.)

'Space-saving' is hardly an adjective to apply to the Momentum Integrated as its footprint is still large, and – when stacked on its power supply – it remains impressively huge. This is no Leak Stereo 70. More to the point, it's safe to posit that those who

purchase hardware in this price range probably own spacious homes. Forget the student digs that begged for NAD 3020s.

Which brings us to the two schools of thought that have forever enabled customers and manufacturers to justify the existence of integrated amplifiers when cost and space *aren't* primary concerns: sonic matters. The connection between preamp section and power amp is eliminated by integrations. More importantly, anyone buying an integrated instead of separates knows that the two sections aren't merely connected with absolute directness and the shortest of paths *sans* a length of wire. They're also sonically/electronically a perfect match.

That is not to suggest that a preamp and power amp from the same brand isn't a perfect match. But they still need a cable between them. This is enough for people like me – who abhor the entire cable *schtick*, to rejoice in integrations.

Then you get to the other inarguable benefit separates purportedly offer over integrations, as if to cancel out the 'shorter

path' or 'guaranteed synergy' arguments: individual power supplies for each section. Hmm... really? A benefit? Does anyone think for a moment that the huge, external power supply sitting beneath the Momentum Integrated is anything less than uncompromised?

'Integrated amps are insinuating their way into separates territory'

Placing these arguments on paper is not intended to force, beg nor inspire a solution. Integrated vs separates is something that will never be resolved, like tubes vs transistors or analogue vs digital. There will always be pro and con arguments, which sends me back to the days when I was studying philosophy and had to deal with the small matter of the existence of God.

What has thrown me, challenged my fervent pro-separatist beliefs is the brilliance of the Momentum. It was auditioned side-by-side with the Stereo Momentum, fed by the Audio Research REF 5SE preamp, which remains my absolute standard. While I remain wedded to this separates solution, the integrated exhibited its own charms, which are covered in the review proper.

## HABIT OR CONDITIONING

My point is that I have noticed integrated amplifiers subtly insinuating their way into a price category that habit or conditioning dictate as the sole preserve of separates, as defined by budget. It was a case of buying an integrated if you had under £1000 to spend, or the historical equivalent *eg*, below £500 in the days of the original £79-£99 NAD 3020. Over that: separates.

When inexpensive preamps appeared from the likes of Croft, or upgraders used the NAD 3020's preamp section with affordable power amps, a first move into separates was made. Pro- or anti-cables, this break (literally) between pre and power amp also allowed audiophiles of limited means to experiment with interconnects between the two amp sections.

D'Agostino's Momentum Integrated is not the first integrated to challenge mandatory preferences for separates. The high-end offers rival integrations, like Constellation's Argo. From the Marantz PM4 to Unison Research's outrageous Absolute 845 to Krell's entry-level integrations, there are one-box alternatives to separates at every price.

Dyna's little SCA-35 – a weedy 17.5W/ch – made my university days joyous. For years, I used a Rogers Cadet III and absolutely adored it. I'd love to get my hands on one of those reintroduced, retro Luxman valve jobs. Integrations? No shame there, gang. No shame at all. ☺

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