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& Record Review

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Sonus faber

Lilium floorstanders – with gold-leaf veneer!

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HEADPHONE
AMPS
p71



Classic Rock

We pick the best on Blu-ray & DVD, p24

Arcam C49/P49

Beefy pre/power amps

VPI Prime

Next-gen deck with 3D-printed tonearm

Wadia 321

'Decoding computer'

Budget Esoterica

**Oppo HA-2
headphone amp**

Aëdle VK-1

Gallic headphones



• **PLUS** 18 pages of music reviews & features • **VINYL RE-RELEASE** Japan's *Tin Drum* – 180g pressing
• **OPINION** 12 pages of letters and comment • **VINTAGE REVIEW** Sansui's classic AU-317II amplifier
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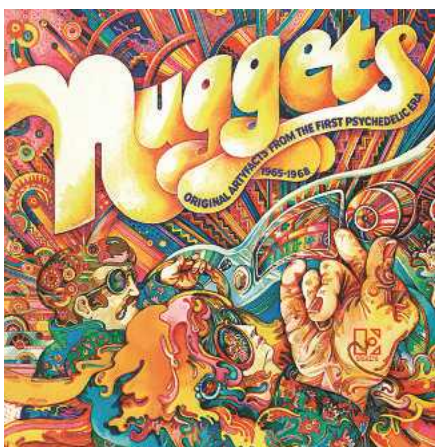
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FREE! Audioquest's NRG-X3 power cable See page 88



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Paul Miller, Hi-Fi News June 2014



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**RMAF SHOW REPORT
STEREOPHILE, US, 2014:**

"I could not believe how neutral, clear, and satisfying this system sounded. It didn't sound like 'wireless' anything; it sounded like music."

NOMONO.DK, 11/2014:

"This loudspeaker again sets the bar for this price class."

I have heard systems that costs an unheard of amount of money, many do not even come close to the performance of this little gem."



HI-FI CHOICE, UK, 09/2014:

"An ideal proposition for music lovers who want serious hi-fi sounds from minimal components"
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STEREO, GER, 11/2014:

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FONO FORUM, GER, 02/2015:

"To be honest the one thing we missed the least were cables..."



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Hi-Fi World, July 2013



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BRINGING MUSIC AND MOVIES TO LIFE

RIGHT: Know-how from Oppo's substantial HA-1 headphone amp/DAC has informed the development of this natty portable – the HA-2, p66



ABOVE: VPI's new deck, the Prime, features a 3D printed arm, see p42



VINYL: The groundbreaking compilation album, *Nuggets 65-68* is this month's Vinyl Icon (p78), while Steve Sutherland remembers David Sylvian as Japan's *Tin Drum* is re-released on 180g vinyl (p76)

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

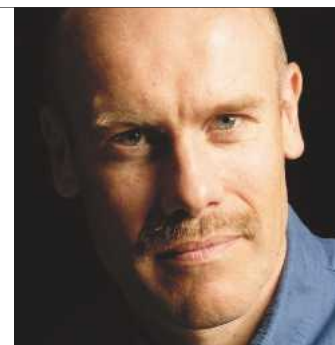


What goes around comes round, a phrase perfectly suited to how we choose to enjoy our music these days. Recently I talked about 21st-century 'virtual media' – downloads and streamed music files – being awarded their own slot in the Official Charts and now the same honour has been bestowed upon the granddaddy of all formats: our cherished 20th-century vinyl disc.

2014 saw vinyl LPs and singles 'going around' in greater numbers than at any point in the last two decades. Sales reached an all-time high of 1.3 million units with a predicted growth of another 70% through 2015. Vinyl now accounts for 1.5% of all media sales – just seven years ago that was less than 0.1%...

The steep upturn in the LP's fortunes may have started as something of a fashion-led craze in the noughties, but having re-established a toe-hold, the format has clearly won hearts and minds with its compelling performance. However, it's worth reminding ourselves that we are not comparing like with like when pitching today's vinyl media against the mass-produced discs of 40 years ago.

We may have enjoyed a drip-drip feed of half-speed and direct-metal masters pressed onto virgin vinyl by the likes



of MFSL and others, but the late 1970s and early '80s were otherwise a real low-point in the physical quality of vinyl discs. Wafer-thin, warped LPs comprising impure and recycled vinyl were the everyday experience of that era's beleaguered audiophile.

Interestingly, at the time of writing (mid-April), the top 20 entries in the 'Official

'With record sales in 2014, vinyl now has its own official chart'

Vinyl Albums Chart' betrayed a reasonable overlap with the 'Official Streaming Chart' – both even had the same number one, *Future Hearts* by US pop/punk band All Time Low.

Personally I'm delighted that the true potential of this 'legacy' format is finally being realised. After all, *HFN/RR* has been banging the 33.3rpm drum with our Vinyl Release (p76) and Vinyl Icon (p78) features for years...

PAUL MILLER EDITOR

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



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



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



KEN KESSLER
is 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

Magico S7

NEW FLAGSHIP FLOORSTANDER FOR THE S-SERIES

With all 50 of Magico's anniversary M-Project loudspeakers now sold [see p103] the trickle-down effect has begun in earnest. The first new loudspeaker to benefit from the M-Project's tweeter, midrange and bass driver designs is the S7 – a flagship for the popular S-series range.

Clearly more substantial than the existing S5 [HFN Dec '12], the S7's sealed and internally braced enclosure features curved aluminium side panels that are machined from 0.5in-thick aluminium extrusions which are no less than 16in in diameter. The S7 features three new 10in aluminium-coned

bass drivers with Magico's customary massive magnet assemblies. The 6in mid driver employs an 'Arkema Multi-Wall carbon nanotube and XG Sciences C-750 Nanographene' cone material, which is both lighter and stiffer than its earlier designs. As in the S3 [HFN Nov '14] this driver has its own polymer sub-enclosure.

A new 1in diamond-coated beryllium dome tweeter rounds off this impressive-looking system, which is rated at 89dB with a 4ohm impedance. Prices start from £58,000.

Magico LLC, 0208 971 3909;
www.magico.net;
www.absolutesounds.com



Thales TTT-Slim

ELEGANT 33/45 DECK FROM SWITZERLAND



Aptly-named, the Swiss-made Thales TTT-Slim turntable is just 82mm tall from the tips of its three ball-loaded feet to the top of its LP clamp. A battery-powered source and drive electronics feed a three-phase motor, the former good for 20hrs' use between charges. The motor connects via a short belt and flywheel under the platter and is isolated from the chassis by a spring arrangement. The bearing features a hardened, hand-polished shaft and chrome-plated brass housing. Price is £5250 or £8850 if fitted with the Thales Easy 'tangential pivoted' tonearm, the latter incorporating an ingenious mechanism that continuously minimises the headshell's tracking error.

Thales (HiFiction AG), 01563 574185;
www.tonarm.ch; www.fiaudio.co.uk

HI-FI NEWS' NUGGETS

MERIDIAN SPIN OUT

Meridian Audio has announced a deal to transfer the company's software applications business to a newly established entity, Roon Labs. Meridian Audio will concentrate on its high performance hi-fi and home theatre product lines, including its Sooloos system, while Roon Labs will have its own software applications team 'to address specialist software requirements for other consumers.' Roon Labs co-founder, Enno Vandermeer, says 'we look forward to making important partnership and product announcements to the market very soon.'

www.roonlabs.com;
www.meridian.co.uk

IN MEMORIAM

The audio industry lost two of its stalwart defenders in April: Doug Sax, Grammy Award-winning mastering engineer and co-founder of Sheffield Lab Recordings; and Alan Roser of Anthem UK, who worked tirelessly to develop and promote the high-end AV and projection market in the UK.

Pioneer U-05

BALANCED, DSD-READY HEADPHONE AMP

The mid-market USB DAC/headphone preamp scene has just got even more interesting with the announcement that Pioneer is launching a £699 model. The U-05 boasts single-ended and fully balanced headphone outputs (the latter on 3-pin and 4-pin XLRs and rated at 300mW/32ohm) along with a USB input that supports LPCM files up to 384kHz/32-bit and DSD up to 2.8/5.6MHz. Legacy S/PDIF and AES/EBU digital ins are also specified for media up to 192kHz/24-bit. Pioneer's digital filter section has three user-selectable settings for LPCM and three for DSD while a 'direct' function bypasses all internal DSP. The DAC section is based around the popular 8-channel Sabre chip from ESS, configured here in dual-differential mode.

Pioneer Europe NV; www.pioneer.eu



Purple Pro-Ject

DEBUT CARBON TURNTABLE WITH OUTBOARD DC SUPPLY



Pro-Ject's popular Debut Carbon turntable has been upgraded with a new, lower voltage motor, a precision-frequency AC generator board plus a detachable DC power supply. The new motor and supply are also found on other Pro-Ject turntables, including the Essential II and 1 Xpression Carbon UKX. Dubbed the Debut Carbon DC, this improved deck

is available in numerous gloss colours including black, blue, green, light grey, red, white, yellow and the vivid purple shown here. Price, including 8.6in carbon arm and Ortofon 2M red MM, is £325.

Pro-Ject, 01235 511166;
www.henleydesigns.co.uk

Gauder's mini monitor

BERLINA RANGE EXPANDED WITH NEW STANDMOUNT

With their rib-like wooden cabinets, silicone-rubber damping layers (all pinned into place by vertical rods) and Accuton ceramic drivers, Gauder Akustik's Berlina speakers are instantly recognisable. This range is now joined by a new 'starter' model, the compact two-way, closed-box RC3 with 1in ceramic tweeter (£6999) or 0.75in diamond tweeter option (£11,599).

Gauder Akustik, 01563 574185;
www.gauderakustik.com; www.fiaudio.co.uk



Sonus faber gets moody

CHAMELEON RANGE HAS SWITCHABLE PANELS

Conceived by Sonus faber to attract 'a wider, contemporary audience', its new Chameleon range of bookshelf, centre channel and floorstanding loudspeakers are highly adaptable (3-way Chameleon T shown here). The cabinets are covered in leather, the driver flanges are embellished with aluminum trims while the coloured side panels are interchangeable via a system of pins. These Chameleon 'mood' panels are available in six different finishes: white, black, orange and red plus metallic blue and grey. You can check out any new finishes released in the coming months by visiting Sonus faber's website.

Sonus faber, 0208 971 3909;
www.sonusfaber.com



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Upcoming Events

IMPORTANT DATES FOR YOUR HI-FI DIARY

- 14-17 MAY** High End Show, M.O.C, Munich, Germany;
www.highendsociety.de
- 29-31 MAY** T.H.E. Show, Hilton Hotel, Newport Beach, CA, USA
- 28 JUN** N. West Audio Show, Cranage Hall, www.audioshow.co.uk
- 04-09 SEP** IFA Berlin, The International Funkausstellung, Germany
<http://b2c.ifa-berlin.de>
- 24-25 OCT** The Hi-Fi Show Live 2015, Beaumont Estate, Windsor;
www.hifinews.co.uk/show

Hi-Files Show, Serbia

Words & pictures: Ljubiša Miodragović



The Hi-Files Show, hosted at the Holiday Inn hotel in Belgrade, saw a record number of exhibitors and boasted more visitors through its doors than at any time in its ten-year history.

Over two sunny days in November last year, the crowds enjoyed a number of premieres, including Samsung's UHD screens just weeks after their launch worldwide. However, it was the manufacturers from the ex-Yugoslavian countries that

made the strongest impression at the event. Names like Beyond Frontiers Audio, Gallus Audio Technology, Ubiq Audio and SM Audio Design are well-known to local audiences if less so to those abroad. The event enabled them to showcase their latest components and demonstrate their tireless enthusiasm, which far surpasses the commercial successes of their limited-run, hand-crafted products in the global audio market.

Serbian company Beyond Frontiers Audio showed the latest iteration of its Tulip hybrid integrated amp with on-board DAC and valve input stage. The amp's casework matched the look of the Slovenian-brewed Ubiq Audio 3-way floorstanders, which feature paper cone drivers, a treble horn and are said to offer 95dB/W/m sensitivity. Two active subs were also used, each equipped with a dipole driven by 1.2kW ICEPower modules. www.beyondfrontiersaudio.com; www.ubiqaudio.com



Belgrade-based distributor Vox Trade showcased an unusual, but highly musical, VTL/Dynaudio combo. The set-up featured a VTL TL-5.5/S2 preamp and MB-185/S3 power monoblocks driving a pair of Dynaudio Confidence C2 Signature floorstanders. The sources used included a DCS Paganini transport connected to an Elgar+ DAC. Cables for the entire system were from Transparent Audio's Ultra series, a brand Vox also distributes in Serbia. www.vtl.com; www.dynaudio.com

It was an orgy of glass, leather and precious veneered wood finishes as Auris Audio showcased its Largo preamp and Forte 6550 monoblock. Source was the company's new streamer/DAC, though Auris remained tight-lipped when it came to details. Tiny W5 speakers from Boenicke, manufactured under license in Serbia, completed the set-up. www.aurisaudio.rs



Björn Rutz of MBL and the brand's local distributor M-Kabl presented a system more suited to smaller rooms than is MBL's usual practice at exhibitions. The 116F floorstander was connected to the company's new Corona line – CD player/DAC C31 and C51 integrated amplifier – which was alternated with the C11/C21 pre/power combo. Björn's own laptop could also be seen, used as a source to stream music to a DAC. This means it's now officially OK to use a notebook computer in a high-end music system. www.mkabl.rs



SM Audio Design demonstrated its reference turntable with double AC motor belt drive, 10in Helius Omega arm and Benz Micro Ruby 3 cartridge. Weighing 40kg, the deck was connected to a NAT Audio Signature battery-powered phono amp. The speakers were seven-driver-per-side prototypes from fellow Slovenian manufacturer Gallus Audio while amplification was courtesy of Rogue Audio. www.gallus-audio.com

The AV Impuls room was dominated by Japanese brands and featured a Triode TRV845SE integrated amplifier, Aqua Acoustic La Voce S2 DAC, an exotic Spec Corp RSA-V1 solid-state integrated, a Young M2Tech DSD-capable DAC and a Hegel H300 integrated amp. The Leben CS300XS amplifier pictured below served simply as eye candy. www.avimpuls.com



Goldmund's distributor Audiophile focused on the brand's latest systems, which aim for easy set-up. The system it showcased comprised Metis Tower active digital speakers connected wirelessly via a Goldmund USB dongle to a laptop used as a source. The set-up also featured an Eidos 17 universal player and Mimesis II wireless hub for versatile and neat connectivity with no compromise on sound. www.audiophile.rs



Up for grabs at the Welcome Desk were back issues of *Hi-Files* magazine, which organises the show, branded goodies from its store and merchandising from the event's sponsors. The most sought-after item was the latest design of the Hi-Files Show t-shirt, which has gained the status of collector's item among show visitors. A free, eco-friendly shopping bag was included with every purchase. www.hi-files.com





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www.soundfoundations.co.uk



Distributor 4Audio chose to put the spotlight on the mid-size twenty.26 floorstanders from PMC. They were paired with Musical Fidelity M series electronics, comprising an M6500i amp, M3 CD player and M6 DAC. Cables were Oehlbach Fusion 2 and XXL1 with power supplied via a Powerstation 909 from the same manufacturer. www.pmc-speakers.com

Pictured below are two gems from Italian company Unison Research: the single-ended valve integrated dubbed Simply Italy, offering a claimed 12W in Class A, and the recently introduced Triode 25 amp with selectable triode or pentode operating mode said to deliver up to 45W per channel. Both models created highly enjoyable sounds, with the demanding Grand Mezza loudspeakers from Opera. www.unisonresearch.com



A selection of speakers from Monitor Audio's new Radius range was also shown by 4Audio. Slimmer than the original Radius line-up, the eight-strong range includes the Radius 90 surrounds, 270 front speakers, 200 centre speaker and 380 subwoofer, all pictured. The family also includes the Radius One soundbar and comes in a choice of finishes. www.monitoraudio.co.uk

Close-up of the key electronics in the SM/ Gallus Audio room includes the venerable DP-400 CD player/ DAC (S/PDIF only) from Accuphase and amps from Rogue Audio. From the top is the Ninety-Nine Magnum 6SN7 tube-based preamp and a pair of KT120-based M-180 monoblocks. www.accuphase.com; www.rogueaudio.com



Player highlighted affordable components from its distribution catalogue. A Marantz SA8005 SACD/CD player and PM8005 integrated amp were at the heart of the system feeding Tannoy Precision 6.2 floorstanding and 6.1 bookshelf speakers, plus Wharfedale Diamond 122s. A 'quiet' room featured headphones from Beyerdynamic, Sennheiser and Focal. www.player.rs



The newest additions to Yamaha's range of retro-styled electronics were on show in the form of the A-S2100 integrated amp – said to deliver 90W per channel – and matching CD-S2100 SACD player with 32-bit ESS DAC. It's not just the amp's VU meters that provide a taste of the classic era, as both components sport wooden side panels. www.uk.yamaha.com



Paris Salon Hi-Fi Show

Words & pictures: Ken Kessler



Again held at the undeniably pleasant Novotel Paris Tour Eiffel, Festival Son & Image hosted a number of surprises, not least the bizarre Odoravison. As this isn't a home cinema magazine, we won't bore you with it, other than to say that it spritzes smells that match the movie you're watching. The demo I saw was of *King Kong*, restricted thankfully to the aroma of the jungle.

As is now the norm, the show was rife with headphones

and headphone amplifiers, but connectivity, soundbars and Bluetooth speakers are challenging them for the title of the most vibrant product category in consumer electronics.

But there was also plenty for vinyl lovers, the usual strange loudspeakers and sufficient valve gear to show that the high-end can intermingle with the more commercial offerings, such as 4K demos – a generation beyond last year's displays.

Streaming and networks are now the norm, so 3D Lab embraced the future with the €1890 Nano Network Player (left) and €1490 Nano DAC. Both support the usual alphabet soup of formats up to 192kHz/24-bit. Also offered are a matching ADC and 250W/ch amp. www.3d-lab-av.com



Ami Musik's DDH-1 is a standalone DAC/preamp with headphone amp, compatible with Windows and Mac. It supports 192kHz/24-bit in asynchronous mode, while connectivity includes Toslink optical in-and-out, a pair of RCA phono for line output, 3.5mm stereo socket for analogue in, coaxial digital input, USB and fixed or variable line output. www.amimuse.com

CAV Audio France's DX-8 floorstander, seen next to the FL-30A two-way, stands 1380mm tall. Its drivers comprise a 30mm inverted dome ceramic tweeter, 16.5mm mid and two 280mm 'hexacone' woofers. Sensitivity of this 4ohm speaker is said to be 89dB/1W, while power handling is 400W. www.cav-audio.fr



Reminiscent of certain odd-shaped UK items from a few decades ago, Atoll continues to defy the need for rectangular faceplates with this handsome pair, which stacks to form an arc. On top is the CD400 CD player with two Burr-Brown PCM1794 DACs, below is the IN400 integrated amp, with USB input, delivering a claimed 160W/ch. www.atoll-electronique.com





It's just an empty prototype, but this will be the CD-playing companion to match Pro-Ject's clever MaiA all-in-one digital integrated amp. No details as yet, but we suspect it could easily be transport-only, as MaiA contains a DAC. www.project-audio.com



Flanking an unidentified valve amp are Kallyste Duel monoblocks. Rated at 100W into 8ohm, factory specifications state a frequency response of 4Hz-380kHz. Dimensions are 222x220x330mm ('avec spikes') while the chassis uses aircraft-grade aluminium. www.kallyste.com



EgglestonWorks showed this new mini, the 13in-tall, 8ohm Nico two-way monitor, 'Handcrafted In Memphis, Tennessee'. The front-mounted port allows the speaker to be used near walls, unlike its ancestor, the Isabel, with rear ports. Drivers include a 1in dome tweeter and a 6in cone woofer. Sensitivity is 88dB/1W. www.egglestonworks.com



Pierre Riffaud and his wife, standing over their impressive Heritage turntable, fitted with three tonearms. Riffaud's philosophy, shared with other French 'classicists' like the late JC Verdier, involves belt-drive, inert chassis, loads of mass and a huge platter. Price is on application, but be warned it's forbiddingly high. www.riffaud.eu



This ferocious-looking beast is Avantgarde's XA Integrated Amplifier and it delivers the weirdest rating I've ever seen, though this is intended to drive the company's high sensitivity (eg, 109dB/1W) horns: 1.1W/ch Class A into 16ohm, or 120W/ch Class AB into 4ohm. It accepts three single-ended and two (XLR) balanced sources. www.avantgarde-acoustic.de

M2Tech continues to deliver intriguing digital products, including the Young DSD DAC (€1240) and the Van Der Graaf Power Station (€890). The latter can provide power to two M2Tech components, while the Young DSD handles PCM up to 384kHz/32-bit and DSD up to 5.6MHz. www.m2tech.biz



SHOWBLOG Sights and sounds from around the globe



Miller & Kreisel virtually invented the sub/sat; nice to see them still in charge with the evolution into custom install and the like. This is the big bruiser in the 300 Series, the S300 Monitor, a block measuring 395x340x330mm (hwd) and said to cover 60Hz-22kHz. The three-tweeter/two-woofer array is made by Scan-Speak. www.mksound.com

Headphone areas are now a fixture at hi-fi shows, these visitors listening to cans from Final Audio Design. The Pandora Hope VI is a hybrid model that combines a balanced armature driver with a 50mm diameter dynamic driver. Cups are made of stainless steel and ABS, for a total weight of 480g. www.final-audio-design.com



Lua's Sinfonia is one of a half-dozen nicely made valve amps in the German brand's catalogue, an integrated containing four 6550s, for 60W/ch. The unit features autobias – a relief for those not comfortable with AVO meters – and it offers a healthy six inputs, including MM and MC phono. Weight is a chunky 46kg. www.lua.de



Crescendo is Viola's new preamp, boasting a fresh look and a plethora of inputs, including three XLR balanced and three RCA single-ended for analogue sources, with USB and S/PDIF digital to access the on-board 192kHz/24-bit USB DAC. Control is via Wi-Fi using apps for Apple devices. Dimensions are 445x89x381mm (whd). www.violalabs.com



Yes, I had to look twice, too: not Technics but Sherwood, the PM-9805 Professional Belt-Drive Turntable. It's a two-speed unit with a light for DJs so they can see the stylus, pitch control and quick start. I could only find Australian details for this, but the price is the equivalent of £210. www.sherwood-av.com.au

Yamaha continues its deft marriage of the modern and retro with the 60W/ch RX-S600 AV receiver with 4K Ultra HD, Apple AirPlay and looks that scream '1978!', if not quite as loudly its all-silver integrateds. This offers every flavour of surround sound decoding, it handles streaming and can be ordered with DAB and DAB+. <http://uk.yamaha.com>





Burson Audio is making a name for itself for exceptional headphone amplifiers, demo'd in Paris with Audeze. The Soloist SL (left) accepts two sources to feed one set of cans, with its 2W/ch output, while the Conductor has double the power and inputs for three analogue sources and two digital, plus pre-out. www.bursonaudio.com

CAV makes amps, too, including this stunning all-valve unit, the CAV Mono D70. Rated at 70W into 4 or 8ohm, the unit contains two 805A triode output tubes, one EL34 and two 6SN7s, the amplifier operating in push-pull Class A. The control on the left operates power on/off, with gain setting on the right. Each chassis occupies 585x330x270mm and weighs a hefty 36kg. Price is €5200 per pair, sold online with shipping for €95, all of which appears to be an incredible bargain! www.cav-audio.fr



Elipson joined Habitat to create 'Lenny', which is either a tribute to the greatest comedian of the past 50 years, or the stupidest name yet for a hi-fi product. This Bluetooth 2.1 speaker is powered by a Li-polymer battery for 6-8hr operation. Size is 368x165x170mm (hwd). www.elipson.com/habitat

Soledge, maker of the Maestro server, launched the Ténor, which delivers wireless amplified networking to individual speakers. It's offered as a mono 60W unit, or in a stereo 60W/ch version. www.soledge.fr



What a cool headphone amp! Cypher Labs' Prautes (US \$3900, in black or silver) is fitted with 'new old stock' RCA 50L6 and Sylvania 12AU7 tubes 'made in USA prior to 1970' and vintage 'Cold War-era' capacitors. It has four inputs, and delivers 2W/ch, so it can power small, high-sensitivity speakers, and will drive balanced headphones. www.cypherlabs.com



Who recalls that Scandyna's Podspeakers came out a few decades ago? The Michelin Man lookalikes spawned a whole family, including the cute MicroPod SE offered in four colours, and selling for €99 each, or with Bluetooth for €359 per pair. Height is 195mm on spikes. www.podspeakers.com

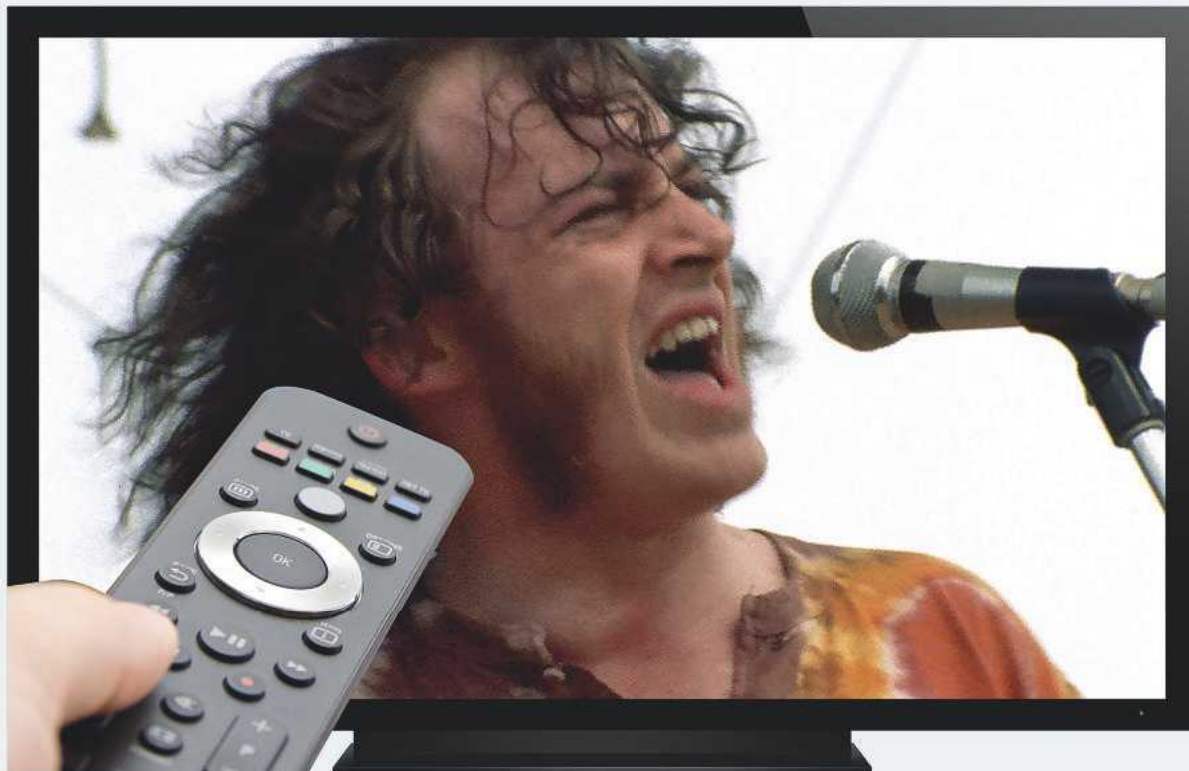
Next month

We report from the Stockholm Hi-Fi Show

Classic rock on BD & DVD

Ken Kessler brings you his pick of the discs that shine for their sound quality

RIGHT: Joe Cocker's career-defining turn at Woodstock, looking as good as it gets and with Dolby TrueHD surround sound. The 'Ultimate Collector's Edition' of *Woodstock – 3 Days of Peace and Music – The Director's Cut* has hours of extras, too



Inexorably, the music and film industries – and I suspect gaming – want to eliminate all forms of physical data carrier. No manufacturing costs? No warehousing or shipping? How could they resist?

Leaving aside the minority cult for vinyl, CD sales are dropping, as are the two main video formats of DVD and Blu-ray (BD). And I'll be the first to admit that I use my Sky+ HD box

every day, and have, on occasion, streamed TV shows or movies. But one genre deserves better, and 'better' remains either of the 5in discs. That genre is the music video, or, indeed any visual programme where the sound is as or more important than the images.

While this re-cap concentrates solely on factual rock-related films, you can add to it classical or jazz concerts, fictional rock movies and probably the most repeatedly watchable of all: Broadway musicals on film. While a separate case for Blu-ray can be made for the likes of *Gigi*, *South Pacific* and others from Lerner & Loewe, Rodgers & Hammerstein, the Gershwins and their ilk, here we deal solely with the popular genre that rules the planet.

ARCHIVE RELATED

Three realisations inspired this need for a reminder of what is out there, and it is primarily archive-related. The first is that nearly all of the exceptional, recently released material concerns subject matter pre-dating the 1980s. Why that

cut-off? Because by that point, the music biz was totally committed to the cinematic element of rock music, and virtually every band performing in the post-VCR era was well documented.

Future music historians will learn that there's no need to scour defunct TV stations for forgotten footage for, say, U2 or Coldplay or Queen. Equally, no film can be made about Elvis, The Beatles or The Everly Brothers without involving some serious research... and directorial creativity. That's not a reference to a lack of material: the biggest acts, like Mr Presley and the Fab Four, as well as Bob Dylan, the major rock festivals and the TV shows that survived will all provide rich pickings... but nothing like the film stock wasted on, say, One Direction or the Spice Girls.

My second realisation is quality. Although filmed in the era of widescreen formats, nascent stereo and Technicolor, early rock footage looks as 'vintage' as if it dated from the days of George Formby. This doesn't affect the oldest-known film

RIGHT: Criterion (and to be fair, Eureka) goes the extra mile with its releases, this version of The Beatles' first film enjoying sublime audio remastering as well as video restored in a 4K process



evidence of, say, REM or Take That. But when I see the words '4K Digital Restoration' on the back of a Blu-ray from Criterion, of a rock movie from 1964, I get excited.

As for the third, it's the current limitations of streaming and/or broadcasting. Don't get me wrong: the visuals on my ordinary, affordable 42in Sony, fed by the Sky+ HD box, are superb. The sound, though, doesn't compare to the feeds off DVDs, let alone Blu-rays. Unless I'm missing something in the 'settings' tabs, I don't see Sky offering DTS HD-Master Audio, hi-res 2-channel PCM or other audio options that allow the listener to choose the most suitable or most preferred format. Even if comparing like with like, whether mono or Dolby 5.1, discs sound better.

FACT OR FICTION?

As rock music (arguably) celebrates its 60th birthday next year, and because exploitation feature films with basic plots date back to its very origins, the list of rock-related films is massive. For the sake of brevity, I've identified the following categories that dominate the rock film genre, the first and most obvious being concert footage, whether of an individual performer or group, or a festival.

Next up, also in the non-fictional arena, are biographical/historical films, which can be either complete histories or, increasingly, more specialised films that cover, for example, the making of a milestone album or a brief period in a long

'I don't see Sky offering DTS HD-Master Audio or hi-res PCM'

career. Part of this vast genre are biopics with actors playing the parts in a recreation of events; those are often best filed with the fictional movies. Also in this category are proper documentaries about studios and record labels – the sub-genres.

Lastly, but not covered here, are fictional rock movies that were made either as commercial vehicles for the performers, such as all of Elvis's 30+ films, or those that use rock music as part of the plot.

They range from the sublime spoof, *This Is Spinal Tap* [MGM/Studio Canal Blu-ray M113252], to that toxic development: period dramas using inappropriate rock soundtracks. But this is not the place for me to explain why I despise *Moulin Rouge*, to a level nearing the psychotic.

(Note: Far too many titles are Region 1 DVDs or Region A

ABOVE: Two of the most important DVD sets in rock's history, the complete appearances of The Beatles and The Rolling Stones on the US TV show that established them Stateside; unlike the BBC, the Yanks kept their recordings

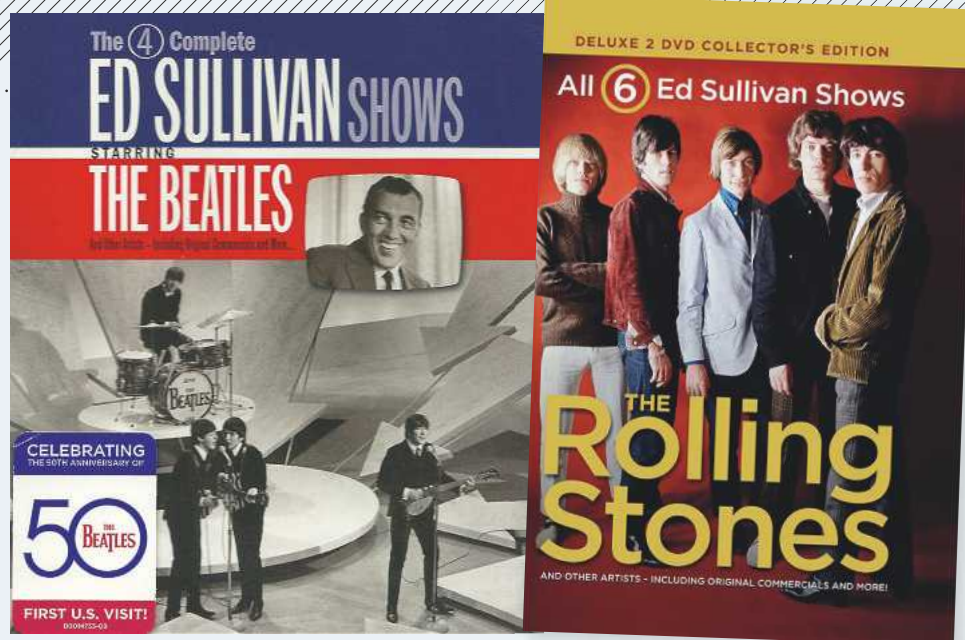
Blu-rays. For this, I make no apologies, because anyone reading *Hi-Fi News* who is committed to high-quality viewing has already dealt with the regional coding issue, eg, by buying a cheapo Region 1/Region A player for under £50.)

PLAY IT LIVE

Prior to the Monterey Pop and Woodstock festivals of the late-1960s, rock concerts were not automatically filmed, let alone recorded. Nowadays, every moment is placed on permanent record, as one never knows when the footage may be needed. The BBC, for example, should forever hang its head in shame for wiping footage of the bands that placed Great Britain on the map between 1963-66.

Fortunately, the Yanks were less brutal, and the greatest showcase of all for music on TV back in the days of only three or four channels – *The Ed Sullivan Show* – survives. This was the primary vehicle that fuelled the so-called 'British Invasion' starting in 1964, just as it offered Elvis Presley his most notable (though not his first) early TV appearance eight years prior. Two particularly important sets contain all of the shows by the two most important acts of the day, and into the current era.

All 6 Ed Sullivan Shows [Sofa Entertainment DVD B0015967-09] features 17 Rolling Stones performances from their guest shots between October 1964 and November 1969. What is remarkable about this 2-disc set, and its natural companion, *The 4 Complete Ed Sullivan Shows Starring The Beatles* [Sofa Entertainment DVD ↻



LEFT: This magnificent set, arguably the most star-rich document of its era, can be yours for under £7 on Amazon! You'd have paid more to see the film – in real terms – back in 1970



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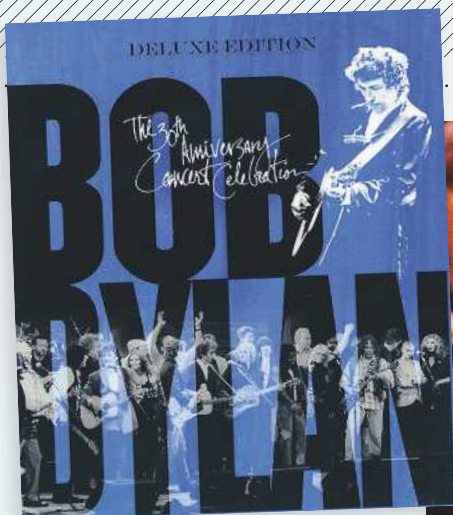
Hifi World March 2015

VERDICT ●●●●●



At Kog Audio, we select the most exceptional products in order to give music lovers unmatched enjoyment, and build systems that will exceed expectations and provide pleasure for years. Please visit our website for information, links and reviews for all our products.





B0014733-09], is the inclusion of the other artists that were on the shows, as well as the ads, rather than just the main acts. A nice touch in The Stones' set is a facsimile ticket for the show.

In both sets, the visuals improve chronologically. While the earliest appearances are clearly 'period', the sound fares much better. But that is irrelevant: for anyone who wants to get a taste of the impact these bands had 50 years ago, there are no better souvenirs of the era.

DEFINITIVE ARTEFACT

By the end of the decade, the likes of Martin Scorsese were involved in rock film production, the cameras were superior, the sound recording was of releasable quality and the filming was artistic rather than matter-of-fact. Although it's been reissued a few times, the 'Ultimate Collector's Edition' of *Woodstock – 3 Days of Peace and Music – The Director's Cut* [Warner Bros Blu-ray Z1 Y25764] is a 2-disc extended version that is unlikely to be bettered, containing as it does a four-hour edit and three hours of bonus material.

With period footage of Joe Cocker, Jimi Hendrix, The Who, Janis Joplin and nearly every other giant act from 1969, this is probably the definitive artefact of the hippie era. What makes it so important, beyond the obvious historical value, is the music itself. For most of these acts, they delivered performances that defined their careers.

Equally, the remastering of Bob Dylan's *30th Anniversary Celebration Concert* [Sony Blu-ray 88430 34139] is almost a 1992 match for *Woodstock* in its roster of Dylan fans, such as The Band, Neil Young, Johnny Cash and June Carter, George



ABOVE: The market is awash with concert videos, but multi-artist extravaganzas like this celebratory Dylanfest, as well as *Woodstock*, *Monterey Pop* and the like are eminently watchable

Harrison, Lou Reed, Tom Petty and Eric Clapton. An all-time great gig.

ROCKUMENTARIES

While not the first rock documentary, The Rolling Stones' *Sympathy For The Devil* [Fabulous Blu-ray FHEB2813], also known as *One Plus One*, is among the most important because

it was directed by an A-lister in his own right, Jean-Luc Godard. Now it's available with both the 97min and 100min edits, a study of a band recording a crucial LP, also one about to lose its founding member. This 1968 release raised the bar for 'rockumentaries', paving the way for The Beatles' *Let It Be*.

Typical of the genre focusing on the making of a single LP, with less of

the drama of the above is The Who's *Sensation – The Making of Tommy* [Eagle Vision Blu-ray EVB334849]. Arguably the first rock 'opera' (please, no hate mail from Pretty Things and Kinks fans...), *Tommy* merits such forensic analysis. This Blu-ray is an extended version of the original TV programme, as are other

DVDs and Blu-rays that first appeared on the BBC, Sky Arts or other channels mindful of rock history. As a bonus, this adds previously unreleased

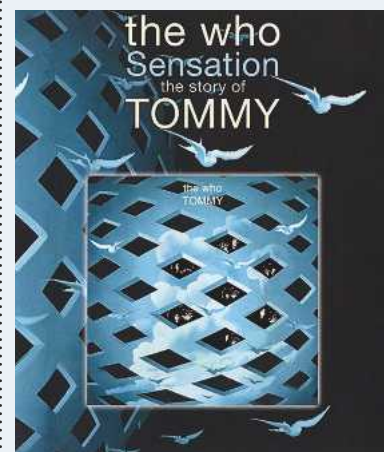
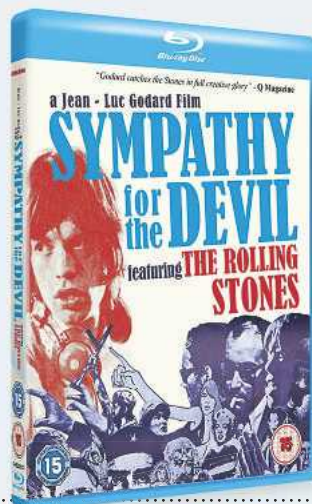
footage from *Beat Club* in 1969.

Without digging into my own archives, I recall that John Lennon's *Plastic Ono Band*, Fleetwood Mac's *Rumours*, Nirvana's *Nevermind*, Aja by Steely Dan, the Band's eponymous second album and the

'The extended Woodstock... set is unlikely to be bettered'

RIGHT: No Stones fan should be without this seminal souvenir of the making of *Beggar's Banquet*

FAR RIGHT: Rock documentaries have never been better, especially 'making of' stories like this analysis of *Tommy*



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Doors' eponymous debut, Cream's *Disraeli Gears*, Pink Floyd's *Dark Side Of The Moon* and other albums of this stature have received similar treatment over the years.

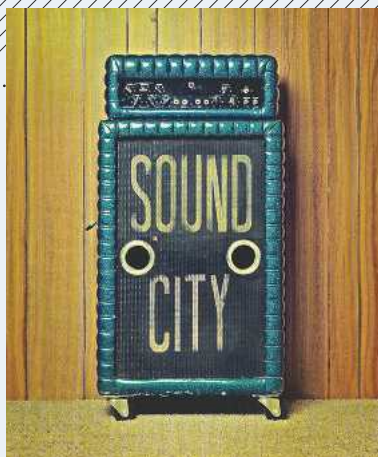
If that's too much about one LP, a new wave of superlative, themed documentaries has proved not only to be supremely informative but delightfully entertaining. This sub-genre deals with the musicians behind the scenes, and for its proliferation I would credit 2002's hugely successful

Standing In The Shadows of Motown [Momentum Pictures/Artisan 13781], the story of the session musicians behind all those Motown classics.

THREE MASTERPIECES

While I await the DVD or Blu-ray of the latest in this genre, *The Wrecking Crew* about the Los Angeles musicians that played anonymously on many hit records during the 1960s, a film now making the rounds of art house cinemas in the USA, I content myself with three masterpieces. These are, of course, only of interest to those whose passion for music begs for a greater understanding of the recording process, beyond simply listening and enjoying. For me, such documentaries enrich every bar of the music concerned.

Sound City [Sony Music Blu-ray 88765 45897 9] is a labour of love by Foo Fighter main-man Dave Grohl. Here he pays homage to one of the great studios, but one less well-known than either Abbey Road or Sun. Opened in 1969, Van Nuys, California, Sound City Studios played host to Neil Young, Dr John, Spirit, Crazy Horse, Nitty Gritty Dirt Band, Leon Russell, Delaney & Bonnie,



Joe Cocker, Fleetwood Mac and hundreds of others.

Among the LPs recorded there were Spirit's *Twelve Dreams Of Dr Sardonicus*, Fleetwood Mac's eponymous comeback and Young's *After The Gold Rush* – certainly a run of classics. Grohl is held in high enough esteem to have attracted contributions to this documentary from Young, Stevie Nicks, Tom Petty, John Fogerty, Paul McCartney, Mick Fleetwood and other artists of that stature. And when they praise a studio, you know it's approval that you cannot buy.

Another documentary honouring studio with an immeasurably great contribution to the music of the rock era is *Muscle Shoals* [Dogwoof DVD DOG291]. If you possess a love for soul, funk or southern rock, this disc recounts the influence of a studio in the middle of nowhere, but



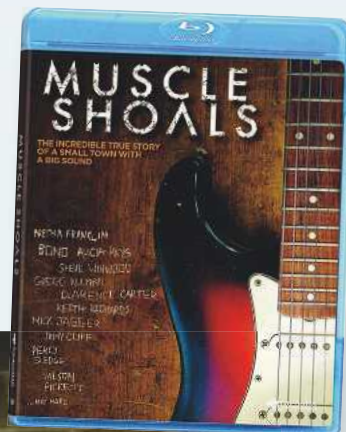
LEFT: Of late, we've been treated to a number of superlative 'behind the scenes' rockumentaries, this pair covering backing singers and a notable studio

RIGHT: This magnificent film about Motown's peerless 'house band' from 2002 upped the quality factor for all behind-the-scenes music histories

BELOW: *Muscle Shoals* tells the story of the eponymous studio, with observations by bluesman Gregg Allman and others



one with an inimitable 'groove', such that musicians travelled to Alabama to soak up the sound of the FAME Studios. This disc delivers testimonies from Keith Richards, Greg Allman, Percy Sledge, Alicia Keys, Mick Jagger, Etta James and others who know their funk.



SOUL RESTORING

Lastly, and also paying dues to an oft-overlooked element of the greatest records we own, is *20 Feet From Stardom* [Radius/Anchor Bay Blu-ray BD60906]. An extended version of the feature film, this heart-warming, soul-restoring, award-winning masterpiece tells the story of background singers, including Darlene Love, Merry Clayton, Claudia Lennear and others who enriched everything from Phil

Spector's grandiose 'Wall-Of-Sound' creations to The Rolling Stones' finest moments.

On board to show their appreciation are Mick Jagger, Bruce Springsteen, Stevie Wonder, Sting and Bette Midler, as well as commentary from a few of the singers themselves. When a film is subtitled 'Meet The Unsung Heroes Behind The Greatest Music Of Our Time', you owe it to yourself – and them – to investigate it.

And sometimes, a download just won't do. ☹

Naim Statement NAC/NAP S1

Everything about Naim's range-topping preamplifier and power amps is on the grand scale, from their construction to the entirely addictive way they play music

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

As the 'How much?' brigade splutter when confronted with the price-tag on a piece of exotic hi-fi equipment, 'You could buy a decent family car for that kind of money.' Except that in the case of the Naim Statement NAC S1/NAP S1 amplifier, the decent family car in question would – rather appropriately – be a factory-fresh Bentley Flying Spur.

Although the Statement amplification has to date always been shown as a whole, its three matching towers bolted together, in fact its elements appear on the Naim price-list as separate units: the NAC S1 preamplifier is £57,000, and the NAP S1 mono power amplifiers are £49,000 apiece, giving an all-up price tag for the stereo amp system of £155,000. But then everything here is on the grand scale: the preamp weighs 70kg and the power amps 107kg each, while the substantial packaging in which they arrive (each unit comes in a custom flight-case) ups the total shipping weight to 385kg.

The Statement amplifiers are the result of a Naim project dating back to 2010 – or at least that's the date when the formal exercise began. Steve Sells, Naim's Electronics Design Director, first proposed a 'cost no object' ultimate amp in 2002, not long after he joined the company, but it took the better part of a decade for it to be green-lit. Or in the case of the Statement, white-lit.

Once the idea finally got the go-ahead, it then took a relatively short three years or so to get to the point where it could be shown and demonstrated. But, as CEO Paul Stephenson explains in our interview [see p33], the problems weren't over: then they had to find a way of making it!

The Statement looks unlike anything else in the core Naim range, and comfortably goes beyond anything else the company has ever made, not least in

its power output. This is quoted as 746W into 8ohm or, as Naim reminds us, one horsepower: so do Naim's partners at the Focal factory in Saint-Étienne refer to the Statement amp as a *deux chevaux*? That power, by the way, is given as rising to 1.45kW into 4ohm, and 9kW burst power (however fleetingly) into a 1ohm load – figures PM's lab tests show are entirely credible [see p35].

MASSIVE SUPPLIES

There's some real architecture going on within the three units. Massive power supplies are anchored in the base of each, mounted vertically on brass chassis, and separated from the signal electronics by those acrylic detail elements through which the power cabling passes, and which are designed to keep eddy currents from the transformers at bay. In the NAC S1 preamp, this lower section also contains the input/output

circuitry, housed in a perforated Faraday cage – giving electrical isolation while allowing cooling – and mounted on a leaf spring assembly for mechanical isolation. A balanced connection then takes the signal on up through the preamp, and there's a similar connection back to the output section.

In the 'upper floors' of the preamp enclosure, the circuitry is mounted vertically, with boards back-to-back on a 3.7kg brass plate, coil springs attaching this plate to the main frame of the amplifier. Three dual-layer boards are

mounted on each side of the brass plate, the main circuitboard located between an upper board carrying the volume control relay driver circuits and a lower one for Naim's DR voltage regulators – thus locating these immediately below the sections they supply.

'It goes beyond anything else that the company has ever made'



RIGHT: The power supply, control and audio stages of the NAC (left) and NAP S1 (right) are suspended on CNC-machined frames, creating circuit 'floors' within the massive chassis



LEFT: A simple rotary volume control and touch-sensitive input selectors bely the complexity within the NAC S1 (centre): inputs can be customised and mapped to the virtual 'buttons'

of unity gain should you wish to hang the Naim off the front left/right pre-outs of an AV receiver or processor. There's one set of balanced outputs on XLRs, this being the connection to use with the NAP S1 power amps, and two sets of unbalanced outputs on four-pin DIN sockets.

The NAC P1 monoblocks continue the vertical layout theme, each with a 25kg 4000VA transformer in the lower part of the casework, along with massive reservoir capacitors, located down with the transformer and, like the preamp, with a custom-made copper busbar providing the star grounding.

HEAT DISSIPATION CHIMNEY

In addition, both pre and power amps have small switched-mode power supplies for use when they're in standby, meaning the whole system draws just 1W from the mains supply when not in use.

The amp plays things pretty simple, with just a single XLR input and a pair of speaker terminals, plus communications sockets to match those on the NAC S1, and shares with the NAP 500 a bridged layout, with two amplifier circuits per channel. Or rather four, as the power supply layout here means two channels are used for the balanced signal outputs, and another two are adapted to provide the negative and positive voltage rails.

Again there's microprocessor control to avoid any noises on switch-on, and to control the extensive protection circuitry, while the physical design includes an internal 'chimney' to help it dissipate the considerable amount of heat a 746W/ch amplifier develops. The main input and output stages are located at the top of each column, as far as possible from the power supply section.

For more on Naim's choice of output devices see PM's boxout [left], but other aspects worth noting are the use of loop negative feedback taken from before the output stage, meaning it's not affected by the speaker load, and the non-invasive

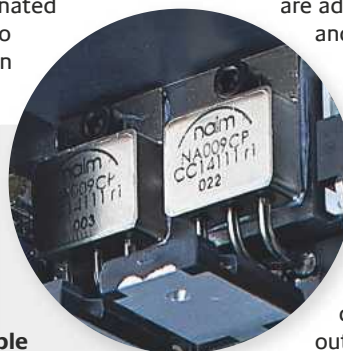
The entire construction uses only through-hole passive components and discrete transistors, and even the volume control uses what Naim calls a 'fly-by-wire' system, with an optical encoder on the volume control shaft and custom software running on an ARM microprocessor to drive a two-stage attenuator, using matched resistors and reed relays. This is designed to maintain a constant input and output resistance, and thus frequency response, across the adjustment range.

To ensure smooth operation an IC volume control kicks in momentarily while the level is being adjusted, then gets out of the way smartish as soon as the required setting is achieved.

The prosaic stuff? The NAC S1 provides three inputs on RCA phonos, three on DINs and two on XLRs, with adjustable gain and customisable mapping to the five input selector options – designated as CD, Stream, AV, Phono and Aux – and the option

CUSTOM TRANSISTORS

There's much that's bespoke about the NAP S1, not least its in-house designed power transistors. Naim wanted its amp to combine 'speed' and 'grunt' with as few high power transistors as possible – realised by photo-etching single wafers of silicon for each batch of the N-type (NA009CN) and P-type (NA009CP) devices. This precise device matching ensures that current-sharing, among other characteristics, is utterly predictable across the full performance bandwidth. This has allowed Naim to engineer as elegant an amplifier circuit as possible with just four bridged output stages in parallel (that's 16 transistors in total per channel). The final production version of these devices have an alternative, non-ferrous case to that shown – the internals are unchanged, bonded onto a copper heat-spreader before being protected by a non-resonant epoxy shell. Even the legs are now solid copper to reduce electromagnetic interaction under high current conditions! PM



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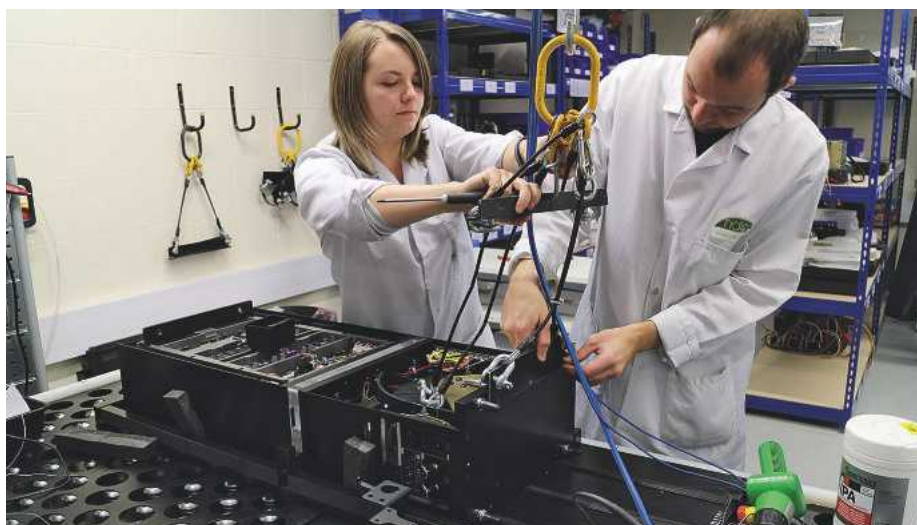
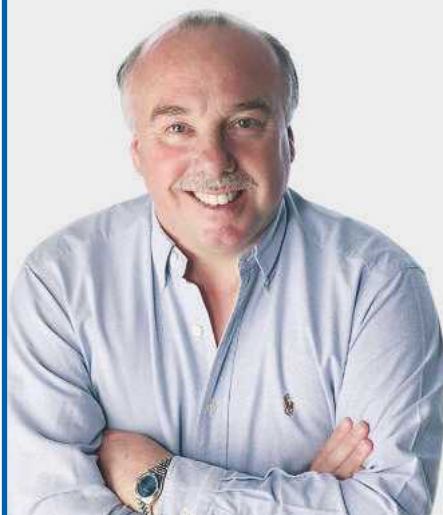
PAUL STEPHENSON

Ask Naim's CEO how the Statement project is doing, and he says that 'orders have exceeded our expectations by about 50%, and we're well on target to meet our forecast of selling 100 complete sets, despite 2014 being a year of tough economic conditions.'

The Statement started shipping rather later than anticipated, not least due to the weight of the product: 'We had to install custom lifting equipment and new handling processes throughout Naim, while building a Statement production team with the right skill mix.'

Stephenson started with the company in 1981 as Sales Director and opened up much of its distribution in export markets, so he's well aware that shipping 385kg amplifiers around the world brings its own problems, as 'it's not a regular delivery to a hi-fi store! It usually needs three-plus people and, of course, a forklift truck helps. We had to design custom packaging so it will survive a drop or two when you are shipping around the world – the cost of that packaging, and shipping, makes your eyes water.'

He expects much of what the company has learnt in designing and making the Statement to trickle down, 'the challenge is utilising this knowledge and these techniques to make more affordable products.' However, he confirms that Naim has plans to add a source component to the Statement line 'sometime – but only when we can move performance ahead as much as we feel we have with the amplifier.'



ABOVE: At 70kg and 107kg (each), respectively, final assembly of the NAC S1 and NAP S1 amplifiers requires the use of a custom-built hoist **BELOW:** The NAP S1's 25kg, 4kVA mains transformer

design of the protection measures. Last but by no means least, heatsinking is provided by those hefty extruded ribbed side panels so much a part of the Statement look: for now, like the rest of the amplifier, they come in black, but if you're spending this money then Naim is more than willing to discuss custom finishes!

SHEER INTELLIGIBILITY

More than two decades of reviewing hi-fi equipment has left me somewhat blasé about what, for most people (myself included), will only ever be dream systems, so I was far from prepared for just what the Statement could do.

Jettisoning all the usual 'audiophile approved' music I decided to hit Naim's amp with everything I'd got, from vintage prog and 1970s glam to orchestral warhorses and the most delicate of chamber music, and with every track I played a sense of regret grew inside me.

You see, I really needed to be sharing the listening with someone to whom I could turn and say 'Did you hear what it did with that?' before the two of us dissolved into ridiculous grins and giggles.

Realising that my usual PMC speakers might be ever so slightly outclassed by the Statement (!), I used a pair of Neat's Ultimatum XL10 floorstanders, as I'd heard them used in anger on a couple of occasions and really liked what they can do, while the


source was the Naim NDS network music player, with two 555PS power supplies.

Factor in cabling and a cup of tea for the team required to heft the whole system into position and you'd just have change from £200k. Worth the money? If I had that kind of cash at my disposal, my special matt black credit card would be on the retailer's desk in the blink of an eye.

It's not all about bringing out detail you've never heard before/making the musicians appear like they're in the room/lifting veils – or any other hi-fi reviewing cliché you care to mention – but rather making every recording you play seem like you're hearing it for the very first time.

Most striking of all is the absolute linearity of the Statement, whatever volume level you choose, and whatever the music you play – from background levels, where it'll surprise you with the sheer intelligibility of the sound, right up to its ability to do the 'go on, you know you want to' thing. At which point it's already pummelling you with its super-clean bass and irresistible rhythmic drive, while still telling you more about instruments, voices and performances than you'd ever imagined possible. Yes, this is one truly superlative amplification system.

First out of the traps was Lake Street Dive's tinglesome cover of

'I Want You Back' from their *Fun Machine* EP 

'I decided to hit Naim's Statement amplifier with everything I'd got'



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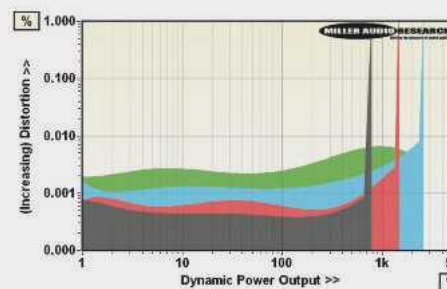
LAB REPORT

NAIM STATEMENT NAC/NAP S1

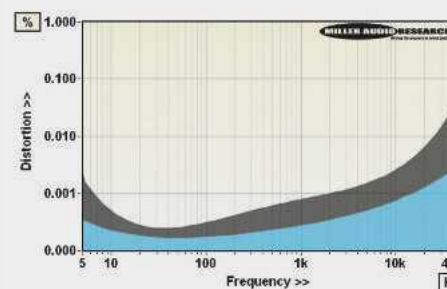
Designed to provide 6dB of headroom over the NAP 500 amplifier (4x the power output), Naim's NAP S1 is rated at 746W/8ohm (one horsepower) and 1450W/4ohm. This was met on test at 795W/1493W, respectively, although the massive PSU is so tightly regulated that there's effectively no dynamic headroom – 790W, 1480W and 2610W is possible into 8, 4 and 2ohm (10msec/1% THD) with 1585W/3190W available into 1ohm for 10msec/5msec. Maximum current is governed by the security of the output stage into any load – I was able to squeeze 4.05kW/6kHz/5msec so Naim's claim of 9kW/10kHz/0.1msec seems realistic.

Either way, the NAP S1 is clearly one of the most powerful and load-tolerant amplifiers ever tested in *HFN* [see Graph 1, below]. It's also one of the most linear, offering a mere 0.0002% THD through bass and midrange from 1-300W/8ohm, only rising to <0.0008% up to 700W/8ohm. At the highest frequencies this increases to just 0.0012%/20kHz and 0.0025%/40kHz courtesy of a response that stretches from 2Hz-50kHz (~1dB points) and to 100kHz at -3.3dB. The A-wtd S/N ratio is equally impressive at 94.8dB (re. 0dBW) and a huge 125.3dB (re. full output).

The partnering NAC S1 preamp is very nearly as linear with 0.0003-0.007% distortion [black trace, Graph 2], a wide 96.1dB S/N ratio (re. 0dBV) and a 14V balanced maximum output. Output impedance increases from 10ohm to 215ohm at 23Hz as a function of its AC-coupling cap just as Naim's regular series resistor bumps-up the NAP S1's impedance to 0.11ohm. Readers may view full QC Suite test reports for Naim's NAC S1 pre and NAP S1 power amp by navigating to 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). Maximum current is 40A (10msec)



ABOVE: THD versus extended frequency; NAC S1 (1V out, black trace) and NAP S1 (10W/8ohm, blue trace)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	795W 1493W
Dynamic power (<1% THD, 8/4/2/1ohm)	790W 1480W 2610W 1585W
Output imp. (20Hz-20kHz, NAC/NAP)	215-10ohm 0.108-0.124ohm
Freq. resp. (20Hz-100kHz, NAC/NAP)	+0.0 to -13.8dB +0.0 to -3.25dB
Input sensitivity (for 0dBV/0dBW)	171mV 88mV (balanced)
A-wtd S/N ratio (for 0dBV/0dBW)	96.1dB (NAC S1) 94.8dB (NAP S1)
Distortion (20Hz-20kHz, 1V/10W)	0.0003-0.007%/0.0002-0.0012%
Power consumption (Idle/Rated o/p)	103W 1410W (NAC S1, 38W)
Dimensions (WHD, NAC/NAP S1)	270x940x412/256x940x383mm

LEFT: Eight stereo inputs are provided on the rear panel of the NAC S1 – six unbalanced ins (three on 5-pin DIN, three on RCA) and two balanced ins on XLR. Balanced outs connect to balanced ins on the two NAP S1 power amps, these equipped with single sets of 4mm speaker binding posts. RJ45 sockets provide for connection of the CAN (Controlled Area Network) bus

[Signature Sounds SIG2048], which I must have played hundreds of times. While I knew it was well recorded, I never knew just *how well* until I played it through this system. Simply, there's just much more of the entire performance, with every element fusing together to create great music-making, and everything revealed with crystalline clarity.

PINNED TO THE SEAT

Still not quite believing what I'd heard, I tried the Naim with ELP's 'Toccatà', the band's fabulously dense and percussive take on part of Ginastera's First Piano Concerto, from *Brain Salad Surgery* [Sanctuary Records 5308195]. It's challenging, to say the least, with its powerful drumming and percussion, swinging from gentle piano to thundering synth bass, with swirling programmed sounds and yes – even tubular bells. I was pinned to my seat, transported back to some vast arena around the time I was in Sixth Form, and loving every minute...

Another dozen or so tracks blurred by, each one seeming like a freshly-detailed shiny thing, and by now I was rising to the challenge of trying to wrongfoot the Naim. Wagnerian trumpets? Tinglesome, and delivered with total ease. Piano duets? Beautiful in the simplicity with which the amps bring out the performances intertwining, while recreating the sense of two big, metal-framed wooden stringed instruments in a closely-defined studio space. Accompanied voices?

The violin plaintively winding its way around the voice in Bach's *St Matthew Passion* aria 'Erbarme Dich' [Linn CKD 313], while the orchestra maintains the work's signature heartbeat, was one of those experiences that made you just sit in silence when the music stopped.

And then I played T Rex. Nothing I'd heard so far had prepared me for the way the signature riff of 'Get It On' [*Electric Warrior* – Universal 533 780-0] thundered out of the speakers, the definition of the percussion, the focus on Bolan's unmistakable voice, the piano stabbing in now and then, and that all-too-short guitar solo.

The song was given unstoppable motive power, and there was little left but to wonder at just *how well recorded* was what, for so long, had been seen as disposable pop. ☺

HI-FI NEWS VERDICT

OK, so there was some ribaldry when the Statement name was first announced, but the NAC S1/NAP S1 lives up to the title with a sound that's much more than the Naim signature writ large: this is a truly magical amplifier across a huge range of musical styles and listening preferences. It deploys its power in a manner that's not about showiness or bluster, but all about bringing the listener the closer to what's being played.

Sound Quality: 90%



Sonus faber Liliu

Sonus faber assaults the high-end with the Liliu, a direct beneficiary of research undertaken for the Aida Review: **Ken Kessler Lab: Keith Howard**

With its Liliu floorstander, Sonus faber has produced a more 'realistic' loudspeaker than the controversial limited edition flagship, The Sonus faber [HFN Feb '11]... if you can call £47,000 'realistic'. That six-figure speaker, the sire of this entire family, elicited divided opinions, but none could argue with its genuine grandeur. The 103kg Liliu, too, is an equally imposing floorstander, one that also oozes luxury, its finish a match for the finest furniture.

If, however, you lack taste, happen to be a Russian oligarch or a star on *TOWIE*, an extra £20k or so will add the lacquered gold-leaf finish (photographed here) in place of the red-stained or walnut wood sections. It's not so much 'gilding the Liliu', more a case of *gilding* the Liliu, in my opinion.

Not that I should *kvetch* about any company pandering to the filthy rich: who else can afford high-end audio these days? And if price concerns you, think of this as costing £33,000 less than the magnificent Aida [HFN Apr '12], from which it is derived.

The Liliu's resemblance to the Aida and The Sonus faber is unmistakable. The cabinet is shaped in the form of company's now-familiar 'lyre' cross-section, tapering to the back and with sloped top. The lyre shape dates back a quarter-century to the original Guarneri Homage and its benefits are multi-fold, including the elimination of internal reflections, added rigidity and – crucial if you married a hi-fi hater – gorgeous looks.

Another nod to Sonus faber's historical precedents is the glass plate above the top-mounted infra-bass woofer. This recalls the metal panel that was positioned on the back of the original Extrema, spaced to cover its rear-sited KEF B139 woofer as a form of 'bass disperser'. Coincidentally, it also served that speaker as a way of dealing with proximity to the rear wall, acting as its own back reflecting surface, and making positioning less of a concern.

Although the Liliu's plate doesn't affect room placement (unless, perhaps,

you have seriously low ceilings?) I'm assuming that it serves a similar role in dispersion here, while it also acts as a dust cover. That was not an issue with the Extrema, as the latter's rear-firing woofer was vertically positioned and not a surface to attract falling particles. Suffice it to say that, along with the vertical slits that are part of the Stealth Reflex System, it made KH's life that more difficult [see boxout, p37 and Lab Report, p41].

'A SCALED DOWN AIDA'

The Liliu, like its larger siblings, is an inordinately complicated system, and not just because of a plethora of drive units and the inevitably complex crossover. Starting with the cabinet, Sonus faber has again mixed solid walnut and leather, partly – it must be emphasised – to respect the 'organic' nature of all speakers from the firm's beginnings, the pioneering uses of shaped woods and inspiration from the forms of acoustic instruments originating at nearby Cremona.

Sonus faber itself calls the Liliu 'a scaled down version of the Aida', tempered with a bit of the limited-edition Ex3ma [HFN Jul '14]. All of the speakers of this generation – The Sonus faber, Liliu, Ex3ma and to a lesser extent the Olympica family [HFN May '14 and Mar '15] – are exercises in eliminating vibration and spurious noise. The recipe for all includes separate enclosures for the subwoofer and isolation of the tweeter and midrange in their own sub-enclosure, and a 'no port noise' passive radiator inherited from the Ex3ma design.

That beautiful, rounded lyre shape is the result of the triple curvature cabinet walls, real artistry in wood, while the structure is damped and ribbed to enable the 'total rejection of spurious vibrations and standing waves'. As first seen in The Sonus faber, the structure incorporates damping

RIGHT: The complex 3.5-way topology includes a top-mounted infra-bass unit with a diffracting cover, 28mm tweeter, 180mm mid and three 180mm woofers



STEALTH REFLEX

In a reflex-loaded loudspeaker, port output is due to Helmholtz resonance between the mass of air in the port and the compliance (springiness) of the air contained within the enclosure. Above the resonance frequency the port output is in-phase with that from the driver and adds to it, thereby bolstering output; below resonance the port and driver outputs oppose, increasing bass roll-off to 24dB/octave from the 12dB/octave of closed box loading. Reflex loading increases sensitivity and reduces distortion but there are downsides: airflow through the port can become turbulent, adding 'chuffing' noise at high outputs, and 'organ pipe' resonances can occur within the port tube itself. Sonus faber's patented Stealth Reflex system is termed 'para-aperiodic', ie almost non-resonant, because the inner surfaces of the port duct(s) are lined with sound absorbent material. It is claimed to provide a reduction in cabinet size, greater bass extension, reduced distortion and the elimination of port noise. KH

shelves made of CNC-machined and anodised avional aluminium, positioned at the top and bottom of each enclosure.

Also inherited from its forebears is the 'Anima legata' system. This uses structural ribs in the subwoofer enclosure and a steel rod that secures the tuned mass dampers, two differently tuned devices that oscillate in anti-phase to 'erase micro-vibrations'.

All the drivers are new Sonus faber designs. They include a 28mm H28 XTR-04 'Arrow Point' damped Apex Dome tweeter with neodymium magnet, and the M18 XTR-04 180mm mid with neodymium magnet and CCAW wire on a composite former, to produce an eddy current free voice coil.

The mid employs a diaphragm made with 'a real-time air-dried, non-pressed blend of traditional cellulose pulp, kapok, kenaf and other natural fibres'. Sounds like a blend of tea to me... To inhibit residual cone coloration, the diaphragm is damped with a viscous surface coating. Behind the tweeter/mid sub-baffle is an acoustic chamber, with a coaxial anti-compressor to remove cavity resonances and distortions.

Below this mini-baffle are the three W18XTR-16 180mm midwoofers. These share the diameter and structure of the solo midrange unit because the company feels it encourages better merging of the relative spectra. The midwoofers feature sandwich cones made of a syntactic foam core and two external surface skins of cellulose pulp. Further reinforcing the bass are the SW26 XT-08 260mm infra-woofer and its companion ABR [see KH's boxout, above].

When you see the Lilium's owner's manual, you'll be as grateful as I was that someone else did the set-up (PM, in this case). And not just because of the size and weight: there's a lot to this speaker, the box even including a special suction tool for handling the glass plate (which will also serve afterwards as a useful tool for housebreakers). In addition to a rotary control on the upper back section for setting the bass level, the wiring

possibilities mean that this speaker is adjustable to your heart's delight.

Enabling this is the crossover, derived from the company's Paracross technology and incorporating Mundorf's

'That beautiful, rounded lyre shape is real artistry in wood'

Supreme Silver/Gold/Oil capacitors and Jantzen inductors. It operates at 80Hz, 250Hz and 2500Hz, and provides a choice of single wiring, bi- or tri-wiring, as well as facilitating a combination of multiple amplifier configurations.

A NEW TRANSPARENCY

For the review, we used high resolution recordings (192kHz/24-bit unless otherwise stated), and CD transfers from an Astell & Kern AK120, feeding the editor's optimised PC via a JRiver v1.9 music front end. It was fed directly into Devialet 800 monoblocks via USB and wired to the Liliums with legacy Deltac Black Slink speaker cable. (Note that Devialet's SAM bass correction system was not available for the Lilium at the time of writing this review.)

As for positioning, the usual toe-in is recommended, ideally an equilateral triangle with a minimum of 2m between the speakers and a similar minimum distance to the hot seat. Suffice it to say that these speakers will fill a huge room, ➤



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ABOVE: The tweeter and mid are located on a mini-baffle, decoupled from the main baffle and fitted with its own acoustic chamber. Note the mini-baffle's 'lyre shape' recalling the Lilium's cross-section

and, with their high sensitivity, will go loud enough without needing a kilowatt per channel amp.

NO SUBSTITUTE FOR SIZE

As I grow fonder of the Astell & Kern when it's playing back high-res material, or even transfers from decent CDs, I can understand why PM loves his Devialet so much. His system always sounds clean and analytical – it needs to be as it is a testing tool as much as a source of pleasure – but I was not expecting my first reaction to be one of exposure to even greater transparency.

Normally, when faced with a behemoth the size of the Lilium, or its natural competitors from Magico, Vivid, Wilson and similar towering floorstanders, the initial effect is one of scale. However much we may love small two-ways – and I still adore LS3/5As with near-religious fervour – when it comes to speakers there is no substitute for size. In this respect, the Lilium is a classic tower, with its broad stage width amply balanced by similar depth.

This added transparency, while evident even with the best of the high-res material, actually showed its worth with two particular recordings – vintage mono! – that I'd ripped from CDs. They spoke volumes about the Lilium's prowess... if getting closer to the music is what this is all about. They were, of course, tracks from The Cardinals and George Formby. OK, so it pre-dates WWII, but the title song from

When I'm Cleaning Windows – His 52 Finest 1932-1946 [Retrospective RTS 4104] is Formby's masterpiece, and it is a virtuoso performance... if you think the banjolele can yield such an event. I have no idea how many times I've played this, but the Devialet/Lilium combination eked out even more nuances than I'd heard before.

Tiny licks, variations in Formby's lightning-fast strumming (he surely must be the Alvin Lee of the ukulele), more sounds from the orchestra: it is impossible to resist those hoary old reviewer clichés about lifting veils. I

wouldn't be surprised if ol' George had a song about that too...

Woodwinds and brass with more air, the trumpets especially punchy – the clarity defied the limited

bandwidth of the recording. But that banjolele break! Harmonics, decay, the plastic-y sound of the banjolele's skin – it was as if the recording had dropped 20 years from its true vintage.

Less crippled by audio arthritis is 'The Door Is Still Open To My Heart' from The Cardinals' CD of the same name [Collectibles COL9977]. Which is precisely two decades newer than the Formby track. This slice of classic doo-wop, aside from being so gorgeous a song that it sends chills down my spine, is always revealing of a system because of the backing vocals and the sax break. As for the lead vocals, they're so velvety it's as if Mel Tormé had a twin singing half-an-octave higher. ➔

'It's impossible to resist those hoary old clichés about "lifting veils"'

PAOLO TEZZON

'The Lilium is, with the exception of our Ex3ma, the first Sonus faber to be developed with instrumentation more accurate and precise than previously available. These tools have not replaced the "humanistic approach" that has always been the foundation of our design philosophy, in which nothing is subordinated to human perception.

'Listening remains the centre of our design process, but it is also true that the new tools, in particular our anechoic chamber, enable us to raise the levels of performance. Definition, transient speed, transparency and ability to correctly reproduce the silence – an essential component of music – are much improved. All this is combined in developing membranes for materials able to reproduce sound in a natural way, without causing fatigue – a traditional Sonus faber quality.

'We'll move in two directions after the Lilium – the first is to continue to develop speakers that are more reliable, with higher performance, while retaining the essence of Sonus faber. But the brand is also moving in a second direction as we're aware that today people enjoy music in ways that are very different from traditional hi-fi listening, using new technologies, and mobile devices. This is especially true for young people.

'So we are thinking of objects that are able to keep pace with the times, maintaining the Sonus faber quality despite the different ways of enjoying music. The Chameleon line [see News, p14] is the first example of what you'll soon see.'





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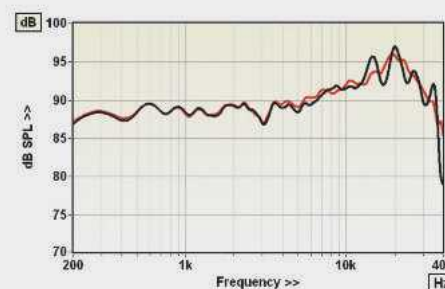
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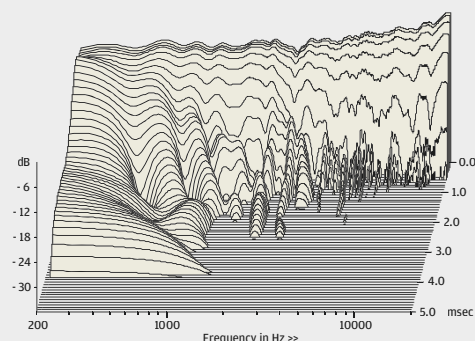
SONUS FABER LILIUM

Sonus faber claims 92dB sensitivity for the Lilium, a figure substantiated by our simple average of the FFT response data but not by our pink noise or music-weighted figures which suggest that 90dB is more representative. Nominal impedance is 4ohm which accords well with our measured minimum modulus of 3.1ohm at a low 27Hz. Impedance phase angles are quite high but well enough controlled where the modulus is low for the minimum EPDR (equivalent peak dissipation resistance) to be a quite amplifier-friendly 1.8ohm at 95Hz.

The forward frequency response, measured at tweeter height at 1m [Graph 1, below] explains the disparity between the sensitivity figures. Below about 5kHz the response trend is flat but above 5kHz the output steadily rises, suggesting that the flattest response will be achieved slightly off-axis. Because of this treble rise, frequency response errors are necessarily on the high side at ± 5.1 dB and ± 4.5 dB, respectively, just as pair matching was disappointing at ± 2.3 dB (200Hz-20kHz). The largest disparities occurred above 13kHz – below that the matching was a superior ± 1.0 dB. Because of its many drivers and the inaccessibility of the top-mounted infra-woofer and base-mounted Stealth Reflex ports and ABR, the Lilium is a difficult prospect for near-field bass measurement. Sure enough, our diffraction-corrected results inspired sufficient confidence only for estimating the output to be below 40Hz (-6 dB re. 200Hz), the frequency at which adjusting the bass level control increases or decreases output by approximately 2dB. The CSD waterfall [Graph 2] evinces fast initial energy decay but some low-level treble resonances are visible. KH



ABOVE: Off-axis listening will ameliorate the post-5kHz treble lift. Pair matching is excellent <13kHz



ABOVE: The Lilium's cabinet is very well damped, but some low-level modes are revealed through the treble

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	92.4dB/90.2dB/89.5dB
Impedance modulus min/max (20Hz–20kHz)	3.1ohm @ 27Hz 15.9ohm @ 1.4kHz
Impedance phase min/max (20Hz–20kHz)	-42° @ 2.1kHz 45° @ 108Hz
Pair matching (200Hz–20kHz)	± 2.3 dB
LF/HF extension (-6 dB ref 200Hz/10kHz)	<40Hz / 38.1kHz/38.4kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.4% / 0.8% / 0.2%
Dimensions (HWD)	1600x491x705mm

LEFT: In addition to its tri-wiring/ tri-amplification capability via three pairs of terminals at the bottom, bass level can be adjusted by ± 2 dB for the room or personal taste via a three position knob

ever heard, the closeness apparent on every track. This particular version was taken from the remastered *Unplugged* in 192kHz/24-bit, and every sparkling note, every plucked string had a presence so seemingly real that 'in the room' almost seems insufficient. Transient attack? Nigh on perfect. It was a reminder of what one experiences in small folk clubs. As that was the intention of the *Unplugged* series, then Sonus faber's Lilium achieves everything MTV could have wanted.

FALLING IN LOVE AGAIN

'Nobody Knows You When You're Down and Out' had a glorious lilt, the piano accompaniment so authentic that I'm sure a pianist could tell the instrument's manufacturer. The ringing, chiming note and the liquid flow... sitting still was not an option. I was at a loss to find any area to criticise. So I brought out the big guns, The Beatles' *Rubber Soul* from the 24-bit USB stick.

Can 50 years really have passed since I brought home the LP version of this unequivocal masterpiece? The Lilium brought back that day in December 1969 when I queued to buy it. Pitter-patter stage right and the raunchy organ break in 'I'm Looking Through You', Ringo's astounding drumming on 'You Won't See Me' – this was always my favourite Beatles album. The Lilium made me fall in love all over again. ☺

HI-FI NEWS VERDICT

Sonus faber has certainly rediscovered its 'mojo' for making huge floorstanders. No, these are not of the same approach nor disposition of the much-loved Homage models. Instead, they exhibit what Brunello is to Barolo: two thoroughbreds differing mainly in attitude. Stradivari / Amati win on grace and subtlety, Lilium on power and sheer scale. My goodness, is this a truly magnificent loudspeaker.

Sound Quality: 89%



The Lilium removed a layer of *schmutz* that opened the song in both the physical planes and removed a tiny trace of haze that simply rendered the sound more vivid. What I didn't expect was an increase in perceived bass extension with 'Wheel Of Fortune', which has minimal instrumental backing. But when the drums kick in at 1m 20s, it's almost a surprise and a shock. Better still are the interwoven vocals at 1m 50s, each so distinct that you wonder if it was an early multi-track.

As I grow older and soprier, I find it increasingly more difficult to listen to Eric Clapton's 'Tears In Heaven'. Its portrayal through the Liliums was as intimate as I have

VPI Prime/JMW 10 3D

With its flowing curves, heavyweight build and 3D printed tonearm, this new deck from US vinyl veteran VPI blends tried-and-tested methods with cutting-edge tech

Review: **Andrew Simpson** Lab: **Paul Miller**

Since taking the President's seat at VPI Industries, Mathew Weisfeld, son of company founder Harry Weisfeld, has been on a mission to introduce budding audiophiles to the joys of vinyl via a range of entry-level (and upwards) decks bearing VPI's moniker.

First came the Traveler, which set out VPI's stall for plug-and-play decks needing minimal set-up, followed by the Nomad (£999), which took the concept a stage further by including an onboard phono stage, headphone amp and Ortofon 2M Red pick-up as part of the package. More recently came the Scout Jnr (£1550), which is a stripped back version of the Scout 1.1 [*HFN* Oct '14].

A CONSISTENT AESTHETIC

The Prime sits at the other end of the spectrum and serves to show that with Mathew at the helm, VPI remains just as focused on taking its know-how to new models aimed squarely at the high-end market. The Prime is Mathew's first solo turntable design, with input from the rest of the VPI team and with Harry's approval.

Externally, it looks very much a modern VPI, continuing in the Scout aesthetic of black and silver with an exposed plinth and freestanding motor – contrasting with VPI's more traditional Classic range, which have their motors housed internally within the deck's wood-framed chassis [see *HFN* Apr '11]. But rather than follow the predictable rectangular plinth approach, the Prime's 38mm-thick vinyl-wrapped MDF plinth is elegantly shaped with sumptuous curves that make it stand out from the boxy crowd, while pushing its footprint out to over half a metre in width.

From the ground up the Prime combines new with tried-and-tested VPI technologies. Its four isolating corner feet incorporate a flexible rubber nut

borrowed from the Classic range which is sandwiched between solid Delrin plates. The lower plate terminates in a cone shape that locates into the centre of a dedicated, puck-like base packing a trio of ball bearings fitted into its underside.

Pressed into the Prime's plinth is an inverted bearing that's lifted from the Scout 2 and Classic models, with a stainless steel shaft and 60 Rockwell chrome-hardened ball at its tip. This turns in a phosphor bronze bushing with a PEEK thrust disc residing in the platter. According to VPI, the platter belt's side load is placed at the centre of the spinning bearing to minimise 'teetering effects'.

The Prime's 48mm-thick machined aluminium platter is also carried over from the Classic/Scout 2 models, with its 9kg heft largely accounted for by a stainless steel damping plate bonded to its underside. With this platter you can later upgrade to VPI's Periphery Ring clamp (£700), which rests on the outer edge of your LPs to hold them flat.

The Prime comes equipped with a new 2mm-thick mat formed in an anti-static rubber, which looks and feels far superior to the supplied aftermarket felt mat that came with last year's Scout 1.1. The supplied threaded clamp is also top quality, and gets a stainless steel upper section in place of the Scout's all Delrin version, making it three times as heavy.

For platter spinning duties, UK-bound Primes boast a larger version of the Scout's dedicated low-noise 500rpm Hurst motor, in place of the 300rpm US market version. Like the US version this comes housed in a solidly built cylindrical alloy case that carries a push button on/off switch and mains inlet socket, which can also be upgraded to VPI's SDS (Synchronous Drive System) at £1250 if bought with the Prime, or £1500 separately.

3D PRINTED ARMTUBE

Completing the package is a 10in variant of VPI's unipivot JMW tonearm, appropriately named the JMW 10 3D, with the 3D



RIGHT: Freestanding AC motor drives the 9kg alloy/steel platter with a rubber belt around its periphery with manual speed change. Curvy MDF chassis is steel-braced on its underside



element referencing its printed armtube design [see boxout]. While the standard 9in arm offered plenty of easy adjustment, this 10in version goes much further and is a tweaker's delight, offering adjustment of VTA on-the-fly and with clamping screws that can be secured by hand instead of with fiddly hex keys, which makes getting the deck up and running hassle-free. Simply site the chassis on a level platform, install the four isolation pucks, add the platter and fine-tune levels via the threaded feet.

Now place the motor within the deck's left cutout (VPI recommends having it protruding around 6mm proud of the chassis) and fit the peripheral belt to the upper pulley for 33.3rpm, or lower pulley for 45rpm. Both pulley sections also allow limited fine speed tuning via extra grooves.

Next install your cartridge and align using the supplied steel jig, before setting its height. Azimuth can be set by either

rotating the counterweight on its off-centre hole, or winding out the stainless threaded outriggers fitted on either side of the upper bearing cup. Downforce is via the traditional sliding counterweight method (though you should measure it as close to the LP surface as possible), and for anti-skate you can either rely on the tension of the exposed twisted arm wire loop alone, or call upon a nylon thread and rotational weight, which I found more reliable here.

Lastly, remember to fit VPI's trademark rubber washer under your LPs to aid the clamp in reducing record warp effects. Cue up an LP and you immediately notice

the effect of the Prime's isolation feet, which give the deck a floating sensation by allowing it to gently move on its own axis a few degrees in the horizontal plane, while at the same time feeling vertically stable. A quick knuckle wrap on the turntable's

'The unipivot tonearm allows all the musical detail to shine through'

3D VISION

While 3D printing is becoming more commonplace at the development stage in hi-fi circles, aiding prototyping before a design is finalised, seeing 3D printed hardware adorning the hi-fi products we buy is much rarer. With a background in CAD and 3D printing, Mathew Weisfeld was quick to bring this technology to VPI and exploit the advantages it brings to tonearm design, where a polymer based arm tube is likely to be much lighter than its metal equivalent, while remaining rigid. 'This was a crazy idea I threw at the wall almost two years ago,' says Mathew. 'We were working on re-engineered techniques, but the development was taking way too long and holding up production of our flagship Classic Direct. Using 3D printing techniques seemed the best approach since it could all be one piece and well damped.' Because 3D printing extrudes the material outwardly – in the Prime's case by using a high-temperature laser to build 0.001in layers of non-crystalline epoxy resin – each arm wand (including the headshell, fingerlift, tonearm tube, pivot housing and counterweight extension) takes a day to print, before being hand-sanded and finished in textured paint before its wires, shielding, uni-pivot thrust pad, stabilising and counterweights are installed.

ABOVE: Corner feet assemblies use a combination of Delrin plates/cones, ball bearings and rubber for support and isolation. 10in 3D printed tonearm offers easy adjustment

supporting shelf with the needle dropped in a run-out groove reassured me that very little vibration is getting past those feet into the replay chain, and in this respect the VPI seems more akin to a suspended sub-chassis design than a rigid chassis one.

DIGGING DEEP

Using a Goldring 2500 moving-magnet cartridge [HFN Mar '11], which I chose for its revealing nature, and with the deck feeding my Primare R32 phono stage [HFN Jan '12] and Musical Fidelity M6PRE/PRX amplifiers [HFN Nov '13], the VPI dug deep into each groove.

I started with Ben Howard's 'The End Of The Affair' [*I Forget Where We Were* – Island 4701043] and first impressions were that the Prime's acoustic signature is certainly cut from a similar cloth to the Scout 1.1's, albeit in a more substantial and luxurious fabric. Like the Scout, the Prime is no slouch, and it provides an honest window into the music, having an open top end that errs ever so slightly on the warmer side of the spectrum – but here the detail and overall sense of scale are grander and more insightful.

Ben Howard's vocals sounded thickly textured via my Dynaudio Focus 260 floorstanders, and I was treated to each subtle nuance as his singing style intentionally blurred each word into the next. With lesser decks, this can leave his vocals sounding mushy and unfocused, but with the Prime all the detail was there for me to hear clearly how each preceding word helps to form the start of the following one.

The echo of plucked guitar during the opening section was also noteworthy, ➔

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VPI PRIME/JMW 10 3D TONEARM

While the Prime features a new chassis aesthetic, its 9kg alloy platter, 24-pole AC-synchronous motor and inverted bearing (with hardened stainless shaft, chrome ball/PEEK thrust pad and phosphor bronze bushing) are familiar VPI staples. As a result there are no surprises when it comes to wow and flutter or rumble. The former is a low 0.06% (peak-weighted) with a very low 0.02% low-rate wow component – evidenced by the ‘sharpness’ of the W&F spectrum [Graph 1, below]. Absolute speed accuracy was –0.37% (centre pulley groove) while rumble, measured through its bearing, was low at –70.4dB and perfectly in line with earlier models [HFN Oct '14 and Nov '09].

The partnering 10in 3D tonearm features VPI's familiar (JMW Memorial) unipivot bearing, which necessarily offers very low friction (<10mg). Stability is greatly improved by outriggers fixed either side of the housing below the bearing point. 3D printing brings with it the advantage of fashioning a one-piece tube and headshell at lower cost than casting and machining from alloy (and with a lower 9g effective mass), but the choice of material is limited to available polymers/resins. VPI screens the inside of its printed armtube with copper but the plastic defines its rigidity so the tube's main bending mode is a modest 130Hz, with low-Q harmonics/torsional modes at 290Hz and 410Hz. The simplicity of the structure is reflected in the lack of messy HF resonances – in all it's a very ‘clean’ looking spectrum [see Graph 2 and compare with the alloy JMW Scout tonearm, HFN Oct '14]. Readers may view full QC Suite reports for VPI's Prime turntable and 3D tonearm by navigating to www.hifinews.co.uk and clicking on the red ‘download’ button. PM



ABOVE: Exposed arm wire loop plugs into a junction box via a LEMO connector, letting you remove the arm wand in seconds. RCA sockets allow your choice of cabling

both for how the Prime gave it real clarity, and for how the deck allowed its ringing echo to extend way back into the soundstage – further than I'm used to hearing.

And when the tempo picked up as it moved to the more progressive part of the track, the soundstage expanded dramatically left to right. In this section and with lesser decks I'm used to hearing a suggestion of congestion, as though each instrument is jostling for space, but with the Prime opening out the musical layers, I was treated instead to a much greater sense of breathing space.

On some turntables the Goldring MM can sound almost too analytical, especially with the wick wound up, but aboard the Prime it was a perfect partner, as the unipivot tonearm allowed all the musical detail to shine through with an added sense of grace and cohesion.

INKY-BLACK BACKGROUND

With the title track from Laura Marling's *Once I Was An Eagle* [Virgin Records 00602537358632], from the soft shakes of the tambourine to the more pronounced strings and guitar work, the Prime served up each tone-colour with just the right amount of focus, without making them either overly pronounced or sidelined in the mix. I regularly call upon this 2013 album for reviewing purposes, but rarely had I heard it sound so exciting as here.

Whether it was down to the armtube's damping, the heavyweight platter, those isolation feet or a combination of all three, I cannot really say, but what I can attest to is how – in comparison to my reference VPI Scout – the Prime's backgrounds seemed darker and more inky-black. On Dire Straits' 'Private Investigations' [Love Over Gold – Vertigo 6359 109] the

soundstage depth, combined with a lack of unwanted background noise during the quieter sections, created a palpable sense of drama as the music began to emerge from way back behind my speakers.

Bass depth and impact are also notable Prime strengths, which I'd first really noted during the Laura Marling 'You Know' and 'Breathe' tracks, with the Prime letting the plucked bass strings reach low enough to give them physical presence, while ensuring they began and ended with real precision.

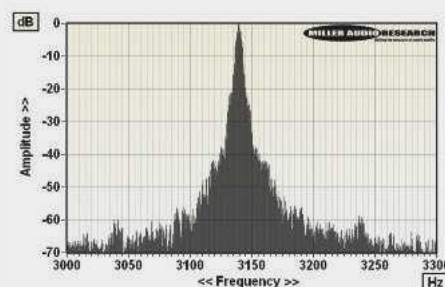
Switching to a Denon DL-103R moving-coil cartridge revealed more of the deck's low-level capabilities. With Ásgeir Trausti's 'Hærra' from his 2014 album *Dýrð í dauðabögn* [One Little Indian TPLP1198] the Prime quickly got to work in showing what its heavyweight platter and solid chassis were there for.

Bass notes kicked in with a definitive thud that gave the Dynaudio speakers' woofers a thorough workout. And it was not just bass volume that flowed forth, it was the *quality* and detail of the lower notes that marked out the Prime's performance. ☺

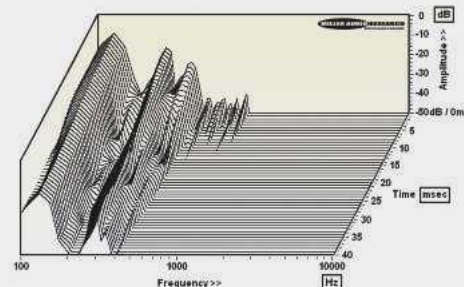
HI-FI NEWS VERDICT

As a newcomer to VPI's stable, the Prime offers a whole lotta turntable for the cash, especially considering its 10in tonearm alone costs £2k. From its quality clamp right down to its funky feet, it's clear that every aspect of this deck has been considered for maximum performance and ease of use in a package designed to make a style statement. Moreover it offers a sound that's gloriously expansive, deep and detailed.

Sound Quality: 82%



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ±150Hz, 5Hz per minor division). Wow is very low while –0.4% pitch can be tweaked via pulley



ABOVE: Cumulative tonearm resonant decay spectrum, illustrating various bearing, pillar and 'tube' vibration modes spanning 100Hz-10kHz over 40msec

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.21rpm (–0.37%)
Time to audible stabilisation	5sec
Peak Wow/Flutter	0.02% / 0.04%
Rumble (silent groove, DIN B wtd)	–68.1dB
Rumble (through bearing, DIN B wtd)	–70.6dB
Hum & Noise (unwtd, rel. to 5cm/sec)	–55.1dB
Power Consumption	7W
Dimensions (WHD)	535x190x400mm

Arcam C49/P49

Arcam's latest preamp and partnering power amp is designed in Cambridgeshire, but built in upstate New York. British brains, American muscle – sounds like a plan

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

We've come a long way from the A&R Cambridge A60. Almost 40 years, in fact: from the age when every student blew a good chunk of his or her first grant cheque – remember them? – on a hi-fi system, Arcam has survived into the age of the iPod and the student loan, adapting along the way to the needs of the market.

For a period it looked as if the company had sold its soul to all things 'i', with a growing range of little black boxes aimed at Bluetoothers, and a shift of its production from Cambridgeshire to points even further East.

In reality, Arcam's core hi-fi and home cinema products never went away, but now they're back with a bang, courtesy of an amplification line-up designed at Arcam HQ, but built in the Rochester, New York, factory of Canada-based parent company JAM Industries. And the real powerhouses of this latest reinvention are the hefty A49 integrated amp, yours for £3750 and claiming 200Wpc into 8ohm, and the preamp/power amp combination we have here, the C49/P49, selling for £2750 and £2999 respectively.

Essentially, the pre/power is the A49 sawn in half – in layout if not in imposing stature – and of course benefiting from the separation of those delicate preamp-level signals from the heavy lifting of the power amp stages.

But if the standard 200W/8ohm, rising to 400W/4ohm, isn't enough for you, the P49 power amp can be bridged into mono, comfortably more than doubling its power – which should be enough to give even the most recalcitrant speaker a spot of the old 'didn't see that coming'.

I get the feeling Arcam's getting off on all this power: its publicity for the amplifiers tempts with the idea of an 'ultimate system' comprising a C49 with six bridged P49s tri-amping suitable speakers. Just ask

yourself when you've ever thought in terms of almost £21,000 of Arcam amplification!

MATT BLACK AND MENACING

The new Arcam amplifiers have no shortage of kit-rack presence: each unit is around the size of one of the company's larger AV receivers, standing some 170mm tall, and carries off the whole 'matt black and slightly menacing' thing rather well, despite a softly curved fascia.

Arcam is sticking to its story that the FMJ branding on its flagship range refers to the slogan 'Faithful Musical Joy', but that sounds a bit wussy for this new 49 series, which has about it more than a hint of the 'Full Metal Jacket' machismo the company originally mentioned some years back. So don't ask if

you can have them in silver to match your coffee table – black's all you are getting.

In essence, this is a pretty simple amplifier combination: a pure analogue preamplifier, with not a sniff of a digital input or Bluetooth antenna, and a power

amplifier purely dedicated to driving and controlling speakers as well as the Arcam designers know how. Yes, you can add that digital stuff according to your needs – Arcam has a

matching CDS27 CD/network player at £800, and the C49 has an onboard power supply to provide juice for the company's rSeries DACs – but as standard you get seven line-level inputs, one on balanced XLRs, and a moving-magnet phono stage, and pre outs on both RCA phonos and XLRs.

'There's always the reassurance of power yet to be unleashed'



RIGHT: A single 1.5kVA toroidal power transformer has multiple secondary windings. These feed the lower and higher supply rails that service Arcam's Class G output stage



LEFT: Arcam plays it simple, with little more than black on black input selectors and a large rotary volume on the C49 preamp, with switches for the P49's two sets of loudspeaker outputs

And that's almost it for the C49, apart from a few niceties including the ability to convert the phono input into a further line-in, to assign the XLR input to any of the source buttons, and to set any of the inputs to a fixed, but adjustable, 'Processor mode' level – for example when combining the preamp with a surround processor or receiver. Completing the package is a system remote handset.

The design of the preamp is balanced throughout, with dual mono volume controls and input multiplexers to cancel out distortion, and the internal layout is clear and logical, complete with hefty power supply provision for a preamp.

The dual mono theme is continued through to the P49 power amplifier, which makes use of a Class G topology [see PM's

boxout below], which Arcam believes gives its power amp the best of both worlds.

Balanced and RCA inputs are provided, although those wanting to daisy-chain multiple power amps will find there are only RCA outputs for this purpose, with switches to select between the two sets of inputs, adjust the gain (25dB or 31dB), and choose between stereo, bridged or dual mono operation. The last of these feeds a single input to both channels of the amp, which could be useful if you're going for a 'long runs of interconnect and an amp beside each speaker' layout.

BIG AND MAJESTIC

I seem to have spent the last few months surrounded by high-power amplifiers, from the NAD M Series [*HFN* Apr '15] and

GamuT m250i monoblocks [*HFN* May '15], not to mention the Naim Statement NAC/NAP S1 reviewed in this issue (see p30). In such illustrious company, Arcam's 49-ers are more than capable of standing proud, having that totally addictive sense of limitless power coupled with the ability to sound at turns big and majestic and subtle and detailed.

Hefty and macho the C49 and P49 may look – and even more so when a brace of the power amps are deployed in bridged form, as Arcam supplied for my amusement as an adjunct to this review – but at heart these are amplifiers bearing their prodigious power with a certain degree of insouciance, and just as at home at 'another glass of sherry, dear' levels as they are when the devil on your left shoulder outshouts the angel on the right.

Unencumbered by all that digital jiggery, and indeed pokery, the Arcam combo has a refreshingly direct sound, whether via the more than respectable MM phono stage or its line/XLR inputs. I used both the Wadia 321 [see p56] and Arcam's CDS27 as sources, and having tried them with both single-ended and balanced inputs I'd strongly suggest you use the XLRs for your primary source, simply because the Arcams deliver even better focus and impact when so fed.

The publicity material suggests that 'We considered having a volume control that went up to 11 – it really goes *that* loud!', but that undersells the C49/P49 combination: yes, it goes loud if you ➞

ARCAM'S CLASS G

The quest to reduce amplifier power consumption without sacrificing audio quality has never been more important [see Opinion, *HFN* Mar '15]. Class D technologies, where the output transistors are either switched fully on or off, are usually the most efficient but are not without their engineering foibles. Class G, on the other hand, makes use of a conventional output stage fed from two or more power supplies which are introduced according to signal demand. The higher PSU rails are only switched in once the audio output rises above a certain level – a method first introduced by Arcam in its AVR600 [*HFN* Jul '09]. Although the Class G concept is at least 40 years old, Arcam's refined version sees its PSU smoothly track the audio level rather than switch abruptly between voltages. This realisation of Class G is arguably closer to the BASH technology described in our recent Investigation feature [*HFN* Feb '15]. Certainly our lab testing revealed little or none of the HF 'glitching' or distortion typically associated with the hard switching of low to higher-power PSU rails [see Lab Report, p49]. PM

“I don’t know these
guys from Germany
but the sound was
fantastic...”

*Michael Fremer Stereophile,
T.H.E. Show Newport 2013*



BERLINA-SERIES

EDITORS’ CHOICE.

We are happy to receive a very special award at the end of this year: Besides the Editors’-choice-award in “The Absolute Sound” this year the major award was reaching the top of the all-time-ranking of our BERLINA RC 9 in Germany’s “Audio” like the RC 11 did in “Stereoplay”!

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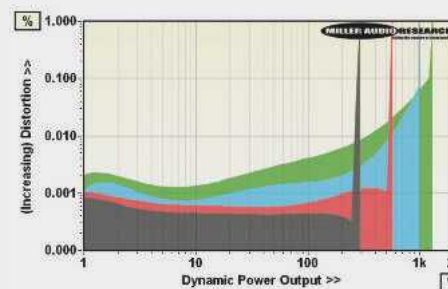
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LAB REPORT

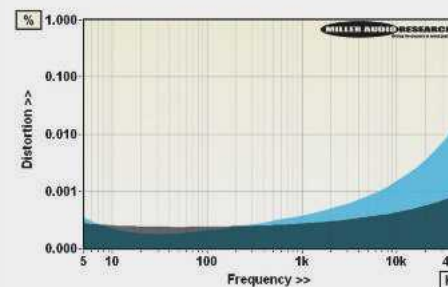
ARCAM C49/P49

It's been over a decade since Arcam delivered us a genuine 'high power' amp but this new P49 model outstrips even the monoblock P1 [HFN Nov '04]. The latter sustained 230W/8ohm with 278W/513W into 8/4ohm under dynamic conditions while the P49 nudges ahead with a continuous 2x245W/8ohm and a dynamic 290W, 570W, 1kW and 1.3kW into 8, 4, 2 and 1ohm loads [see Graph 1, below]. Over 1kW/4ohm would be anticipated in bridged, mono mode. The amp is also very 'clean' with a wide 91.4dB A-wtd S/N ratio (re. 0dBV) and very low (midrange) distortion held to within 0.00025-0.0005% over its full 200W power bandwidth. THD necessarily increases with frequency, but 0.003%/20kHz is still very low indeed with only a suggestion of higher order harmonics to implicate PSU rail switching. From 20Hz-20kHz, the low-ish 0.025-0.065ohm output impedance (0.45ohm/100kHz) assists the flat response which offers -1dB points below 1Hz up to 68kHz before falling to a sensible -3.3dB/100kHz.

The partnering C49 preamp is clearly penned by the same author(s) and makes for a very sympathetic match. It offers a wide 94dB A-wtd S/N ratio (re. 0dBV), an exceptionally wide frequency response with -1dB points of <1Hz to >100kHz and a healthy 5.5V maximum output from a (balanced) 46ohm source impedance. As expected, distortion is also vanishingly low with a minimum of 0.0001% midband to a maximum of just 0.0003% at 20kHz [see black infill, Graph 2]. Overall gain is +12.8dB (+25.1dB for the P49). Readers may view extensive QC Suite test reports for the Arcam C49 preamp and P49 power amp by navigating to 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). Maximum current is 36.1A



ABOVE: THD versus extended frequency; C49 (1V out, black trace) and P49 (10W/8ohm, blue trace)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	245W 420W
Dynamic power (<1% THD, 8/4/2/1ohm)	290W 570W 997W 1.3kW
Output imp. (20Hz-20kHz, C49/P49)	46ohm 0.025-0.065ohm
Freq. resp. (20Hz-100kHz, C49/P49)	+0.0 to -7.1dB/+0.00 to -3.29dB
Input sensitivity (for 0dBV/0dBW)	229mV 160mV (balanced)
A-wtd S/N ratio (for 0dBV/0dBW)	94.0dB (C49) 91.4dB (P49)
Distortion (20Hz-20kHz, 1V/10W)	0.00008-0.0003%/0.0001-0.0027%
Power consumption (Idle/Rated o/p)	61W 640W (C49, 16W)
Dimensions (WHD, C49/P49)	433x171x410/433x171x425mm



ABOVE: A lot of blank metal on the rear of both preamp and power amp indicates the simplicity here. Worth noting (and using) are the balanced inputs and outputs for the best sound, while the C49 has a power output for Arcam's r-Series add-on DACs

want it to, but there's rather more to it than that. Whether with the slam and drive of some vintage Genesis – I've been especially enjoying early albums such as *Trespass* [Charisma 5190543 2 1] – or some more delicate winsomeness courtesy of Fairport Convention's 'She Moves Through The Fair' [the *Chronicles* compilation: Island 984 880 8], the Arcam amplification delivers a warm, but never slow or bloated view of the music, combined with excellent detail and dynamics.

SUREFOOTED BASS

That enables it to make a fine fist of voices and instruments, and place them convincingly in a soundstage, while having the reassurance of plenty of power to be unleashed when you sneak up on it with some real pomp-rock – eg, Thin Lizzy's classic *Live And Dangerous* [Vertigo 532 297-2], where the Arcam does an excellent job of letting rip with all the snarl and attack of the band, maintaining its powerful rhythmic chug even when volume levels are cranked up. The way the sound is underpinned with that hefty but surefooted bass is at the heart of the appeal of the way the Arcams play music, but this is far from being a one-trick solution: that low-end clout is delivered as part of a total package of musical involvement that's hard to resist.

But this isn't quite the most analytical amplifier around, and it can sound a little thick up at the extreme top end, meaning a little of the breathing space of highly atmospheric recordings is lost. Switching to classical music it's

without a doubt able to turn on the sonic fireworks with orchestral warhorses such as Holst's *Planets*, Berlioz's *Symphonie Fantastique* and almost any 'Best Bits of Wagner' you can mention, but is found a little lacking when presented with well captured studio or larger acoustics.

There's nothing actually wrong with the sound, and arguably the focus is all on what's being played rather than where it was recorded, but with anything from the original recording of Britten's *War Requiem* [Decca 414 383-2] to a bang up to date hi-res set such as the Engergard Quartet's recent disc of Schubert, Britten and Haydn [2L-105-SABD] the sound is just a little smoothed over and dry when it comes to ambience.

In essence, the appeal of the C49/P49 is that it's an amplifier which advances the Arcam sound way beyond the rather safe stereotype some have ascribed to its past and lesser products. ☺

HI-FI NEWS VERDICT

No shortage of swagger here, from the substantial styling and build to the way the P49 delivers its power. But at heart this is a minimalist pre/power combo, eschewing the modern trend for a built-in DAC, and delivers a sound reflecting its design philosophy. Yes, it's a little smoothed-off, but whether with rock or classical music it's hard not to like this big-boned sound, and the sense of ease with which it's conveyed.

Sound Quality: 78%



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Hi-Fi News**

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Robert Deutsch – Stereophile Feb 2015



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Opera Audio Callas II

Italy's Opera Loudspeakers continues its tradition of beautifully made and achingly stylish designs with the introduction of the new Callas compact standmount

Review: **Adam Smith** Lab: **Keith Howard**

Two of the greatest issues facing the prospective purchaser of high-end loudspeakers are the inevitable matching price tag, plus the general situation that high-end typically means 'large'.

Fortunately, if you are in the position to afford a pair of capable loudspeakers but do not have considerable space available, your prayers may well have been answered. Salvation in this case comes in the form of Opera Loudspeakers' new Callas model, a compact standmount design retailing at £2750. This promises a great deal of performance in a neat and room-friendly package, wrapped up in an appealing gloss walnut or mahogany finish.

STUNNING FIT AND FINISH

Italians know a thing or two about style, so it's not unreasonable to expect that a new Opera loudspeaker won't be a dull square box, and – as our pictures illustrate – this Callas model is most certainly neither square nor dull. Frankly, the fit and finish of the Callas loudspeakers is absolutely stunning and they are a stylish and elegant break from the loudspeaker norm.

However, this latest Callas – we're calling it the Callas II – is rather more conventional than its forebear, which boasted no fewer than five tweeters on its cabinet. Two were located above and below the bass driver, with three more on the rear panel. These operated over different frequency ranges in an attempt to regulate the speaker's high frequency dispersion. For the new Callas, however, these extra tweeters are no more and each loudspeaker simply uses the drivers that can be seen on the front baffle – there are no hidden domes tucked away!

The drivers in question hail from Scandinavia, but from different countries and manufacturers. The 7in mid/bass driver

is made by SEAS to Opera's specifications and based around one of its Excel models. It features a rubber surround supporting a polypropylene cone, which is then annealed using a process which Opera suggests is 'delicate' but confers increased cone rigidity without diminishing the material's innate damping properties.

Two copper rings are used on the pole piece of the woofer's motor assembly, reducing inductance and permitting the driver to operate over a wider frequency range. Opera claims that this is up to 5kHz for the Callas's woofer although the crossover is tuned to 2kHz, well away from the driver's limits. Combined with a peak driver displacement of 12mm, the result should be low distortion and minimal power compression at higher volumes [see Lab Report, p55]. The driver is loaded to the rear of the cabinet by a 55mm-diameter port.

High frequencies are handled by a Scanspeak 9700 tweeter, which hails from the company's Classic Series, but using motor unit technology from the high-end Revelator range. For the Callas, this means a 1in textile dome with a moving mass of 0.45g and, unusually, no ferrofluid in the magnet gap. Ferrofluid is employed in most tweeters for both damping and cooling, so doing away with it requires some intricate design work to ensure the finished product does not

easily overheat or audibly distort. Opera is clearly confident of Scanspeak's abilities in this area, as it utilises the same tweeter in several other of its loudspeakers.

EQ SWITCHING

The crossover that unites the two drivers uses second order slopes on both bass and treble and

is split to allow bi-wiring or bi-amping. Connections are made using some truly scrumptious 'Opera' branded gold binding

'I can only offer a firm "Bravo!" in the direction of Opera Loudspeakers'



RIGHT: The Callas II utilises drive units from SEAS and Scanspeak and is clothed in a very stylish and sturdy MDF and plywood cabinet. The main curved body is available in high gloss Walnut or Mahogany veneers

posts that make the art of wrapping loudspeaker wire almost a pleasure. Passive components include Mundorf capacitors and metal oxide resistors.

Additionally, there is a toggle switch on the rear of the cabinet that is claimed to alter the output of the 300-3000Hz band by 2dB when operated. However, as can be seen from the Lab Report, its action seems to be rather more subtle than this, with around 0.5dB of change instead.

Finally, everything is housed in a cabinet made from veneered MDF and curved plywood that boasts an internal volume of 14 litres. The thickness of the enclosure varies from 25 to 50mm and the reverse side of the baffle is milled in order to minimise air turbulence behind the woofer.

Behind the driver is located a layer of open-cell foam with a pyramidal shape to absorb internal reflections. Naturally, the lack of parallel walls within the cabinet also pays great dividends here. Due to the construction of the more diffuse material, Opera claims that no other absorbent is required inside the cabinet, thus improving the loudspeakers' midrange performance.

A TRIP TO THE OPERA

Opera Loudspeakers was founded in 1989 and is based in Treviso, Northern Italy. It shares its headquarters with sister company, Unison Research, which may explain why Opera's speakers are considered to be quite valve amp friendly! From the beginning, the company aimed to make loudspeakers that successfully combined the most advanced internal technology for optimum sound quality, with an exterior based around traditional Italian craftsmanship. The first design to bear the Opera badge was the Caruso, named in honour of one of the great voices of the opera, Enrico Caruso. The Callas name followed soon after this and has endured, with the range undergoing several iterations. The present Callas line-up consists of these standmounts plus the Grand Callas floorstander. This £8500 masterpiece currently represents the pinnacle of the Opera range.

For auditioning purposes, I set the loudspeakers up on a pair of mass-loaded Atacama SL-600 stands around three feet from the rear wall and 18in from the sides, and fed them with a mixture of digital and LP source material through a Naim Supernait amplifier.



WORTHY OF THE NAME

I really did promise myself that I would avoid poor Italian-related puns in this review but I have to say that I can only offer a firm 'Bravo!' in the direction of Opera Loudspeakers, as the Callas IIs really are *molto bene*. They do a remarkable job of impersonating much larger loudspeakers and have a scale and dynamism that is highly addictive.

Add in a fine sense of low-end weight and the inevitable conclusion is that these are genuinely high-end loudspeakers, merely handily scaled down into a manageable and room-friendly total package.

For a reviewer, moving from floorstanding loudspeakers to standmount designs can often be a rather nerve-racking experience, especially given a larger room. Fortunately, the Callas IIs rose to the challenge superbly,

appeared to take a deep breath and filled the aforementioned space most effectively. Across the midband they projected superbly and almost seemed to have an enthusiasm for the task at hand. They picked fine instrumental detail from the depths of recordings with aplomb and actually seemed as though they *enjoyed* making music – which, for an inanimate object, is quite some feat!

As a result, the soundstage set up by the Operas was wide and deep, with a good sense of stability and precision from front to back. Vocal projection was absolutely first-rate with the output adjustment switch on its lower setting. Moving this to the upper setting to lift the midband brought about a fairly subtle change, but did bring performers within the recording even further forward.

Occasionally I felt that this veered towards making things just a little too 'shouty' but then my room does err towards the lively end of the scale. Perhaps this setting might well be of greater use if your listening space is better damped. Overall the action of this 'midrange compensation' seemed subtle, well-judged and did not unduly unbalance the speakers' underlying sonic character.

At the top end, that lovely SEAS tweeter more than proved its worth, by serving up a deliciously crisp and clean treble. Those of you who have encountered other ferrofluid-free tweeters in the past may well remember them turning your ears inside-out with their searing performance – but this was emphatically *not* the case with the Callas IIs. Naturally, one might reasonably expect nothing less from the likes of SEAS but I was still glad to encounter treble that was both pure and soft when required, but blessed with a fleet-footed snappiness with the right material.

Playing one of my regular 'good music buried in a bad recording' test tracks in the form of 'Only When I Sleep' from The Corrs' *Talk On Corners* CD [Atlantic ➔





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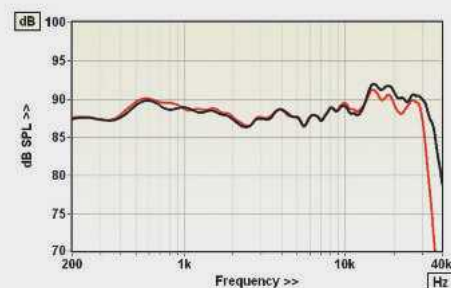
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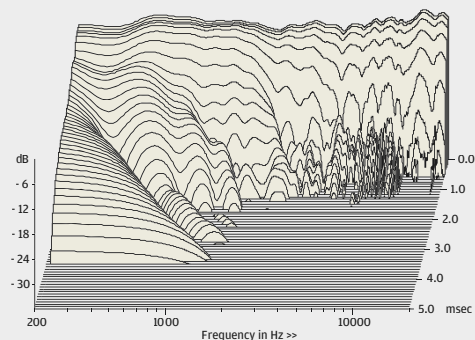
OPERA AUDIO CALLAS II

Opera claims 89dB sensitivity for its new Callas, which accords well with our measured pink noise figure of 88.6dB. The quoted nominal impedance is accurate too: eschewing nonsense like '8ohms compatible' Opera specifies 4ohm with a minimum of >3ohm, which is entirely consistent with our measured minimum modulus of 3.5ohm. Impedance phase angles are sufficiently well controlled that the minimum EPDR (equivalent peak dissipation resistance) is 1.9ohm at 139Hz, a little higher and more amp-friendly than for many nominally 4ohm designs.

The forward frequency responses, measured at tweeter height at a distance of 1m, show an obvious concave trend through the presence band (which will tend to increase the apparent stereo image depth and slightly soften the overall sound) and a shelving up of output in the last half-octave to 20kHz [Graph 1, below]. Response errors 20Hz-20kHz are commendably low at ± 2.8 dB and ± 2.4 dB respectively for the pair. This is for the EQ switch in the 'Plus' position; in the 'Minus' position the output drops by around 0.5dB in the range 1kHz-4.5kHz. Pair matching is less exceptional at ± 1.2 dB, 200Hz-20kHz, but tightens to an admirable ± 0.6 dB below 13kHz. Diffraction-corrected nearfield measurement shows the bass output extends to 53Hz (-6dB re. 200Hz), a fair result for a speaker of this size and sensitivity. Roll-off begins gently below 200Hz and steepens at 70Hz which should bode well for clean bass in-room where careful placement relative to the walls will improve the apparent bass extension. The CSD waterfall [Graph 2] evinces fast energy decay with only low-level resonances visible at treble frequencies. KH



ABOVE: The new Callas offers a very smooth bass response with a slight loss in presence band output



ABOVE: Cabinet and mid/bass driver resonances are well controlled with only minor treble modes visible

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	89.4dB/88.6dB/88.2dB
Impedance modulus min/max (20Hz–20kHz)	3.5ohm @ 236Hz 16.5ohm @ 81Hz
Impedance phase min/max (20Hz–20kHz)	-46° @ 102Hz 41° @ 22Hz
Pair matching (300Hz–20kHz)	± 1.2 dB
LF/HF extension (-6dB ref 200Hz/10kHz)	53Hz / 37.7kHz/31.9kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.7% / 0.5% / 0.1%
Dimensions (HWD)	420x245x420mm

LEFT: Ported at the rear, the back panel also plays host to chunky and stylish bi-wiring input terminals and a switch to 'tweak' its midrange response

my auditioning, the Operas sounded a little unsure of themselves. I experimented with toeing them in a little further and moving them away from the side walls which helped somewhat, but this particular aspect of the track never quite came together in a totally cohesive way.

DEPTH AND IMPACT

In fact, while the bass offered by the speakers was generally very impressive, they were occasionally caught out. It definitely seemed as though the Operas fared better with something a bit faster and punchier, becoming a little less confident when things slowed down and required more detail and insight. I would say around 90% of the time I found myself marvelling at their bold and weighty nature, but with that remaining 10% they sounded ever so slightly boxy – as with the Clapton track.

That said, they certainly have plenty of impact and depth to them, and they do a remarkable job of imitating something bigger, particularly when fed a rollicking bass line. This was highlighted by the opening to Lissie's 'Further Away' from *Back To Forever* [Sony Music 88883729961]. Here, the low end action was punchy and taut, setting the rest of the track up perfectly. ☺

HI-FI NEWS VERDICT

The new Opera Callas loudspeakers are beautifully crafted and based around high quality drive units. Their midband adjustment option is intelligently implemented and they have a sonic stature and rhythmical demeanour that belies their relatively compact dimensions. Through them, music is fun, addictive and enjoyable. Naturally, hailing from Italy, they are also a treat for the eyes.

Sound Quality: 80%



7567-83106-2] fazed the Operas not one little bit. They effortlessly highlighted that this was a day when the mastering engineer possibly had a bad head cold, but they certainly didn't give the jumbled, distorted and generally unpleasant overall rendering that I have heard from lesser loudspeakers.

Instead they successfully revealed that Andrea Corr's voice is a truly delightful thing to behold and was in fine form on this recording. They even hinted that maybe there was even a properly musical bass line lurking in there somewhere... In all, the result was surprisingly well crafted and listenable.

Moving to something rather more sympathetic, 'Hey Hey' from Eric Clapton's *Unplugged* LP [Reprise Records 9632-45024-1] showed off the Callas II's strengths much more effectively. The live recording was vivid and atmospheric and Eric was locked perfectly centre-stage. His acoustic guitar even seemed to have grown in stature, such was the immediacy and precision of each string pluck.

I did note that the initial foot-tapping as the song starts was a little uncomfortable, however. This is a very handy test of bass timing and, for the first time during

Wadia 321

The latest in a long line of illustrious DACs from Wadia is beautifully built, with striking styling, serious heft and – well, quite a lot of fresh air inside. But how does it sound?

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

From the get-go, Wadia has been all about digital audio: unlike some companies which grew into the digital age, it was founded in the late 1980s, started out with DACs and has expanded in the other direction, adding analogue components to its line-up.

The 321, yours for £2798, isn't just a digital-to-analogue converter – in Wadiaspeak it's a 'Decoding Computer', echoing the product that started it all, the Wadia 2000, which carried the same description [see boxout, p57]. And just in case you're in some need of reassurance that this is something beyond the DAC norm, the company has made the 321 pretty large and hefty, to match its current a315 and a320 power amplifiers and the m330 media server.

LARGE FOOTPRINT

Finished off with a sleek industrial design, these components combine a wraparound aluminium main case, complete with integral rubber-tipped feet, glass top panel and fibre-optic illumination of the logos on the front and 'lid'.

However, there's no getting away from the fact that this does give the 321 a somewhat large footprint, meaning some thought will be needed when it comes to installing it on a rack or other support. It's over 45cm wide, and some 50cm deep including cables, so it may well overhang some conventional shelves.

Peering inside, it's clear that this size is mainly about providing a visual match with the likely partnering components from the Wadia catalogue. As our inside shot illustrates [see right] the PCBs and PSUs within are surrounded by quite a lot of fresh air. As noted in PM's Lab Report, one effect of this 'huddling together for comfort' may be some low-level interaction with the main power supply: not actual

noise through the speakers, but heard as a warming of the bass. While I get the idea of keeping cabling as short as possible, it's not hard to form an opinion that Wadia might have made life a bit simpler for itself had it made full use of the internal space.

Anyway, on the plus side, the Wadia 321 does go beyond many a DAC in that it's designed to be used either in conventional source/amplifier/speaker systems or directly into a power amplifier or active speakers. To this end, the analogue outputs are of variable level, delivering a claimed 0-4V on the RCA outs and double that to the balanced XLR connections, figures that correlate with PM's measurements.

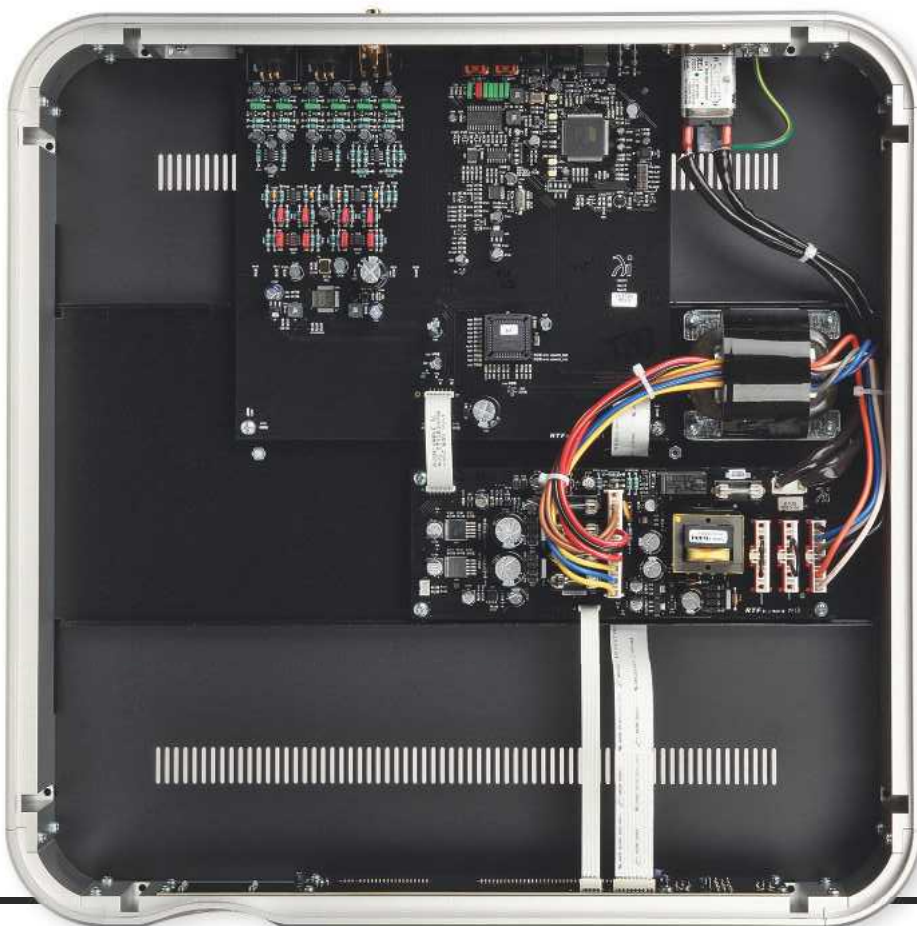
Variable outputs on a DAC can help reduce your system's box-count as well as making that price-tag seem more

attractive. Partner it with the a315 stereo power amplifier, which sells for just under £3400 and rated at 150W/8ohm, and you could have a very neat two-box solution.

A total of six digital inputs are provided, including two optical, three coaxial and a high-speed USB, allowing the 321 to cater both for conventional hi-fi sources and music-playing computers. Drivers must be downloaded for PCs running Windows OS, though none are needed with Mac OSX computers, and installation is a matter of 'plug and play'.

What is, however, somewhat unusual for a modern DAC is that the 321 doesn't handle DSD files, even over its USB connection. Given that this is a product from a US company, where there seems to more of an appetite for DSD playback

RIGHT: The core of Wadia's 321 comprises a legacy Cirrus CS8416 digital input receiver (an Atmel chip for USB), CS8421 32-bit/192kHz upsampler and ESS ES9018S (eight-channel) DAC driving a fully balanced analogue output





than in almost any other market in the world, this could be viewed as a significant omission. Instead, the 321 will handle a max of 192kHz/24-bit via its optical and coaxial inputs, and 192kHz/32-bit via USB.

SIMPLE SET-UP

It does this using a conventional digital to analogue set-up with a Cirrus digital receiver and 192kHz/32-bit upsampler ahead of an eight-channel ESS ES9018S 'Sabre' DAC, used here in quad balanced mode – *ie*, with four converters per audio channel – for improved noise reduction and to accommodate the balanced output.

The set-up menu is very simple, merely allowing the setting of automatic power off after 30m with no signal, and the display of the firmware version the 321 is running. These can be selected from the front-panel or from the compact (but substantial) remote handset, which also offers obvious functions such as input and volume control, muting, and the brightness of the rather smart white-on-black dot-matrix display, as well as the opportunity to switch the

absolute phase of the analogue outputs from the listening position.

There are also buttons to 'drive' other Wadia components, although a slight oddity is that the 'on/standby' button is marked, instead, 'mode'.

There's also a little more fiddliness than is usual these days when using the 321 with a Windows computer – the driver's software control panel requires manual sample-rate setting, for example, but it does allow the user to increase the buffer size and trade latency for reduced chance of dropouts. That aside, this is a simple, fuss-free piece of equipment to set up and use and, once in place does have a certain equipment-rack presence.

We've come a long way from the best basic black – if solidly-built and impeccably-engineered – Wadia digital components of the past, and the new line-up certainly shows more signs of having some serious industrial design input, making it both striking looking and distinct from more conventional competition. This isn't hi-fi to be hidden away, like the anonymous 'black

'Wadia's 321
combines
generosity with
rhythmic drive'

ABOVE: In keeping with its clean lines, Wadia keeps it simple when it comes to the 321's controls – offering toggles for power, setup, input selection and volume up/down

box' DACs of yore – this is much more a component designed to be put on display.

STRIKES A GOOD BALANCE

Wadia says the 321 has been designed to be simple to use or, as it puts it, 'factory configured allowing for immediate enjoyment of superb audio' and that's just about how it pans out in use.

It also describes the sound of the 321 rather well: yes, it's smooth, warm in the bass and a bit on the lush side down there, but it's also fast and attractive with overtly rhythm-driven music while at the same time delivering more than acceptable levels of detail and ambience.

In other words, it's extremely enjoyable from the off, drawing a good balance between ease of listening and a satisfying hi-fi experience – and a remarkable number of products struggle a bit when it comes to trading off those two attributes.

Neither is the sound uncompetitive in a market sector where there's not exactly a shortage of digital hardware. I tried it both as a source component and as a digital preamp, pressing into service the Arcam C49 preamp and P49 power amplifiers [see p46], and while I have to admit I didn't quite sit slack-jawed at the sheer wonderfulness of the sound I was experiencing, the warm, bold and controlled sound of the 321 proved a perfect foil for the hard-charging, big-boned sound of the Arcam amplification.

What's immensely likeable about the Wadia's sound is the way it manages to combine generosity with good rhythmic drive. Others, such as the Ayre QB-9 DSD [HFN Jan '15] manage to extract more snap and slam from rock and pop tracks for the same kind of money.

But there's a lot to like in the weight with which the 321 powers out vintage Clapton from his more commercial ➔

WADIA KNOW?

Some suggest that Wadia has become a bit 'lifestyle' under Fine Sounds, the company stable it has been a part for nearly five years, but there's not much sign of compromise in the design of the 321. Even that aluminium chassis/casework and glass top are, of course, non-magnetic and thus form a suitably inert enclosure for the electronics. This, after all, is an engineering-led company, founded by former 3M telecommunications engineers back in 1988, and setting out its stall in no uncertain fashion with the 2000 Decoding Computer, launched as the 1980s rolled into the '90s, and using proprietary code-based upsampling ahead of the digital-to-analogue conversion. The 2000's 64x digital filter boasted over 70,000 instructions a second to 'fill in the gaps' in its upsampled 16-bit CD signal and used interpolation techniques now widely employed in contemporary DACs. Pioneer's Legato Link was another early example of a digital filter that traded poor stopband rejection for superior time-domain behaviour – something positively commonplace today in the quest to 'smooth out the sound' of digital, often criticised in its early days for its harsh and mechanical sound. Ironically, the new-look 321 looks to employ a more conventional FIR digital filter.



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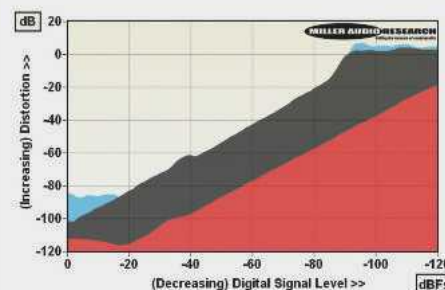
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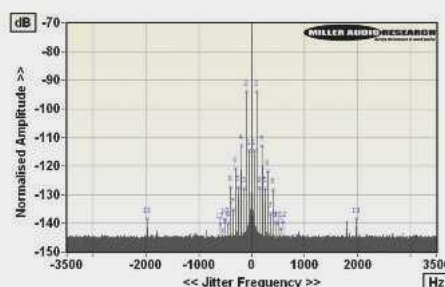
WADIA 321

Wadia's S/PDIF inputs are upsampled to 32-bit/192kHz while USB inputs may be handled natively (48kHz as 48kHz etc) or upsampled (48kHz to 192kHz etc) via its driver software control panel. The PC USB drivers (sourced from CEntrance) still require the streamed sample rate to be set manually as we saw with Audio Research's CD6 [*HFN* May '14] – another of the Fine Sounds Group's house brands. In another parallel, while the USB and S/PDIF A-wtd S/N ratios are almost identical at a (very impressive) 118dB, low-level resolution falls away quite dramatically (–9dB re. –90dBfs) via the former but stays true to ± 0.1 dB over a full 100dB dynamic range via the latter. This is clear from the THD vs. digital level plots [Graph 1, below] where the best-case distortion is a very low 0.00008-0.0005% over the top 30dB of its dynamic range via S/PDIF (red trace). Note that Mac USB performance was not tested.

The S/PDIF and USB ins share the same high maximum 7.6V output, a high-ish 550ohm (balanced) source impedance and spectacularly wide 137dB channel separation. The frequency response is common too, extending to –0.1dB/20kHz (48kHz media), –0.7dB/45kHz (96kHz) and –9.5dB/90kHz (192kHz). Jitter is also similar between S/PDIF and USB and broadly unaffected by choice of (up)sampling – 1100psec (48kHz) and 550psec (96kHz). As the 'jitter' is largely accounted for by PSU-related sidebands, this could just as easily be an analogue intermodulation but the subjective impact – a warming of the bass – will be the same [see Graph 2, below]. Readers may view comprehensive QC Suite test reports for the Wadia 321's S/PDIF and USB inputs by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



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



ABOVE: High resolution jitter plot with 48kHz/24-bit data (S/PDIF and USB are nominally identical)

HI-FI NEWS SPECIFICATIONS

Maximum output level (Balanced)	7.59Vrms at 570ohm
A-wtd S/N ratio (S/PDIF / USB)	118.5dB / 117.9dB
Distortion (1kHz, 0dBfs/–30dBfs)	0.00053% / 0.00009%
Dist. & Noise (20kHz, 0dBfs/–30dBfs)	0.0059% / 0.00017%
Freq. resp. (20Hz–20kHz/45kHz/90kHz)	+0.0dB to –0.1dB/–0.7dB/–9.5dB
Digital jitter (48kHz/96kHz/USB)	1070psec / 550psec / 1160psec
Resolution @ –100dB (S/PDIF / USB)	± 0.1 dB / –35dB (see text)
Power consumption	7W (1W standby)
Dimensions (WHD) / Weight	454x86x508mm / 11.4kg



ABOVE: Wadia offers four S/PDIF inputs on its 321 (two coaxial, two optical) alongside a single USB 2.0 port and single-ended plus balanced analogue outs

period, the breathy opening to 'Let It Flow' from *461 Ocean Boulevard* [Polydor 811 697-2] having real intimacy. And then, when the track builds in scale and power, the guitar line is both well-focused and delivered with excellent character.

Similarly Nick Lowe's *Jesus Of Cool* set [Demon FIEND CD 131], which can sound a little thin and edgy on some systems, not being the highest of fi, benefits from the richness on offer here. And this is brought to bear without impacting on the intelligibility of Lowe's lyrics or his already slight careworn voice, while its impetus and sparkiness remain completely intact.

ENVELOPING SOUNDFIELD

'So It Goes', with its near-live feel and vintage guitars, rockets out of the speakers, while the gentler mood of '36 Inches High' benefits from the ability of the 321 to get you close to the music, while at the same time creating an enveloping soundfield. It may not be quite as edgy as I remember it when it was first released, the better part of 40 years ago, but it comes up a treat through the Wadia/Arcam system, whereas on some set-ups it can just be rather brittle and even irritating.

Feed the Wadia a truly lush production job, such as those on *Up From The Dark* [Rykodisc RCD 10011] – the 1986 Dave Stewart and Barbara Gaskin compilation of covers both poignant and amiably dotty, but deliciously recorded and engineered – and it's really in its element. The oh-so-'80s take on '(I Know) I'm Losing You', complete with Gaskin's pleading voice and Stewart's bonkers feedback-ridden guitar solo, all set against a huge, chugging 'orchestration' sounds just magnificent.

It's a real listen-in experience, with both scale and subtlety, and I'm afraid I was sufficiently drawn in to indulge myself with the album's two

'guilty pleasures', 'It's My Party' and 'Busy Doing Nothing'. Big, mad and hilarious, since you ask...

Enough of this 1980s retro? Not quite: I loaded up the excellent 'private gig' release of Bill Nelson and The Gentleman Rocketeers, recorded live at Metropolis Studios in 2011 [Salvo SVX001], and revelled in the ability of the Wadia 321 not only to allow Nelson's guitars to sing out of the mix, as he and his band hammered through some old Bebop Deluxe favourites, but also place the listener firmly in the audience of Nelson fans invited for the performance.

There's just a little more bite when playing music through the S/PDIF inputs rather than via USB, but it's a pretty close run thing, and none of the inputs disappoint.

Yes, with some more overtly atmospheric recordings – think choirs or small ensembles in massive church spaces, or the likes of the LSO Live label orchestral releases – the Wadia does slightly gloss over the subtler details of air and ambience, and can at times sound just a shade shut-in, but what it does well is show that big and rich doesn't always mean bloated and slow.

That said, this is a hugely commercial product with the appeal of its dual functionality added to a sound likely to please those who listen to the hi-fi almost as much as it does those who listen to music. ⤵

HI-FI NEWS VERDICT

Beautifully built and with a style all its own, the Wadia 321 manages to combine value for money (in high-end terms) with the flexibility of both a standalone DAC and 'digital preamp'. The sound sometimes errs on the side of warmth and richness rather than delivering the last nuance of detail, but for many listeners turned off by forwardness and disinterested in DSD, it could be just the ticket.

Sound Quality: 80%



Unison Research Phono One

Vinyl fans with an eye for Italian style are in luck, as Unison Research introduces a new phono preamplifier that aims to build on the strengths of its predecessor

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

Even dyed-in-the-wool solid state aficionados are often hard-pressed to deny the delights of a good valve phono preamplifier, so here's a 'tweaked' favourite, hailing from Italy's Unison Research and new UK distributors, Henley Designs.

The Phono One, a development of the company's previous model, the Simply Phono, has witnessed some changes – a larger footprint and polished styling – and improvements under the skin. Naturally, it is a little more expensive, but the Phono One's £1870 price tag certainly seems fair, given the excellent construction and quality of finish on offer.

ELEGANT CHERRY WOOD CASE

Although on first glance it reminded me of the 1970s Deccasound T-1000 tuner, I was quickly won over by the elegant wooden top and front, supplied here in cherry (mahogany is available to order). The exposed metal part of the case serves as a vent for the valves that are also a staple of Unison Research's other audio designs.

Here, Unison has implemented five ECC83/12AX7 valves, one more than the Simply Phono. There's no practical increase in the 52dB gain of the older design but the latest Phono One does claim improvements in noise and distortion. As standard the unit is supplied with Russian Tung-Sol 12AX7 devices – a well known tube that'll not break the bank at around £12 each when replacements are required.

PHONO STAGES GALORE

The ongoing 'vinyl revival' has resulted in a wide variety of standalone phono stages. Given that many amplifiers still lack a suitable input for this purpose, using a turntable means one of these devices is often a necessity. Ranging in price from a few tens of pounds to many thousands, there has never been a better time to buy a phono stage. The likes of Pro-Ject, Rega and Cambridge Audio offer excellent, affordable designs that perform far better than their humble price tags might suggest, while more and more companies such as Unison Research are occupying the middle price ground. Of course, if money is no object then exotica from the likes of Whest Audio, Allnic, Tron and Music First Audio will fit the bill. These examples, in particular, use very different technologies to achieve the same goal of ultimate LP equalisation and replay.



The gain of the unit is fixed at 54dB which suggests it's an ideal match for cartridges with a 2mV output. Additionally, a range of four capacitive and four resistive loading options means that it should be able to work with a wide variety of both MM and MC types. (Possible downsides are hiss with very low output designs, or input clipping with higher output MMs.)

The capacitance values on offer are 100, 200, 320 and 420pF and the resistances 20, 47, 100ohm and 47kohm. In addition, there is a space on the PCB to allow for the installation of custom value resistors to suit any special requirements although this is not mentioned in the handbook.

The RIAA circuitry is carried over from the Simply Phono and is implemented passively. The PCB that carries the components is isolated from the case in order to minimise the effects of vibration and all internal connections are soldered and made using shielded wire. Switch-on thumps and burbles are minimised through a delay circuit – the front panel LED shows

ABOVE: The Phono One is activated via a rocker switch on its side. Vents in the partially exposed metal top plate aid cooling

orange, changing to green when the muting deactivates.

Like the Simply Phono, the Phono One derives its power from a separate PSU unit connected to the main amplifier through a multiway plug and lead. As the Phono One's power switch is on the side of the main enclosure, the PSU has no controls on it and can thus be hidden out of sight.

A LUSCIOUS MIDRANGE

Pushing the Phono One's performance envelope, I chose cartridges at the opposite ends of the output spectrum, namely a Charisma Audio MC-2 (0.42mV) and Ortofon 2M Black (5mV). In both cases, however, the Phono One showed itself to be a highly accomplished and polished music maker, with a particularly luscious and fluid midrange.

With the Charisma MC-2 up first and loaded with 100pF and 100ohm, the Phono One impressed from the beginning. It really got to the heart of instruments and offered a particularly fine level of upper bass detail. I was especially pleased by the way in which Timothy B Schmidt's fretless bass came expertly to the fore on The Eagles' 'New York Minute' from their *Hell Freezes Over* LP [Geffen SVLP 050].

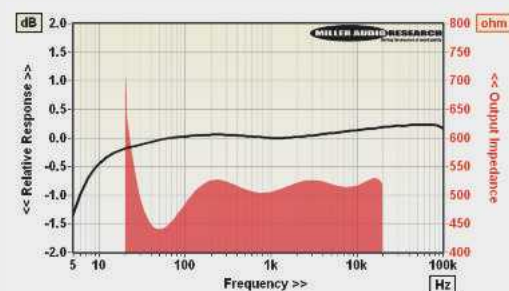
As a result, Don Henley's vocals were perfectly held in the centre of the image with the bass guitar easily located behind and to the left of him. The overall sense of scale was most commanding, although I did feel that the kick drums later in the

LAB REPORT

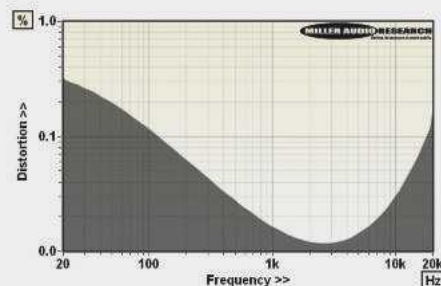
UNISON RESEARCH PHONO ONE

Last tested five years ago [HFN Jul '10], the Unison Research Phono One has witnessed some running production 'tweaks' resulting in an improved input overload margin – more of which below – and a significantly improved S/N ratio of 89dB (A-wtd, re. 5mV). The basic design remains unchanged with a bank of five ECC83/12AX7 tubes buffering the input and output around a passive RIAA eq section. The equalised response is essentially unchanged from earlier models and flat to within $\pm 0.2\text{dB}$ between 20Hz-20kHz. However, while it extends out to 100kHz (+0.23dB) it also plunges deep into the subsonic with a -3dB point of just 3Hz, so the Phono One may not be the ideal match for systems with large, ported floorstanders [see black trace, Graph 1]. While the Phono One offers loading options suitable for MC (20-100ohm) and MM cartridges (47kohm), its gain is fixed at +53dB and so is best suited for very high output MCs or modest-output magnetics.

The latter is arguably more pertinent for while the Phono One's input overload has improved to 39mV (for 1% THD) this still only represents a headroom of +17.8dB (re. IEC 5mV, or +25dB re. its 2.2mV input sensitivity). As the headroom necessarily scales with frequency, this explains the increase in distortion from a minimum of ~0.01% at 1-5kHz to 0.06% at 200Hz and 0.32% at 20kHz [see Graph 2, below]. The Phono One's maximum output is more than required at 18V (from a ~525ohm source impedance) – perhaps Unison might consider trading 6-10dB of this output for an even higher input overload margin in its future models? Readers may view a full QC Suite test report for the latest Unison Research Phono One preamp by navigating to www.hifinews.co.uk and clicking on the red 'Download' button. PM



ABOVE: RIAA-corrected freq. resp. from 5Hz-100kHz vs. output impedance from 20Hz-20kHz (red trace)



ABOVE: Distortion versus frequency from 20Hz-20kHz at 1V output. THD increases through bass and treble

HI-FI NEWS SPECIFICATIONS

Input loading	20, 47, 100ohm, 47kohm
Input sensitivity (re. 0dBV)	2.2mV
Input overload (re. 1% THD)	39mV
Max. output (re. 1% THD) / Impedance	18V / 504-780ohm
A-wtd S/N ratio (re. 0dBV)	89.0dB
Frequency response (20Hz-20kHz)	-0.18dB to +0.19dB
Distortion (20Hz-20kHz, re. 0dBV)	0.011-0.32%
Power consumption	18W
Dimensions (WHD)	373x58x246mm



ABOVE: The single set of RCA inputs are configurable for loading only via two banks of DIP switches. Gain is fixed

track were slightly lacking their customary impact.

However, the Phono One is a very easy unit to listen to. And it sailed through a wide variety of musical material in a calm, unflustered way.

At times, however, I did feel that perhaps the top end was a little too soft, though a change in loading to 200ohm helped. Nevertheless some softly brushed cymbals and hi-hats tended to be a little too diffuse and lacked their customary metallic leading edge. That said, however, the Unison Research was never dull or soporific to listen to, and had a smoothness and sense of air to its upper reaches that made it a very compelling listening companion.

It picked up on the innate pace of tauter, more rhythmical material very well and happily made light work of 'Daniel', from *Bat*

For Lashes' Two Suns album [The Echo Label 6930191]. Natasha Kahn's vocals were as delicate and tremulous as I could have hoped for, Ira Wolf Tuton's bass line underpinning it beautifully, keeping the performance nicely connected.

'Eric Bibb's vocals were spine-tinglingly realistic'

Shifting down a gear further to Eric Bibb's 'Needed Time' from a 45rpm cut of *Spirit And The Blues* [Opus 3 LP19401] could almost have been the Phono One's *raison d'être*. Bibb's vocals were spine-tinglingly intimate and realistic, filling the space at the end of my lounge with a scale and grandeur that was an absolute joy.

TIME FOR THE ORTOFON

Again, though, the double-bass seemed a little too 'fruity' and, unfortunately, there was some faint hiss breaking through on the very quietest parts. Time then, for the Ortofon...

The extra increase in output meant that the hiss disappeared, while the Phono One now seemed to have gained some extra confidence in its lower registers: double-bass on the Eric Bibb LP seemed in better focus. The top end had also gained a little more sprightliness, although cymbals could usefully have had a frisson of extra bite. Now, too, I made it through the full cut of DJ Shadow's 'The Number Song' 12in single [Mo-Wax MWO86DJ] as the Phono One finally found its groove and settled into a solid rhythm. ☺

HI-FI NEWS VERDICT

The Unison Research Phono One builds on the strengths of its Simply Phono model to offer a well-rounded performance with a useful range of loading options. Some gain adjustment would have been the icing on the cake to optimise the unit's abilities with low output MCs but, as it stands, it offers a very pleasing and sophisticated sound that suits MM or high output MCs equally well.

Sound Quality: 75%



ABOVE: Five ECC83 double-triodes are shared between input buffering and line output stages. RIAA eq is passive

Aëdle VK-1 Classic

Many headphones strive to be stylish, few actually achieve it. Here's a notable exception, and from a new name in audio. Can it meld *haute couture* with high-end sound?

Review & Lab: **Keith Howard**

Don't be fooled: Aëdle is French (think Citroën), although the name, apparently, is a play on the Danish word *ædel*, meaning 'noble' – a word that Aëdle uses a lot to describe the materials from which its headphone is made.

If the company is new to you then that's because the VK-1 (VK stands for 'Valkyrie', although whether this signals Wagnerian predilections is unclear) is the first product of this start-up company, based in Paris and established in 2011. As you might expect of a French enterprise, the VK-1 is not assembled somewhere in China but in the company's own factory in Brittany. Behind it are founders Raphaël Lebas de Lacour and Baptiste Sancho, two young men who would appear to be of independent means or have deep-pocketed backers.

AN AESTHETIC TRIUMPH

Aëdle is assuredly no garden shed operation despite this being its only product thus far. The £299 VK-1 took two years of 'intense research' to develop and involved 'the best French experts from many different fields', with more than 30 people in total. The result is an aesthetic triumph. It is no 'me too' rehashing of hackneyed design themes or the artless assemblage of expensive-looking materials (I'll leave you to guess which examples I have in mind here).

In fact it is probably the classiest-looking headphone I have ever set eyes on. While this review was in preparation news came in that the VK-1 had, deservedly, won a prestigious Red Dot design award 2015.

The version you see in our photographs – with brown leather earpads and headband cover – is called the Classic Edition. Two other editions are available: Legacy (with the same bright-finish capsules but black earpads and headband) and Carbon (like the Legacy but with black

anodised capsules). The fit and finish are impeccable, and wouldn't be amiss in 'phones of even treble the asking price.

Included in the box are a 1.3m lead terminated at either end in 3.5mm mini-jacks, one of which inserts into a socket in the left capsule. A longer, 2.4m cable, or an alternative 1.3m cable with integral microphone and remote control, are available as options.

A gold-plated ¼in jack adapter and airline adapter are supplied, together with a black lambskin travel pouch.

Although the VK-1 is clearly intended for use on the move (the booklet quaintly declares that Aëdle specialises in the design of 'high-end nomadic audio products') it makes little concession to minimising its bulk when being carried. Not only do the machined-from-solid capsules not fold up into the headband, they don't even fold flat. Such is the price of the VK-1's minimalist good looks, which such elaborations would compromise.

'The VK-1's diaphragm is in titanium and that is unusual'

One last, unusual, inclusion in the box is a laser-engraved ID card that 'will allow you to discover surprises on our website'. I looked but I couldn't find any – although promotional offers and event invitations are promised.

Internally what makes the closed-back VK-1 of particular interest is its 40mm drive unit. It has, of course, a neodymium-iron-boron magnet system – no surprise there – but its diaphragm is titanium and that *is* unusual. Most headphones have polymer diaphragms of some description, though for reasons I have never quite

understood [see box-out for more on this].

Comfort is a vital factor with any headphone, and here the VK-1 scores well. It is light at just 200g with the short cable. Its supra-aural, protein foam-filled, lambskin-covered earpads are soft, and the head clamping force is modest. (Should you find the clamping force excessive, the instruction manual includes instructions on how to bend the headband to open the capsules wider.) So while it isn't as comfortable to wear for long periods as a good circumaural design, it's about as good as a supra-aural design gets.

Note, though, that Aëdle recommends occasional treatment of the lambskin earpads with 'a nourishing care or polish product' and advises against storing the VK-1 in moist or hot places.

There is further good news in that – perhaps because the headband's leather sleeve has liquid silicone within it surrounding the spring steel – I heard no evidence of structural resonance during the impedance test, where the headphone is worn while pink noise is fed to the left capsule only. But less auspiciously, as described in the Lab Report, I did have difficulty in achieving a good seal between the left capsule and left artificial pinna during the testing, which may mean that some users will find it hard to achieve consistent bass performance.



RIGHT: Closed-back capsules are turned from 6066 aluminium. Connecting cable to the left capsule is available in long and short options, the latter with or without mic/remote controls



LEFT: Minimalist design is simple and stylish but doesn't fold for carrying. Lambskin is used for the earpads, headband cover and soft pouch

It's impossible to generalise about this since some ears will mate better with the VK-1 than others. This is something to establish before purchase; for online sales Aëdle offers a 10 days return policy.

MISSING IN REAL BASS

For the listening, now that the Aurorasound Heada [*HFN* May '15] has been returned (sob), I used my Teac HA-501 headphone amp [*HFN* Apr '14] – a fine performer itself – with the damping factor control set to 'high' in light of the VK-1's large impedance

variation. A second-generation Mac mini running Windows XP and JRiver Media Center v19 acted as the music source, feeding a TC Electronic Impact Twin audio interface via FireWire and thence a Chord Electronics QuteHD DAC via S/PDIF.

One of the first things to strike you when you begin playing music through the VK-1 is its bass, or rather a lack of it. In a market where planar magnetic headphones in particular are offering bass response that is near-flat to below audibility, and many others feature shelved-up low frequencies,

the VK-1 has a response that falls at 12dB per octave below about 75Hz – even though Aëdle claims the fitment of a 'passive bass enhancement system'.


So it's a rather like listening to the satellites of a sub-sat system with the sub switched off. Given the choice between lean bass and excess bass, I always choose the former, but even if you share that mind-set you'll almost certainly agree that the VK-1 takes bass-shyness a degree too far. General expectations today are that a headphone will plumb the lowest two octaves of the audible spectrum much better than the Aëdle does, and this will be a significant disappointment to many potential buyers.

But there's a bigger issue in my opinion. The VK-1 also has an upper-mid/lower treble excess that lends a forward, somewhat relentless quality to its sound. This masks subtleties of tonal colour and dynamics and probably accounts, at least in part, for what is a closed-in, less than expansive stereo image. Ok, so traditionally closed-back headphones have never been the equal of open-backs in this regard but in recent years I've heard a number of closed-back models that refute such easy pigeon-holing. Unfortunately, the VK-1 is not among them.

For evidence as to why it sounds this way, note in the Lab Report the 5dB hump in the diffuse-field-corrected frequency response, centred on 1.6kHz and exacerbated by dips either side. Any emphasis in this part of the frequency range results in a forward balance that may seem initially impressive but wears thin.

SOME TESTING TRACKS

Enough generalisations, let's advance to some specific musical examples. To investigate the bass I trawled through the collection of tracks I've set aside for exactly this purpose: like Bèla Fleck And The Flecktones' 'Flight Of The Cosmic Hippo', from the album of the same name [Warner 9 26562-2]; and Jennifer Warnes' 'Somewhere, Somebody' and 'Way Down Deep' [*The Hunter*, Private Music 82089]. They all told the same story: it's not that the VK-1 lacks bass, at least not what many people think of as bass (which is actually upper bass, not the lowest two octaves or so). What it lacks is the low frequency extension required of true bass.

What you hear as a result is more of the harmonics than the fundamentals of low 

TITANIUM TRANSDUCERS

Provided that a loudspeaker or headphone diaphragm is thin enough, relative to its other dimensions, it behaves vibrationally like a shell rather than a plate. In practice this means its bending resonances depend on the linear velocity of sound in the diaphragm material: the higher this velocity, the higher the frequency of the first breakup mode. Short of exotic materials like synthetic diamond and boron, this puts metals in pole position. But as they have little internal damping, the breakup modes need to be pushed above the working range of the driver. In headphones with a single full-range driver, this means above the audible range. Best is beryllium, with a sound velocity of about 13,000m/s. But beryllium is expensive and, in particulate form, highly toxic, so its use is rare. Aluminium, magnesium and titanium all have a speed of sound around 5000m/s, so the choice between them is usually made on other criteria.

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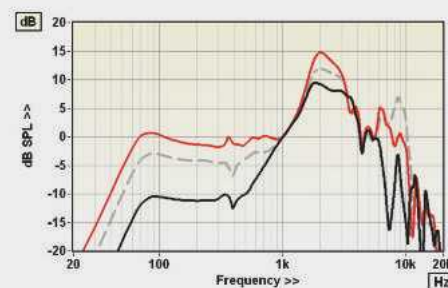
LAB REPORT

AËDLE VK-1 CLASSIC

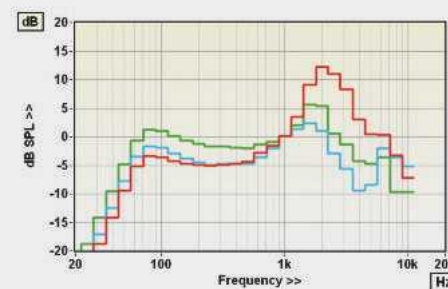
Aëdle claims 129dB sensitivity for the VK-1 – a ridiculous figure for either of the usual reference inputs, 1 milliwatt (1mW) or 1V. Our measurements recorded an average for the two capsules of 116.8dB for 1V input at 1kHz, equivalent to 101.9dB for 1mW at the nominal impedance of 32ohm. In fact 32ohm is exactly what we recorded as the minimum impedance over the audible range, with a maximum of 53.4ohm at the pronounced bass peak at 73Hz. This large variation is sufficient to cause a 0.9dB frequency response variation with a headphone preamp of 10ohm source impedance, or a 1.9dB variation with a 30ohm source impedance.

The uncorrected frequency responses [Graph 1, below] carry three traces rather than the normal two. The reason for this is the large low frequency disparity between the conventional left and right capsule measurements (black and red traces), apparently caused by the left capsule not sealing correctly to the left artificial pinna. Because of this, the left capsule was also measured on the right pinna, with the improved result shown in the third (dashed grey) trace. This suggests that sealing issues may be experienced by some users. On their correct pinnae the two capsules recorded a disappointing matching error of ± 10.4 dB but this improved to ± 6.6 dB when both were measured on the right pinna (40Hz-10kHz).

The most notable features of the *uncorrected* response are the premature bass roll-off of 47Hz (-6dB re. 200Hz) and the early peaking at about 2kHz. These are reflected in the diffuse-field corrected response [green trace, Graph 2] which should be something close to flat for a neutral tonal balance. Instead the DF response shows a mild bass peak at 80Hz, a +5.6dB peak at 1.6kHz (made worse by the 2dB dip at 500Hz), and a -4.8dB dip at 5kHz. This doesn't bode well for the VK-1 achieving solid bass or a subjectively even tonal balance. KH



ABOVE: Our left capsule (black trace) achieved a poorer seal than the right (red) with attendant loss in bass output (grey shows left capsule on right ear)



ABOVE: 3rd-octave freq. resp. (red = uncorrected; cyan = FF corrected; green = DF corrected)

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL at 1kHz for 1Vrms input)	116.8dB
Impedance modulus min/max (20Hz-20kHz)	32.0ohm @ 20Hz 53.4ohm @ 73Hz
Capsule matching (40Hz-10kHz)	± 10.4 dB
LF extension (-6dB ref. 200Hz)	47Hz
Distortion 100Hz/1kHz (for 90dB SPL)	0.4% / 0.1%
Weight (inc cable)	200g



bass notes like the E-string of a bass guitar, and more of the whack than the thump of a bass drum.

The positive outcome is that the VK-1 sounds clean and tuneful, not thickened as some headphones with extended bass can seem. But there's a world of *real* bass missing here, inasmuch as headphones can deliver it, bereft of the physical impact delivered by loudspeakers.

COULD WORK FOR SOME

The upper-mid/lower treble forwardness is, as I've said, more of a problem, and it's one that Aëdle really must work on eliminating if the VK-1 is to succeed. In my review of the Furutech ADL H128 [HFN May '15] I mentioned the 'Heiliger Dankesang' movement from Beethoven's String Quartet Op.132 [Dreams & Prayers, Crier Records CR 1401] – a free download in DSD64 or DSD128 from Native DSD.

I enthused there about the gargantuan size and sheer presence of the stereo image but were you to hear this recording via the VK-1 you'd think I'd lost my marbles. Through the Aëdle the string sound is so coloured that I struggle to describe it: what should be a sublime listening experience had me recoiling in deep disappointment.

Yes it's possible that, because of the wide natural variation in the size and shape of human ears, some listeners will experience the VK-1's tonal balance more positively. But that hump in the DF-corrected response means that most will hear something similar to me: a tonal balance that renders a lot of classical music all but unlistenable.

The delightful third movement of Mozart's Divertimento in E flat, K375 [Linn Records CKD 47] was another notable casualty, sounding as if the Scottish CO Wind Soloists were busking in a Tube tunnel. And, of course, it isn't just classical

ABOVE: Internally the 40mm diameter drive units have neodymium magnets, of course, but diaphragms are in titanium

programme which suffers. Some tracks, like 'Dreaming' – a mix of piano and electronica – from Bugge Wesseltoft and Henrik Schwarz's CD *Duo* [Universal Music 277041-9], were tonally recast but remained listenable, even enjoyable. Others, like 'Country Dreamer' from the 96kHz/24-bit download of Wings' *Band On The Run* [HDtracks] and 'Black Beauty' (a 88.2kHz/24-bit conversion from the DSD128 transcription of the Opus 3 *Showcase 1* download, available at www.dsdfile.com), fared less well.

'Country Dreamer' tends to forwardness to start with, and the VK-1's extra dose just made it uncomfortable. The muted trumpet centre-stage in 'Black Beauty' is a difficult instrument to reproduce in the best of circumstances; via the VK-1 it became positively strident.

It gives me no pleasure to say this given Aëdle's genuine achievement with the VK-1's aesthetics, but for the moment this headphone's attraction lies in how it looks, not how it sounds. ☹

HI-FI NEWS VERDICT

As a headphone to be seen wearing, the VK-1 ticks all the right boxes. It is stylish without being flashy, sophisticated rather than gauche. Plus it is constructed and finished to a quality that makes most other £300 headphones look cheapskate by comparison. Its ultimate sound quality rather lets it down but the VK-1 remains comfortable to wear if not ideally adapted to listening on the hoof.

Sound Quality: 65%



Oppo HA-2

With music from smartphones and tablets, and hi-res audio via computers, Oppo's new rechargeable portable DAC/headphone amp is perfect for music on the move
Review: **Nick Tate** Lab: **Paul Miller**

Oppo, the 'global electronics and technology service provider', has good form with digital. It entered the AV arena making very respectable Blu-ray players which not only looked but sounded better than most others, then more recently diversified into headphones. Many manufacturers have moved into this category of late, with mixed success, but the PM-1 Planar Magnetic 'phones [*HFN* Jul '14] turned out to be superb. The PM-2 followed [*HFN* Feb '15], and was equally fine value for money.

Oppo's HA-1 headphone amp [*HFN* Sep '14] again showed that the company is serious about sound quality, and now we have the portable HA-2 version you see here. This has been designed to partner the forthcoming PM-3 headphone (to be reviewed next month).

FOR THE STYLE CONSCIOUS

Portable audio is the current trend: just as long haired, denim-wearing dudes sashayed around with new Sony Walkman portable stereo cassette players in the early '80s, now we have a new generation of bearded hipsters displaying their cool credentials in their choices of headphone and smartphone.

The missing link, of course, is the portable headphone amplifier – not least because the DACs and headphone driver stages in smartphones are notoriously mediocre-sounding to anyone who hasn't yet damaged their hearing with one. The Oppo HA-2 makes a great case for itself simply by being inserted between – for example – an iPhone and PM-1 headphones, whereupon you can hear how it instantly transforms sound into music!

The HA-2 is aimed right at this style-conscious market, which is why its leather-clad alloy chassis looks so smart. It combines DAC and headphone amplifier functionality in a compact smartphone-

sized case. Being portable, it comes with a built-in rechargeable 3000mAh lithium polymer battery which is good for over six hours of digital music playback, or twice that when working from its analogue input with the internal DAC switched out.

The supplied rapid charger can whisk the battery up to three-quarters full in half an hour, or you can charge it via your computer's USB socket while you are listening. Cleverly, it can give this power back, since it is able to function as a mobile power bank that will also charge your mobile device.

I found the Oppo nice to use, thanks in no small part to the rotary volume knob on the top left of the machine, which is easy to operate and has a lovely smooth and positive action.

One mark against it, though, is the lack of a 'hold' function, something every Sony portable has had from the year dot – when on the move it's too easy to jog the

controls and one can end up accidentally pushing the volume higher or lower.

The stitched leather casing doesn't scratch easily in the pocket though, and at 175g is light enough not to be overly intrusive when you're out and about. The matt aluminium finish will match your MacBook Air and its switchgear feels slick. As with every portable device, knowledge of battery status is imperative and the HA-2 has a five-LED display so you're never caught short by a sudden power outage.

The unit has four sockets, two USBs (Type A and micro B) on the bottom and two 3.5mm affairs on the top. One is the headphone output and the other doubles up as an analogue input or a line output – meaning you can hook it up to your hi-fi.

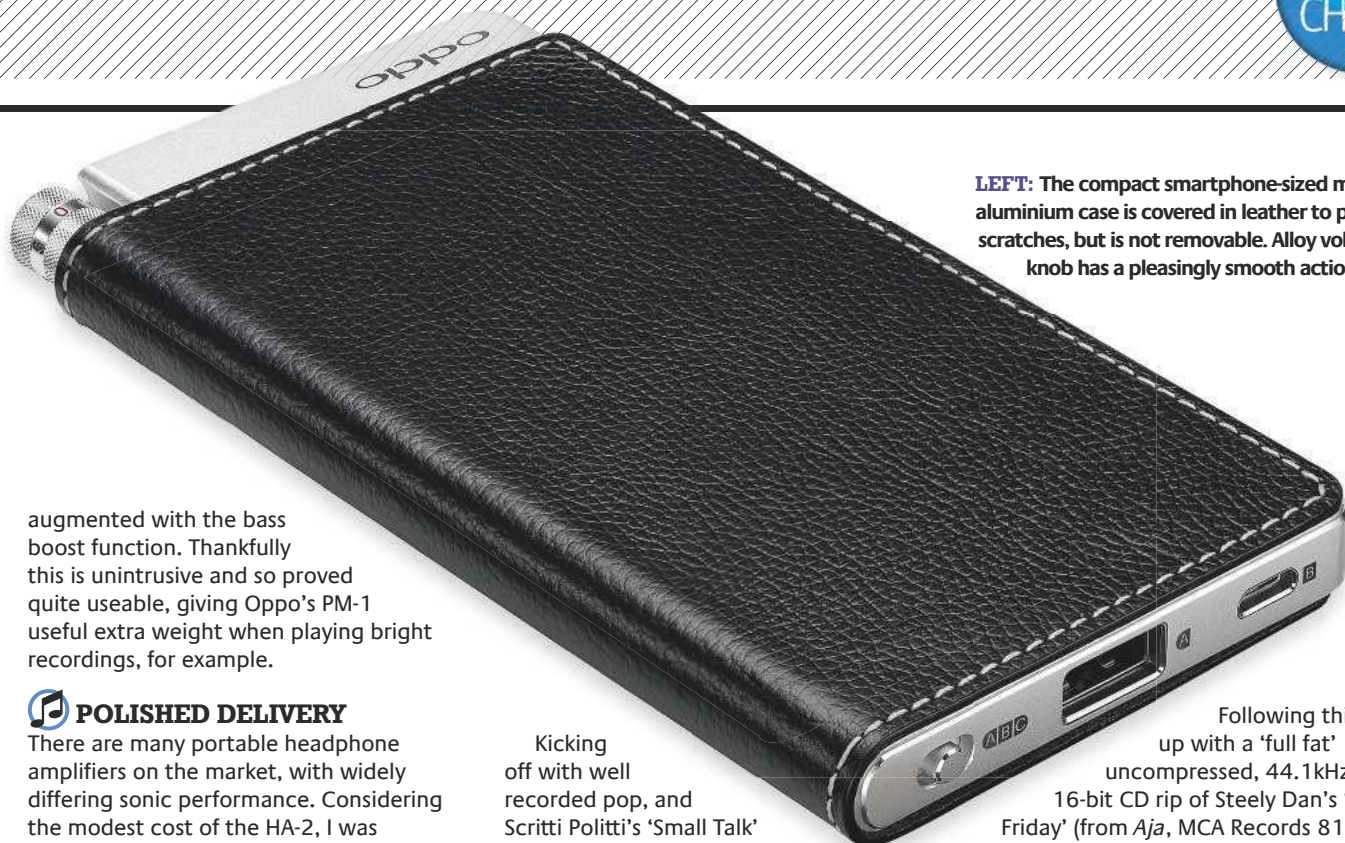
It is said to work with all current iDevices via its USB input (a suitable Apple Lightning lead is supplied), and also works from a computer with a USB output and any Android device that supports USB On-The-Go and USB Audio Class. In these cases it takes the raw digital data stream from the device and converts it with its internal DAC, before amplifying it and sending the sound out from its headphone socket.

All Oppo products use the ESS Sabre32 DAC chip, a high quality modern design that has appeared in some very well reviewed full-size digital converters. The ES9018-K2M version used here is specifically for portables, and with its asynchronous USB interface is able to support high-resolution audio playback at up to 384kHz/24-bit PCM and DSD256. Interestingly, the maker says that there is no digital signal processing in the HA-2, suggesting that its novel 'bass boost' function – switched alongside the gain selector – is done in the analogue domain.

The unit sports a Class AB headphone amplifier stage, said to be a mixture of integrated circuits and discrete transistors, the latter specially selected and pair-matched. It has two gain settings, 'High' is claimed to deliver 300mW into low (16ohm) impedance phones, whereas 'Low' is optimised for more sensitive, higher impedance earbuds. Either type can be



RIGHT: Gain and bass boost controls are located on the side of the slim case. There is also a highly informative battery condition indicator, so running out of juice is hard to miss



LEFT: The compact smartphone-sized matt aluminium case is covered in leather to prevent scratches, but is not removable. Alloy volume knob has a pleasingly smooth action

augmented with the bass boost function. Thankfully this is unintrusive and so proved quite useable, giving Oppo's PM-1 useful extra weight when playing bright recordings, for example.

POLISHED DELIVERY

There are many portable headphone amplifiers on the market, with widely differing sonic performance. Considering the modest cost of the HA-2, I was expecting a decent sound and the Oppo duly obliged. It's not that dissimilar to its siblings in the way it makes music, which is to say clean and detailed. You wouldn't call this unit a romantic performer, but it remains extremely accomplished at excavating music from the digital datastream and serving it to you in a thorough, polished and professional way. In short, this DAC/headphone amp sounds considerably more expensive than it actually is.

Most people will use it with a smartphone or tablet, so I tried the Oppo through my Apple iPhone and iPad, initially playing 256kbps AAC rips. Driving the highly revealing Oppo PM-1 headphones I had expected a rather less enjoyable sound than I received.

'Via the computer and Audirvana, the Oppo could stretch its legs'

Kicking off with well recorded pop, and Scritti Politti's 'Small Talk' (from *Cupid And Pysche*, Warner Bros 9 25302-2) was highly involving. Bass was decently fluid and

had a fair degree of weight, and it moved up to a very spacious and open midband with lots of subtle detailing. For example, you could really get a feel for Green Gartside's great, soulful voice,

which sounded intimate and detailed with genuine insight into its unique timbre.

The singer's intonation was also carried well, the HA-2 taking you up close and personal despite this being a compressed audio file. Treble was surprisingly sweet, with a decent sparkle to the hi-hat cymbal sound. The music flowed well, and never had the 'sat upon' quality that AAC files can sometimes present.

Following this up with a 'full fat' uncompressed, 44.1kHz/16-bit CD rip of Steely Dan's 'Black Friday' (from *Aja*, MCA Records 811 745-2), the sound took on a good deal more body and life, and the soundstage widened and deepened considerably.

It also became a lot easier to focus on individual items in the mix, with the electric piano work running right through the song holding tight and playing along with the lead instruments and vocal line. Again the HA-2 proved itself to be clear, clean and insightful, able to dig right into the mix and serve up a very animated sound that really involves the listener.

FORMIDABLE MOBILE PACKAGE

Although a traditional hi-fi favourite, *Aja* isn't a brilliantly recorded album – it's very much of its time with a super-dry sound – and the Oppo certainly conveyed this aspect, but didn't let it intrude too much. Some detailed and revealing DACs can be too matter-of-fact for their own good, but the fine handling of the music's dynamic accents meant that this listener never lost interest via the HA-2. Indeed the music came over as expressive and forceful, just as it should...

The £1100 Oppo PM-1 is a stiff load as headphones go and required me to switch to the high gain setting, but low gain was all I required for my Jays v-Jays foldable, portable headphone. It's a great sounding design and offers a sense of rightness that is exceptional for its £30 price tag. The HA-2 worked extremely well with this too, serving up a big, bold rendition of the music. Partnered with an iPhone, the three products together made a formidable mobile music package, not least because there are times when some of us, at ➔

OPPO ON THE MOVE

Oppo may have been early to the high quality Blu-ray player market, but it's late to the portable headphone amplifier one. There are now a great many products from a wide range of manufacturers on sale, spanning from Cambridge Audio's DacMagic XS (£100), Arcam's rPAC (£150) to Furutech's ADL X1 (£400) [all *HFN* May '14] up to Chord's Hugo (£1400). They're all portable, battery or USB-powered headphone stages with DACs built in, and they're all good. With the possible exception of the Arcam, none of them can equal the slickness and portability of the Oppo. Sadly, you'll have to pay over £1000 more than the cost of the HA-2 to significantly better its sound – the Chord is expensive for a good reason. Don't be surprised if the market continues to get more crowded and competitive, because it's a growing sector and with the poor sound from almost all smartphones – plus the rise in sales of headphones – you can see why. For the moment at least, the Oppo HA-2 has an awful lot going for it at the price.

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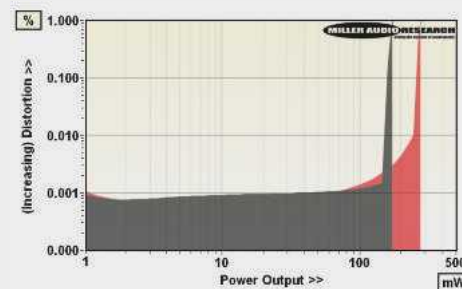
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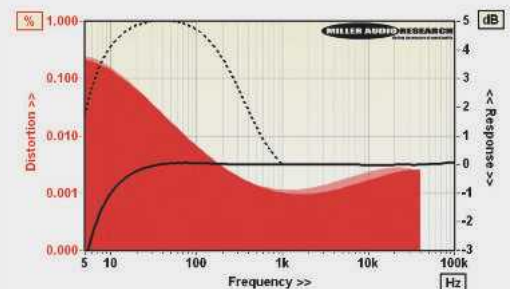
OPPO HA-2

Despite its low price, the HA-2 is arguably the most proficient battery-powered USB DAC/headphone amp we've tested in *Hi-Fi News* so far. The High/Low gain setting (+8.4dB/-1.9dB) influences both the HA-2's maximum power and voltage output into high impedance 'phones, achieving 277mW/25ohm (High) and 173mW/25ohm (Low) with 3000mV/47kohm (High) and 2500mV/47kohm (Low). These figures suggest the HA-2 has more than enough clout to drive any sane headphone to palpably insane levels [see Graph 1, below] while the low output impedance (a steady 1.3-1.4ohm, including cables, regardless of gain setting) also promises a uniform system response with a signal loss of just 0.35dB. In practice, the response reaches way out to 100kHz with a mere ± 0.1 dB variation and down to -0.2dB/20Hz and -3dB/5Hz. The bass boost function offers a +5dB lift centred on 40Hz but extends well into the upper bass [see dashed trace, Graph 2 below].

Via the USB input the maximum output is 840mV and 2710mV at 0dBFs via Low and High gain settings respectively, and with a best-case A-wtd S/N ratio of 96.8dB. Distortion is a uniformly low 0.001-0.0026% from 1kHz-20kHz but increases at low frequencies, via all inputs, to 0.06%/20Hz and 0.25%/5Hz – loaded or unloaded [see red infills, Graph 2]. Digital jitter is as low as we've seen from a portable USB DAC at 160psec, a performance assisted in no small measure by Oppo's choice of the jitter-busting ES9018 DAC from ESS. Readers may view comprehensive QC Suite test reports for Oppo's HA-2 USB DAC/headphone amplifier by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Continuous power output vs. distortion into 25ohm 'headphone' load (Low Gain, black; High, red)



ABOVE: Freq. resp. (black; bass boost, dashed) from 5Hz-100kHz into 25ohm and distortion versus frequency (red, 1V; shaded, 40mW) from 5Hz-40kHz

HI-FI NEWS SPECIFICATIONS

Maximum output (re. 0dBFs into 47kohm)	3.01V (High Gain)
Max. power output (re. 0dBFs into 25ohm)	173mW (Low)/277mW (High)
Output Impedance (20Hz-20kHz)	1.3-1.4ohm
A-wtd S/N ratio (re. 0dBFs / 0dBV)	96.8dB (USB) / 98.1dB (Line)
Distortion (20Hz-20kHz, re. 10mW)	0.00085-0.065%
Freq. resp. (20kHz/45kHz/90kHz, 25ohm)	+0.1 to -0.0dB/-0.3dB/-0.1dB
Stereo separation (20Hz-20kHz)	105dB to 98dB
Digital jitter (24-bit/48kHz)	160psec
Dimensions (WHD)	68x157x12mm



ABOVE: 3.5mm sockets for headphones and line out sit on top – the latter also doubling as the line input. The USB A and micro B connectors are beneath

least, just don't want to walk around with thousands of pounds of headphones in public view.

Moving on up to high resolution computer audio, and the Oppo was switched from its USB-A socket input to micro USB type-B mode and my latest generation Apple MacBook Pro deployed, running the new Audirvana Plus 2.0.10. Again things took a major step forward. That same Steely Dan CD rip – previously played via an iPhone – sounded better still via the computer running Audirvana, the HA-2 appearing to finally be able to stretch its legs.

With the Oppo PM-1 headphones now back in use, bass was now slightly stronger, midband a little cleaner and less muddled, and treble fractionally sweeter. Moving to a 192kHz/24-bit mastering of REM's 'Texarkana' (from *Out Of Time*, Warner Bros 7599-26496-2) and I was delighted by how much cleaner and tighter things sounded. Again, it was very open, spacious and decently dimensional, although you would never call it rich sounding – tonally it remained clean but didn't really show the track's full warmth.

FREE OF ANY HARSHNESS

Listen to the same track via, say, the considerably pricier Chord Hugo portable DAC/headphone and it's obvious that the Oppo is sucking a little of the colour of the recording out. Isaac Hayes' 'Shaft' (from *Shaft, Original Soundtrack*, Stax SCD24 8802-2) bore this out: it's a wonderfully rich and sumptuous sounding production from the early 1970s, yet the HA-2 made it sound nearly as dry as Steely Dan's *Aja*, when in reality it isn't.

Even so, the track still sounded breathtakingly detailed, very polished and highly enjoyable to listen to. There's a breathtakingly deep and warm bassline to 'Ellie's Walk Home' and while it lost a little of its physicality, the delicacy of the guitar, glockenspiel, flute and string section was something

to behold. The Oppo PM-1/HA-2 combination zeroed in on the violins and rendered them in a beautifully fine and considered way. The wiry, sinewy feel was clear yet there wasn't a touch of grain or harshness. At the same time, it carried the muted trumpets with great alacrity, and served up a superbly smooth flute sound which sat accurately placed towards the back of the mix.

Running the gamut of superlative hi-res recordings, from Misty from Kate Bush's *Fifty Words For Snow* (96kHz/24-bit WAV) to Alex de Grassi's *The Water Garden* (DSD) showed the Oppo to be an unerringly clean, crisp and detailed performer. It's not the best DAC/headphone portable on sale but it is exceptionally good at its price point, and punches far above its weight.

Its ability to drive a difficult headphone load to high volume levels, while showing no obvious signs of strain, is important, as its fine built-in DAC which sounds far more expensive than it has a right to. It's this combination of power and finesse that's so alluring in something so affordably priced. ☺

HI-FI NEWS VERDICT

Not the world's finest headphone amplifier (the HA-1 is ahead in the queue) but certainly one of the best value, the Oppo HA-2 offers a consistently clean, accurate and open sound across a wide variety of digital sources and formats, and does so with real élan. Nicely styled, well built and equipped with useful features, this powerful portable DAC/amplifier upgrades modern mobile devices from sound sources to music makers.

Sound Quality: 83%





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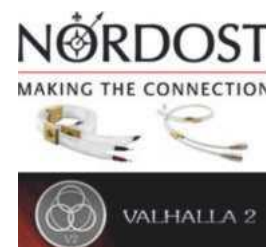
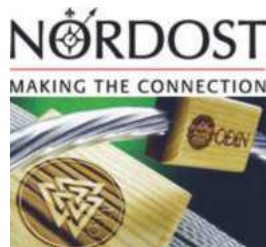
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BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Decca Records *The mono era*

Along with a 53CD compendium, Decca has issued a 6LP box set of mono recordings (with a very long title). **Christopher Breunig** finds the repertoire choice unexpected

In 1929, when the young Edward Lewis joined the Decca Gramophone Company he suggested it should make records to go with its turntables but this idea was resisted. So he simply bought the company and the New Malden Duophone factory, and set up the Decca Record Company.

During the war period, Decca engineer Arthur Haddy was working on a sonar detection system to aid in the location of U-boats and distinguish these from Allied vessels. He developed RAF training records with a wide frequency response which, postwar, led to the development of the 'ffrr' label (Full Frequency Range Recording) for domestic customers.

Decca's classical catalogue in the 78rpm era was modest in comparison to HMV's or Columbia's but the fact that it offered superior sound quality was soon realised, and the first UK 'long-playing record' set a new standard. Ernest Ansermet had first recorded Stravinsky's *Petrouchka* with the LPO at

→ Decca's LXT 2000 series labels had gold lettering on an orange background (silver print for the 5000 series)

← The first Decca long-playing record was issued in 1950: *Petrouchka* with the Suisse Romande Orchestra. It was an obvious choice for the new box set



Kingsway Hall in February 1946 but the LP replacement [LXT 2502] was with his Geneva orchestra, the Suisse Romande; the price was 39s 6d.

'Life-like... startling,' said *The Record Guide*. The review in EMG (Ellis Michael Ginn) Hand-Made Gramophone's July 1950 *Monthly Letter* suggested that a superior version was 'unimaginable' and it was a good augury for the new medium. (EMG had begun making record playing equipment as early as 1923 and its subscription magazine was a 'bible' for serious collectors.)

By 1950, Decca was producing records with artists such as Backhaus, Curzon, van Beinum, Böhm, Kleiber, Krauss, Krips and Münchinger. Periodically it would issue improved and renumbered LXT recuts, eg, the Erich Kleiber Beethoven Ninth (1951, '57, '61).

Sixty-five years on, it is celebrating its mono catalogue with a 53CD set [478 7946] and, at the same price, a boxed 6LP selection [478 8027] mastered at Abbey Road Studios and superbly pressed on 180g vinyl by Optimal (see www.theguardian.com/music/2015/jan/07/sp-vinyls-difficult-comeback). Inside the stout

39mm-deep box each LP lives in a replica cover with lined paper inner sleeves. There's a 15-page booklet with artist photographs, one or two session pictures and several early 1950s advertisement reprints. All the recording production details are given with the contents listings.

WHAT'S IN THE BOX?

CDs or LPs? A no-brainer you might think... but at around £16 per vinyl disc Decca's are less expensive than the stereo reissues at Speakers Corner, Hi-Q or Clearaudio. And we vinyl diehards will certainly want to know how they sound.

The very first LXTs were pressed on an abrasive mix. But the later

plastics were very good, Decca LPs having a run-in flat with the playing surface where EMI's had a lip and Philips' a convex tapered edge. (This unique feature is

'Kleiber's "Storm" makes Toscanini's a non-event!'

missing from the Optimal discs.)

Apart from the 'ffrr' sound characteristic itself, I discovered a few years ago that previously unplayed LXTs I came across in a local Oxfam shop had a definite replay 'sound' absent from the Ace of Clubs reissues of those same recordings – presumably this was to do with the plasticity of the disc material itself. The Optimal LPs share that same sonic signature.

So what's been chosen for the new box? Well, *not* the legendary Kleiber Beethoven Fifth – of which Linn Records produced a 1986 transfer sounding quite unlike Decca's [RECUT 02] – or even the conductor's 1953 'Pastoral' with the Amsterdam Concertgebouw. (This was later reissued here in pseudo-stereo [Eclipse ECS 549] but we also had a 1985 French Decca mono



import [1592105], sounding rather boxed-in and monophonic.)

No, Decca has gone back to the February 1948 version Kleiber made with the London Philharmonic [78s, then LXT 2587]. It was produced at Kingsway Hall by Victor Olof, and has the same, bracingly fast scherzo as at Amsterdam. But there's a lot more character here, in fact – so a worthwhile choice, even if the soft playing appears as very distant. Here's a 'Storm' to make Toscanini's seem a non-event!

The Ansermet *Petrouchka* has some stridency at high levels but the interpretation is still gripping enough for age limitations to be ignored and there's a unique sense of authority about it. (You can get a free download at themusicparlour.blogspot.co.uk.)



PHOTO: PHILIPS CLASSICS

PICK OF THE BOX SET

Eduard van Beinum's fine Decca symphonic legacy – Haydn and Mozart, Brahms, Bruckner, *etc* – has been set aside in favour of the 'Four Sea Interludes' and Passacaglia from Britten's *Peter Grimes* (the Dutch conductor had premiered Britten's *Spring Symphony* in 1949) with its original *Young Person's Guide* coupling, later replaced by Handel on ACL 162. This new transfer [LXT 2886] makes the 'Storm' in *Grimes* sound positively arthritic on the Ace of Clubs pressing. Stunning sound and, for me, the pick of this set.

Chamber music is represented by the Rachmaninov Cello Sonata, with Zara Nelsova and the classical keyboard artist Artur Balsam [LXT 5228]. Of Russian background, Nelsova had come to the UK from

➔ The 6LP set 'The Decca Sound – Mono Years (The Birth of High Fidelity) Vinyl Edition' 478 8027

➔ Eduard van Beinum, whose fine Britten *Peter Grimes* 'Four Sea Interludes' and Passacaglia are in the new Decca LP set

Canada in 1949 and was noted for introducing Barber, Bloch and Hindemith to London audiences. There's some lovely playing here, entirely attuned to the composer's idiom. (This 1956 recording, from Decca's West Hampstead Studio, is also on Naxos 9.80319 as a 44.1kHz/16-bit download.)

In 1956 Jean Martinon conducted the LPO in two Suites from Lalo's ballet *Namouna* – music which so excited Debussy as a student. The plot was about a slave girl won in a wager and the staging novelty was that, in 'Valse de la Cigarette', the dancer did indeed have to light a cigarette. Martinon made a later DG stereo version, but this Kingsway Hall LP [LXT 5114] sounds hardly

dated and the playing is good. Side 2 is cut well away from the label.

Far more compelling, even though replaced a decade later by an Ansermet stereo remake, current on Speakers Corner 180g vinyl [SXL 2243], Albéniz's *Iberia* Suite (orchestrated by Enrique Arbos from the piano score) and Turina's *Danzas fantásticas* are with Ataúlfo Argenta and the Paris Conservatoire Orchestra, recorded in 1953 and produced by John Culshaw [LXT 2889]. It's a fine reminder of a conductor who died aged 45 as the result of an avoidable accident.

My 'Essential Recordings' boxout below is a pointer to things you might come across and should snap up at once if in good condition. ☺



ESSENTIAL RECORDINGS

Beethoven Symphony No 4, Amsterdam Concertgebouw/Josef Krips LXT 2874

The Austrian conductor's Decca (later Philips) LPs were 'hit and miss' but this was a delightful disc, bubbling with good humour.

Britten Serenade, Les Illuminations, Peter Pears/Dennis Brain/NSO Strings/Eugene Goossens LXT 2941

Pears' 1954 Serenade had the magical horn playing of the young Dennis Brain. (You had to pay six-pence extra to get the words!)

Dvorak Symphony No 7, Hamburg RSO/Hans Schmidt-Isserstedt LXT 2807

Bearing the old numbering 'No 2' this was one of the German conductor's finest LPs.

Bizet Jeux d'enfants etc, Chabrier Suite Pastorale, Paris Conservatoire Orchestra/Edouard Lindenberg LXT 2860

This charming programme – in demonstration-worthy sound – was by a now almost forgotten conductor. It's included in the mono CD set.

Mozart Symphonies Nos 28 and 29, Suisse Romande Orch/Peter Maag LXT 2840

This introduced many LP collectors to Symphony No 29, also a Klemperer favourite.

Mozart 'Haffner' Symphony/Haydn 'Miracle' Symphony, LPO/Concertgebouw/Eduard van Beinum LW 5262/LW 5317

Two 10in reissues typify van Beinum's stylish work in the classical symphonic repertoire.

Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Japan *Tin Drum* (180g vinyl)

Was the band's final studio album modern music's most magnificent hoax? As *Tin Drum* is reissued on 180g vinyl, **Steve Sutherland** recalls a meeting with David Sylvian

Rock 'n' roll is really all about sex. There's a lot of other things in it, but that's the number one thing.'

So said the late, great Lux Interior, head honcho of The Cramps.

Others have called it the devil's music, blamed it for overheating the senses, accused it of turning upstanding young citizens into juvenile delinquents.

But whatever has been said in praise and condemnation of rock 'n' roll, one thing's for sure: no way were Japan a rock 'n' roll band. They weren't mad for it, didn't feign doing the dirty on stage and had very little inclination to get down on it.

What they actually were, though, is a hard one to figure out, even 25 years after they called it a day. Where rock 'n' roll is all about high spirits and derring-do, Japan appeared petrified of emotion. In fact, they appeared *petrified* full stop. Not *scared* petrified but actual sculptural petrified.

Where most bands tend to hi-jinks, Japan sought out a kind of monastic discipline. Where most singers are great big show-offs, David Sylvian seemed to be doing some Master's degree in

Non-Revelation. Where rock 'n' roll has immolation in its genes, Japan seemed set on preservation. And where just about everyone else in Thatcher's Great Britain was shouting 'F*** art, let's dance!', Japan's gigs were like gallery installations.

SOMEWHAT OBSESSED

Self-aware to the point of stasis, Japan were objective rather than subjective and somewhat obsessed with nailing their own process. They released albums called *Quiet Life* and *Gentlemen Take Polaroids* before 1981's *Tin Drum* and a live requiem entitled *Oil On Canvas* after they suddenly split. Their surfaces were clear and bold, their brush strokes calculated, their art works impressive. But what on earth was it all about?

I was intrigued and, working at the time for *Melody Maker*, sought out the answer, only to be rebuffed time and again. They didn't need to talk. Almost by accident

Japan took over where
Roxy Music left off
when Eno quit and
Ferry turned gigolo'

they'd become a big band, sort of elder statesmen to the New Romantic movement who admired their unflappable poise.

Like Pulp's relationship to the later Britpop movement, Japan had toiled through their gauche phase in a past life, starting out in Catford as New York Dolls devotees, adopting new names (David Batt became David Sylvian) and all manner of faux junkie campery. Somewhere along the line they took over where Roxy Music left off when Eno quit and Ferry turned gigolo,

becoming all studiously obtuse.

Sylvian, made up like a porcelain doll, was dubbed the Most Beautiful Man In The World, and that very same world seemed their

oyster when *Tin Drum* and its attendant three singles did miraculously smart business in the charts.

Miraculous because this was an album named after a German novel by Günter Grass written in 1959 about a kid who refuses to grow up, full of songs by a band named Japan all about China. Or Chinese culture. Or something.

Oriental-ish sounding, full of Mick Karn's fretless bass swoops and Richard Barbieri's synth swathes, it was kind of an imaginary travelogue, kind of...

Listening to it now, *Tin Drum* was all concept. *All* concept. There's nothing whatsoever behind it. No explanation. No impulse (except, perhaps, evasion). It's a grand folly, like one of those oriental pagodas built in the grounds of English Country houses. It is out of time and yet of its time. It may even be modern music's most magnificent hoax.

Back then, though, I was wrestling with songs called 'Talking Drum', 'Cantonese Boy', and 'Still Life In Mobile Homes' – all lush allusions to... Gawd knows what. The veneer was gorgeous, the nation swooned. And then they split up. David nicked Mick's girlfriend and that was that.

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...



Japan pictured in the early '80s (l-r): Steve Jansen (percussion), Mick Karn (bass guitar), Rob Dean (guitar), Rich Barbieri (keyboards) and David Sylvian (vocals and guitar)



➔ Priced £16.25, the 180g vinyl reissue of *Tin Drum* on the Universal Back To Black label is available online at www.juno.co.uk

It took nearly three more years to get me in front of the man. He sipped ice-cold milk and wore shades throughout our brief encounter. Since Japan, he'd been pretty much a recluse and it felt as if he was easing himself, politely but somewhat reluctantly, back into the spotlight to promote his first solo LP, *Brilliant Trees*. And so, utterly impressed by what he'd done but not remotely understanding it, I put a theory to David Sylvian.

But before I recount said theory, I'd just like to remind you that this was 1984, I was a pretentious young(ish) hack and if you'd been a Japan fan on the trail of this interview for as long as I had, you too might well start spewing pseudo-intellectual codswallop once in the calm presence of the great man.

What I said was something like this: I wondered whether the lack of personality in Japan's music and the obsessive maintenance of poise might be hiding a lurking horror, an unspoken suspicion that when all externals are stripped away, the essential self might turn out to be nothing but a void acted on by its environment, an *Apocalypse Now* of the soul.

A GOOD OBSERVATION

Sylvian, as I recall, seemed a little flattered that I'd expended so much brain work pondering his product.

'It's a good observation,' he declared. (I may have blushed!) 'It's something I wasn't consciously aware of, that I must have pushed to the back of my mind. You have to hope it's not true, otherwise it makes everything you're doing totally invalid.'

Suitably emboldened that we were *simpatico*, I set about more theorising: Japan were doubt disguised as confidence, if I were a philistine, style over content, a beautiful symmetry frail as an eggshell, reflective rather than 'happening', frigid settings over teeming situations, emotion suspended in aspic, like the romantic



poetic idea of emotion recollected in tranquillity... plus, of course, the old chestnut about natives not wanting their photographs taken lest it steal a piece of their soul, but we'll let that one slide.

Again, Sylvian seemed politely attentive and encouragingly onside.

'Yes, I tended to write on reflection, after going through something rather than writing about a certain thing when I was going through it, because I used to think you couldn't get the best viewpoint like that. I would always try to make it maybe a little less personal-sounding so that people could relate to it more... or,' and here he checked himself, '...or maybe I would disguise it. Maybe I was too afraid to show it that openly or maybe I was not capable...'

'...I think I was a little insecure writing with Japan... I'm a sensitive person... You can become aware of every nerve in your body so that as soon as you're touched... I don't actually like being touched at all by strangers... I find I'm very uncomfortable in the public eye... I try not to sell myself in any way that feels wrong for the true, real me... but in pop you're constantly standing in front of the work and saying, "This is mine, I created it". You're constantly in the way, crowding the work, and people look at you and read the interviews and see the reason before they see the work. That's really the wrong way round. The work should live for itself.

'The actor Tom Conti did an interview a long, long time ago on TV and he was asked why he didn't do interviews too often and he said, "Because if people see me on TV, they'll find the characters I play less believable..." He's right. You can't see past the image of pop stars. People can't escape it. I don't think actors should do interviews, then you'd become so much more involved in the roles they play. And it's the same with musicians.'

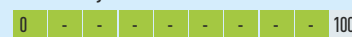
Not long after our interview, David Sylvian wiped off all his make-up, grew a beard and disappeared into jazz. ☹

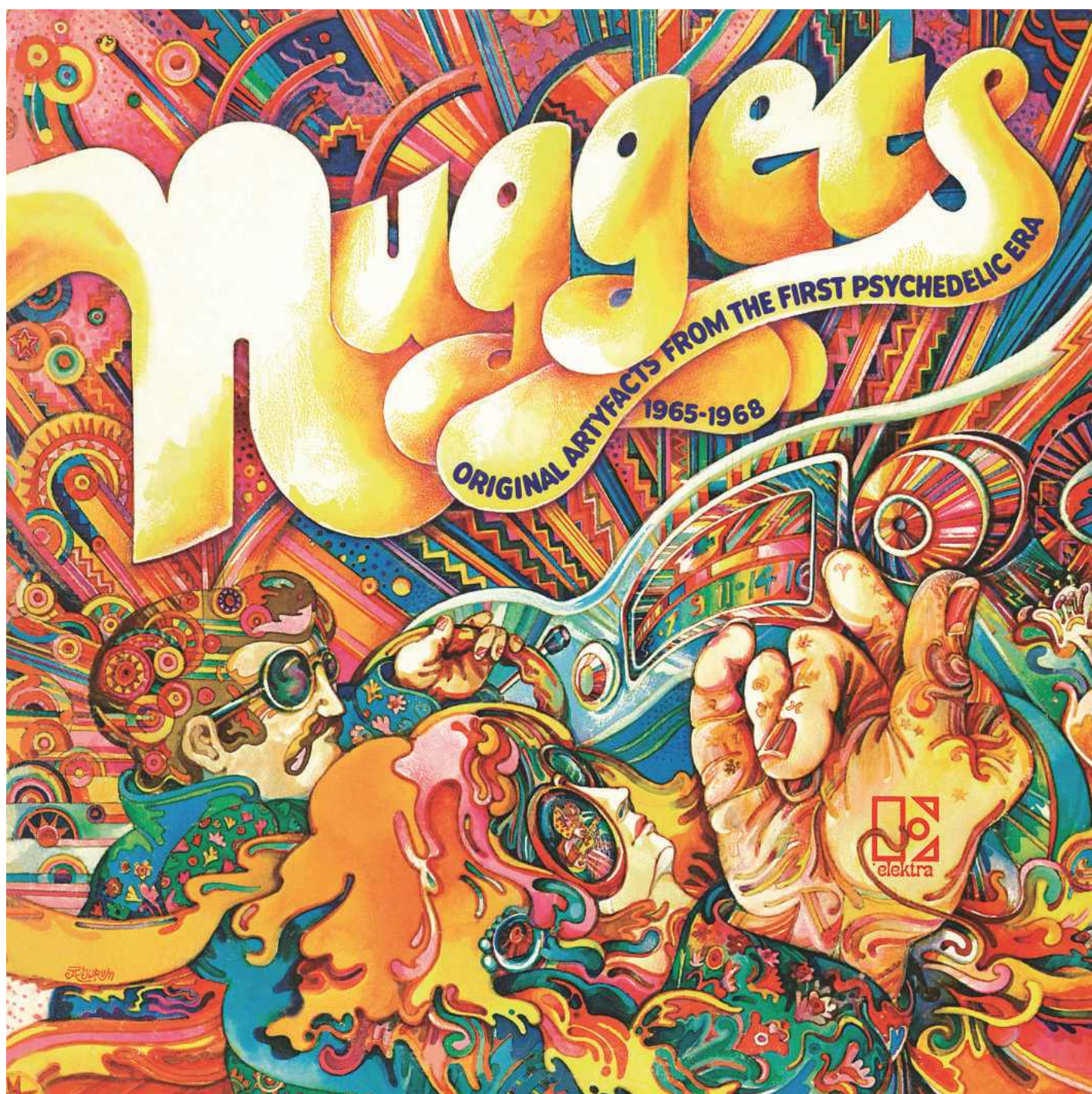
RE-RELEASE VERDICT

Reissued as part of the Universal label's Back To Black campaign, this limited edition 180g pressing comes in a sleeve bearing an exact reproduction of the original LP artwork and includes a voucher to download an MP3 version of the album.

The original release has been criticised by some for sounding a tad opaque but the sound here is immaculate. The looping rhythms pop and set the pace while all other instruments and vocal parts enjoy adequate space and attention. Our copy was flat and flaw-free too. HFN

Sound Quality: 90%





Various Artists *Nuggets*

This groundbreaking compilation album of singles made by US garage bands in the 1960s would not only help spawn the punk rock movement of the late '70s but would see an entire cottage industry of small labels unearthing and resurrecting lost musical gems

Words: **Johnny Black**

Charmingly subtitled 'Original Artyfacts From the First Psychedelic Era, 1965-1968', *Nuggets* is the first, and probably the last, compilation album to achieve the accolade of *Hi-Fi News* Vinyl Icon.

Sure, there have been other influential compilations but, on the whole, the format tends to be a pure marketing exercise designed either to ensnare consumers by including a stack of hit singles (think of the endless *NOW* series), or loss-leaders intended to introduce them to music they might not otherwise encounter (Columbia's legendary *Rock Machine Turns You On* or Island's *You Can All Join In*).

Nuggets was neither, because Jac Holzman, founder and head honcho of New York City's massively influential Elektra Records, had a radically different vision of what a compilation might be when he dreamed it up in 1971.

RIGID RADIO

'AM radio despised "long" tracks, loosely defined as anything that exceeded three minutes,' he has revealed. 'This was true throughout the '50s and '60s. Even our Doors single, "Light My Fire", had to chop Robby Krieger's incendiary guitar solo to fit the rigid AM formula. It's what made me think about the snappy, short rock and roll singles that had jump-started AM rock radio, at its beginnings.'

Holzman envisioned an album comprised entirely of what he considered to be lost gems, great tracks that had fallen by the wayside, slipped through the cracks

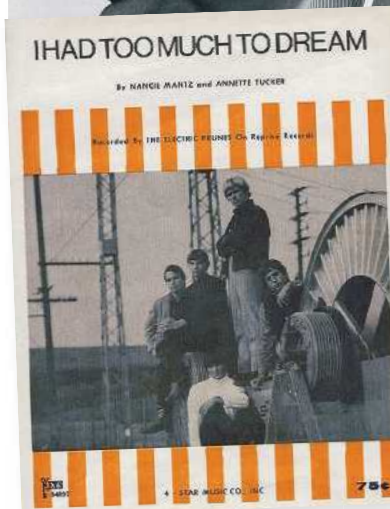


Side one of the original *Nuggets* compilation on Jac Holzman's Elektra label

Tower label promo shot of The Standells whose 'Dirty Water' recorded in 1965 was the second track on the album

The Electric Prunes sheet music for the single 'I Had Too Much To Dream' and 1969 Reprise publicity photo of the band

Publicity shot of The Magic Mushrooms taken by Ted Cahill in Philadelphia in 1966



of pop culture and didn't fit into any obvious marketing niche.

But Holzman was a busy fellow, a major music biz executive who didn't have the time to track down those lost songs. Enter Lenny Kaye.

EVER MODEST

Although he later found fame as the guitarist in The Patti Smith Group, Kaye was at that time eking out a living as a Greenwich Village record store clerk and part-time journalist.

Holzman had first encountered him in 1970, when his name and face appeared in an *Esquire* magazine feature entitled 'Hot 100 Of The Music Business.'

'I was chosen as the token rock writer,' says the ever-modest Kaye, 'so Jac, who liked rock writers, because he had a label with artists who lent themselves to critical analysis, called me up and asked if I'd like to work as an independent scout for Elektra.'

As things worked out, Elektra didn't much care for the acts that Kaye brought to its attention, but luckily, he had another string to his bow. 'In the course of our first

meeting, Jac told me about an idea he had for an album called *Nuggets*, which would be a compilation of the one good song on otherwise forgettable albums. He gave me a list of about five songs, the only one I remember being a Little Anthony And The Imperials track from their brief psychedelic period. So Jac gave me a \$750 advance to start work on this project.'

This was the seed that Kaye turned into *Nuggets*, one of the most influential rock anthologies ever released.

Little Anthony And The Imperials fell by the wayside, as Kaye unearthed lost and near-

forgotten classics such as 'I Had Too Much To Dream Last Night' by The Electric Prunes, 'Pushin' Too Hard' by The Seeds and 'You're Gonna Miss Me' by The Thirteenth Floor Elevators. By mid 1971, Kaye had provided Holzman with a list of 50 tracks, and the idea expanded from a single album to a double set.

Kaye's rationale was that by the early '70s, 'Rock had gotten a little top heavy, a little too confessional.'

"This was no K-Tel bargain TV ragbag, but a serious study"



VINYL ICONS

PRODUCTION NOTES

Elektra Records founder Jac Holzman was famed for his lifelong devotion to state-of-the-art audio. 'I loved the technology as much as the music,' he has revealed. 'Even as a kid I would take toilet-paper rolls and wrap aluminium around them and scratch the surface to see if I could make a sound. I got my first disc-recorder in the '40s, using aluminium acetates.'

From the day he started Elektra in New York City in 1950, Holzman's company established a peerless reputation as one of the foremost providers of high quality recordings – folk and classical in the '50s, and then thinking-man's rock in the '60s.

'Magnacord put out a very good tape recorder in 1950, which was portable,' he remembers. 'I would put that on my motor scooter, with a mic, a mic stand, a couple of rolls of tape and a set of headphones, and go record in people's homes. I would edit the tapes, and take them to Peter Bartok, an engineer who had built a special equalizer, and then we would master from the original tape.'

Things had changed by 1972. Once Lenny Kaye had made his selection of tracks, the resulting stack of tapes was taken for mastering to Elektra Sound Recorders at 962 La Cienega Boulevard, Los Angeles.

John Haeny, Elektra's Chief Engineer in New York, had designed the new Los Angeles studio, so that when *Nuggets* was pieced together, Elektra Sound Recorders was an eight-track facility with a solid-state console, using the 3M M-56 8-track to 1in tape recorder and a 3M M-79 2-track mastering machine which Haeny considered, 'quite good, though... the unstable electronics were a total pain.'

Lenny Kaye believes the *Nuggets* tracks were largely transferred direct from whatever tapes the original companies supplied, but suspects that a few may have had to be copied straight from vinyl 45s.



P. MONAGHAN



ACE RECORDS



Nuggets was more grass roots. With progressive rock in full bloom, these were the tracks that were caught betwixt and between. They were not the rigid singles of the early '60s, but not the long-form explorations that had become typical.'

Holzman, an unusually astute boss, has said he could see that, 'This was no K-Tel bargain TV ragbag, but a serious study. Already I could sense that we were on the cusp of a time when doctoral candidates would be writing dissertations on the history of rock.'

"Elektra said the album was never going to recoup my advance"

NO LIMITATIONS

With the passage of time, *Nuggets* has become a byword for psychedelia and garage rock, but Kaye takes pains to point out that he had no such genre-specific limitations in mind when he devised his list. 'That original list was all over the place. I think if I'd had a better idea of what I was doing it wouldn't have been such a good album. In 1967, I remember, I did my first cross-country trip by car and I would have the radio on. I remember hearing "Just Like Romeo And Juliet" by Michael And The Messengers as we got near Chicago, so I stopped the car, got out and found the single in a shop. Same thing with "It's A Happening" by The

Magic Mushrooms. Got out of the car, found the record and headed off into the sunset.'

It was exactly this sort of haphazard, instinct-driven process that Kaye applied to choosing tracks for *Nuggets*. 'There are things like "My World Fell Down" by Sagittarius or "Run Run Run" by The Third Rail on the original *Nuggets* that are a long way outside the boundaries of garage rock,' he states.

Indeed, the term 'garage rock' did not exist at the time and, in his sleeve notes, Kaye employed the descriptor 'punk rock', which

didn't gain wider currency until several years later. For Kaye, it was not a single sound or style that defined the tracks that became

Nuggets, but the serendipitous combination of a specific period of time, a handful of technological innovations and an attitude.

Between 1965 and 1968, he reckons, 'there was a great influx of new sonic ideas coming into the music, an explosion of, for example, guitar tone, the emergence of the Fuzztone, the Farfisa organ sound, sneering lead vocals... all of these things formed part of the template for what would come to be known as garage rock. But it still wasn't the ☞

➔ The Seeds and German picture sleeve for their 1967 single 'Pushin' Too Hard', which appeared on Side Two of *Nuggets*

➔ Lenny Kaye pictured in 2012

➔ 'Let's Talk About Girls' by The Chocolate Watch Band kicked off Side Four. The band split in 1970 but reunited in 1999



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Alternate Format Discography



Elektra founder Jac Holzman caught on camera in 2010

second psychedelic era where it all became open-ended. They were still constrained by parameters like the need to have a three-minute single.'

As Jac Holzman defined it in Mick Houghton's book *Becoming Elektra* [Jawbone Press, 2010], 'Garage bands were the natural outgrowth of high-quality, inexpensive recording gear that they could set up in the garage, where they rehearsed and recorded. Only Lenny Kaye had noticed the musical trend-lines that connected these bands to The Stooges and The MC5, who were fuelled by the same energy.'

THE RIGHT EARS

When the double-album finally appeared in 1972, it was critically acclaimed but didn't exactly fly off the shelves. 'I remember getting a letter from Elektra saying that the album was never going to recoup my advance, so they were stopping sending me royalties,' recalls Kaye. 'I had a little chuckle over that.'

Happily, the small coterie of discerning buyers who did shell out for *Nuggets* turned out to be the people who would set the industry alight in the mid-'70s.

'It did find the right ears,' points out Kaye, 'it became a touchstone for '70s bands like The Ramones in CBGB's and elsewhere, and seemed to find a place all over the world so ended up being reissued.'

As well as helping to inspire the punk revolution, *Nuggets* also spawned a small industry of imitators worldwide, who put out compilations with titles such as *Pebbles*, *Rubble* and *Back From The Grave*, each of them digging deeper into the vein Kaye had first mined.

To this day, the opening tape for Kaye's day job band, The Patti Smith Group, consists of reggae tracks he compiled as a reggae 'Nuggets', confirming, as he himself says, 'The *Nuggets* idea can be applied to any style of music, or any regional style or... whatever you like.' ☺



ORIGINAL VINYL EDITION (1972)

Nuggets, a lush gatefold item [Elektra – 7E-2006], hit the shops in a startling, not to say mind-expanding, cover by Abe Gurvin who had been working for Elektra for several years.

At first glance it's just a brilliantly coloured kaleidoscope but look a little closer and you see a young couple in the front seats of an open-topped car, their minds being blown by the music surging from the car radio.

It's now hard to imagine *Nuggets* adorned in any other way, but Gurvin was not the first choice. 'Jac Holzman gave me a lot of leeway to put *Nuggets* together,' points out compiler Lenny Kaye. 'For example, he didn't say "Nay" when I wanted it to be a double album or when I turned down the first three covers, because they were too artsy and didn't really express the energy of the music. Then they found Abe Gurvin who created that beautiful cover...'

The album also included inner sleeves featuring Kaye's erudite track-by-track notes. 'My two models for *Nuggets*,' he explains, 'were some TV-advertised compilation albums called *Mr Maestro*, pretty standard oldies compilations that gathered recent hits together, often featuring a gang of motorcycle hoodlums pictured on the cover.'

'The other inspiration was the blues compilations done by Yazoo Records, things with names like *Blues Of South Eastern Georgia 1927-32*, and the scholarly notes that came with them. So I kind of combined both of those ideas.'

I wanted to make an album that was great to listen to, not actually geared towards scholars or maniac collectors, but I did want it to be knowledgeable, which I think is

summed up in the name – *Nuggets* – *Original Artyfacts From The First Psychedelic Era.*

Sonically, given the many and various circumstances in which the tracks were recorded and the variety of sources from which they were mastered, it's a remarkably coherent listening experience.

This is one of those rare items where imperfections in the quality of the audio serve mostly to enhance the illusion of travelling back in time to an era when things were, er, different.

8-TRACK CARTRIDGE (1972)

Setting aside the quirks and idiosyncracies of the understandably short-lived 8-track format, so much is lost in this version [Elektra, T-82006] that it's hard to think of any reason to own it, other than completeness. For starters, there are only 25 tracks as opposed to the album's 27, and of course the format reduces Gurvin's gorgeous artwork to a size which does it no justice.

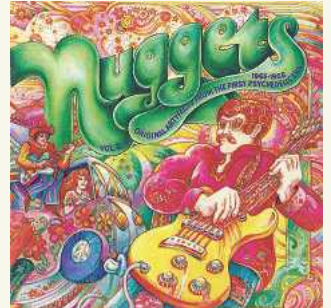


SIRE REISSUE (1976)

Sire's re-issue [SASH 3716-2] featured different and, I'd argue, inferior, cover art. Let's move on.

CASSETTE (1984)

This bizarre item [Rhino, RNC 025] featured just 14 of the better-known *Nuggets* tracks, and seems to serve little purpose other than as an introduction to the full-length version of the album.



4CD BOX SET (1998)

This was probably the ultimate *Nuggets* reissue [Rhino, R2 75466], expanding the compilation to a generous 118 tracks, beautifully remastered by Bill Ingot and incorporating additional sleeve notes. 'The Rhino box was a fabulous thing,' says Kaye. 'I gave them the list of what would have been on the second *Nuggets*, and they took it on from there. Otherwise I was not involved. They expanded it, doing what I might have hoped to do in 1972.' This is the one you need.

SINGLE CD (2006)

However, if you firmly believe small is always more beautiful, here is Rhino's highly desirable remastered version of the original album on a single compact disc [Rhino, 5101-12419-2] in a miniaturized replica of the original gatefold sleeve.

40TH ANNIVERSARY LP (2012)

Forty years after the original LP's release, Rhino issued a double album on 180g vinyl [Rhino, 812279711 R1-2006] which included an essay by Jac Holzman and updated release notes from Kaye. These were on a separate inner sheet so as to ensure that the replica artwork remained as faithful to the original release as possible. Jac Holzman was aged 81 when this 2012 reissue hit the shops.



The Gaumont, *Southampton*

With the decline in cinema, the largest theatre in the South of England cleared its stage to host concerts by many of the most famous rock and pop acts touring the country. **Steve Sutherland** brings you the story of The Gaumont in Southampton...

The reviews were not kind. 'Nothing can match it for tastelessness and boredom,' read one. 'An insult to intelligence... an affront to sensibility... an abomination to the eye,' read another. '...The worst movie ever made.'

The movie in question is *Myra Breckinridge*, a 1970 20th Century Fox adaption of a Gore Vidal novel about a transsexual starring Rachel Welch, Mae West and Farrah Fawcett. But the fact that it's rubbish is not the reason I'm sat up here in the circle of the Southampton Gaumont booing the director. Oh no, I'm venting my displeasure some seven years before he even got to make his first, and unsurprisingly only, Hollywood film.

I'm booing him because, although my poor old dad has shelled out several shillings he could hardly afford to take the seven-year-old me, my mum and my two-year-old sister to see the Christmas panto *Babes In The Wood*, I am not a happy camper.

I should make it clear that everyone around me is cheering like crazy but I, much to the rising annoyance of my poor old dad,



➔ The venue opened in 1928 as The Empire. Today it is called the Mayflower

➔ Bill Haley & His Comets appeared in February '57



BEN MILLS

have chosen to boo because... well... because quite simply the bloke who's about to sing isn't The Beatles, who have just released the splendiferous 'Please Please Me' and already consigned geezers like the one about to sing to a cemetery known as Squaresville.

SILLY NUMBER ONE

The bloke, by the way, is Mike Sarne who is playing Simple Simon and has just had a silly number one hit produced by the mad professor himself, Joe Meek. It's called 'Come Outside' and the lass who mostly refuses his desperate advances on the record is Wendy Richard who will go on to fulfil her cockney future as the buxom Miss Brahms in *Are You Being Served* and the heroically put-upon Pauline Fowler in *Eastenders*.

Pauline isn't with us tonight but leggy eyes-and-teeth showbiz stalwart Anita Harris is (Maid Marion!), as is Mr Leslie Sands at the piano, the Dagenham Girl Pipers and Ms Julie Watts and her Southampton Juveniles, whatever they are.

The star turn is South African crooner Danny Williams who will sing his smooth number one hit version of 'Moon River' from the movie *Breakfast At Tiffany's*. I'll boo him too, and my dad will never take us to a pantomime again.

Fear not though reader. This is not a sorry tale. I'll be returning to The Gaumont shortly for a show that, not to put too fine a point on it, turns out to be a bit of a

life-changer. But before that, some history. Our venue opened on the 22nd of December 1928 as the Empire Theatre, part of the Moss Group's

theatre chain. Pretty soon movies took over from stage productions and in 1942 it was annexed by The Gaumont Group, then the Rank Organisation who made it a chief outpost on its touring circuit.

With a capacity of just under two and a half thousand, it's the biggest venue in the South of England and attracts the stars accordingly.

Our story really hots up on the 23rd of February 1957 when Bill Haley and His Comets appear on the

'Kids sell bottles of what purports to be Bill Haley's bath water'





13th date of the tour that imported rock 'n' roll to the UK.

The kiss-curl Bill is 32 years old and has been pretty much obsolete back home in the States since the recent chart ascent of sexier young bucks like Elvis Presley.

Nonetheless we're mental for Bill, a crowd of four thousand jostle to greet him at Waterloo Station when he arrives into London.

'The second battle of Waterloo!' screams the British press, who are looking for cheap thrills after *The Blackboard Jungle*, the movie that featured Bill's big anthem, 'Rock Around The Clock', had seen delinquent Teddy Boys riot in the cinemas and tear out the seats.

HOLY WATER

Bill's pretty stunned by his reception – he has to be smuggled out of venues disguised as a policeman and kids are selling bottles of what purports to be his bath water like they were holy relics! But the tour passes without too much incident.

Soon-to-be pop stars Paul McCartney, George Harrison, Pete Townshend and Graham Nash all catch a gig, and at The Gaumont, Bill plays 'See You Later Alligator', 'Shake Rattle & Roll' and, of course, 'Rock Around The Clock' over two shows supported by Vic Lewis & His Orchestra (featuring drummer Andy White who will replace Ringo on The Beatles' 'Love Me Do' single), comic singing duo Kenneth Earle & Malcolm Vaughan, and a tin whistle player called Desmond Lane. Joy!

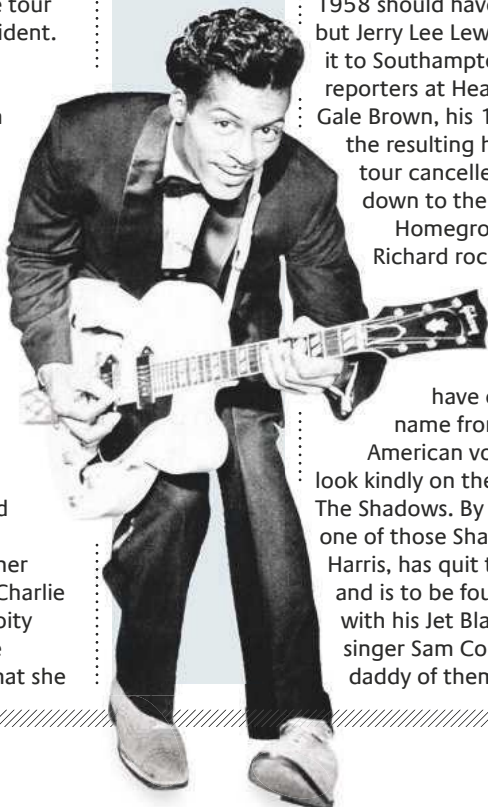
August '57 also sees another American rockabilly hopeful Charlie Gracie saunter by, his hoity-toity British co-star Dorothy Squire quitting the tour in disgust that she

↖ **Girl group**
The Crystals
pictured in
1963

↗ **Cliff**
Richard
And The
Shadows
wave to fans
in 1962

➔ **Rolling**
Stones
official tour
programme
for 1965
details The
Gaumont
show

↓ **Chuck**
Berry
pictured in
1958



doesn't get to headline over this newcomer and his flash-in-the-pan rocking nonsense. The estimable Shirley Bassey steps in and picks up the slack.

Skiffle-meister Lonnie Donegan puts down a week's residency in November and the following March Buddy Holly brings his Crickets to town as part of his one and only British tour. The 24th of June 1958 should have been a stunner but Jerry Lee Lewis never makes it to Southampton. Hijacked by reporters at Heathrow with Myra Gale Brown, his 13-year-old bride, the resulting hullabaloo sees the tour cancelled before it makes it down to the Solent.

Homegrown hunk Cliff Richard rocks The Gaumont in March of '59. When he returns in November his backing band have changed their name from The Drifters (an American vocal group didn't look kindly on the competition) to The Shadows. By October of '62, one of those Shadows, bad boy Jet Harris, has quit to do his own thing and is to be found at the venue with his Jet Blacks supporting soul singer Sam Cooke and the mad daddy of them all, Little Richard.

The wonderful girl group The Crystals play in March '64, on a bill that also features Manfred Mann. Chuck Berry's in town in May, headlining over rockabilly rebel Carl Perkins, Geordie blues-belters The Animals and scouse chart-botherers The Swinging Blue Jeans, who at some stage exit the tour after adverse audience reaction.

Also in May, The Dave Clark Five do The Gaumont on a bill that boasts The Hollies and The Kinks. And The Who are here in April '66 thundering through 'I Can't Explain', 'Substitute' and 'My Generation'.

BEATLES 'N' STONES

Not to be outdone, The Rolling Stones come to town at least four times in the '60s. Their first visit is in October 1963 when they play a set of covers including 'Can I Get A Witness', 'King Bee' and 'Memphis Tennessee'. They return a year ➔

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CLASSIC VENUES



later, playing two shows and headlining a bill which includes Inez and Charlie Foxx and The Mojos.

In the September of '65 they're back again, with The Spencer Davis Group and Unit 4 Plus 2 in tow, closing their set with the stunning 'Satisfaction'. They finally bow out of The Gaumont circuit for good on the 9th October 1966, the last date on a 12-venue tour, headlining over Ike & Tina Turner and The Yardbirds.

And The Beatles play too. Their Gaumont appearances begin in May 1963 on a

tour where they usurp the headline slot from US country giant Roy Orbison halfway through due to the crowds going crazy for them. They return in glory in December of the same year and then again in November 1964, supported by Mary Wells and Tommy Quickly.

SIGNATURE THEME

More rich pickings in the '70s include Kate Bush who brings her Lionheart Tour to So'ton in April of 1979, the theatrical performance greatly enhanced by her pioneering use of a wireless headset, rigged up using a wire coathanger.

Queen also drop by – thrice! Their first visitation is in November 1974 on their Sheer Heart Attack Tour, then in November '75 on their Night At The Opera Tour where they introduce parts of their signature theme, 'Bohemian Rhapsody', and

finally in May 1977 in what is called the Jubilee leg of their Day At The Races Tour in which Bo' Rap gets the full mega rock treatment.

Genesis pass through a couple of times too – in October '73 they're *Selling England By The Pound* and in April of '75 it's all about *The Lamb Lies Down On Broadway*. Wings also descend, performing the opening

night of their *Wings Over The World Tour* in September of '75.

The Eighties bring Ozzy Osbourne, freshly solo having been booted out of

Black Sabbath, on his *Blizzard Of Oz Tour* (October, 1980) and The Police (*Ghost In The Machine Tour*, July '82), but the gigs are drying up and the theatre undergoes a renovation and a name change in 1987. It's



CARL LENDER



now the Mayflower Theatre and caters to the kind of shows you see on Broadway and in the West End.

Oh yeah, but before we go – about that second personal Gaumont encounter I promised you earlier. It occurs on the 21st of January 1973 when the mighty Led Zeppelin breeze in to play what turns out to be their last city-by-city UK tour before they take to playing stadia. Earls Court and Knebworth are the only shows they'll play henceforth in the UK and then John Bonham will pop his clogs.

GONE IN FOUR HOURS

Tickets to the gig cost a quid and sell out in four hours, the shows opening with 'Rock And Roll' and closing with the exalted triumvirate of 'Dazed And Confused' (Jimmy Page taking the violin bow to his Gibson Le Paul to Wagnerian effect), 'Stairway To Heaven' (lighters aloft!) and 'Whole Lotta Love' (heads duly banded).

I vividly recall Robert Plant dedicating 'Misty Mountain Hop' to 'the Rizla factory down the road'. Me and my mates, we titter about it all the way home, much to the annoyance of my long-suffering dad who's driven some 20 miles to pick us up.

He'll never do it again. We'll hitch-hike. ☺

Poster for The Beatles' May 1963 appearance

The Led Zeppelin 1973 show was one of their last before John Bonham died

John Deacon, Brian May and Freddie Mercury in '76 and (right) ticket stub from The Gaumont gig

Kate Bush 1979 tour programme



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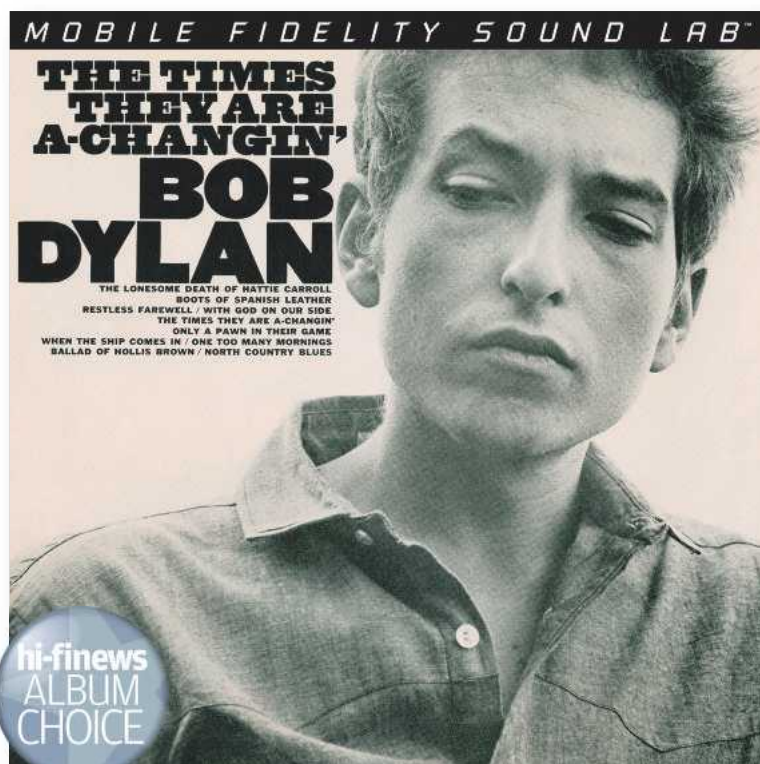
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ALBUM REVIEWS: VINYL



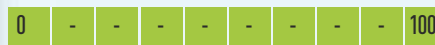
BOB DYLAN

The Times They Are A-Changin'

Mobile Fidelity MFSL 2-421 (two 45rpm LPs)

Released in January 1964, Dylan's third studio release was pivotal because it was his first to feature only his own compositions. It was also a monumental statement of protest, made all the more remarkable when one appreciates that the singer was still only 22! (In fact, he would turn 23 the following May.) It is a lean, stark release, but no less rich with imagery; its dark stance presages the final releases from his friend, Johnny Cash. And look at the material: 'The Times They Are A-Changin'', 'With God on Our Side', 'One Too Many Mornings', 'North Country Blues' and six more of that quality and brilliance. Mobile Fidelity has – again – performed a fantastic service for fans of the Zim. Astonishing! *KK*

Sound Quality: 93%



ERIC BURDON AND THE ANIMALS

The Twain Shall Meet

Sundazed LP5488 (180g vinyl)

Following 1967's *Winds Of Change*, this superior LP from '68 delved further into the hippie zeitgeist. Thanks to two tracks that were US (but not UK) chart hits – 'Sky Pilot' and 'Monterey' – the album enjoyed reasonable success. Penned entirely by the band, and with Burdon having bought into the Summer of Love shtick, it opens with 'Monterey', an ode to the rock festival where the band had performed, which is also said to be the moment when Burdon embraced Flower Power. Despite the dated sentiments, this is an inventive and powerful album, and 'Sky Pilot' remains a remarkable anti-war statement. Full marks to Sundazed for this and its predecessor. *KK*

Sound Quality: 89%



SIMON CAMPBELL

The Knife

Supertone STR03V (180g vinyl)

Although Campbell's second LP came with a reminder that the singer-songwriter is a British Blues Award nominee, it's not blues as I know them – and it would be a shame if anyone bought it expecting something akin to the work of Eric Bibb or Seasick Steve. This is more an amalgam of many folk-ish genres, primarily British but with more than a whiff of Americana, from a refined performer of the down-home/'back porch' school of performing. Six delicate tracks, with sublime sound – while the seventh and last? Yup: pure swamp blues. Modern vinyl irony continues: as is the fashion, inside is a code for a free high-res digital download. The FLAC version is terrific. *KK*

Sound Quality: 90%



THE '5' ROYALES

The Harbingers Of Soul

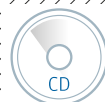
History of Soul HOS1 (180g vinyl)

Perfect timing: The '5' Royales have been inducted into the 2015 Rock and Roll Hall of Fame, receiving the Early Influence Award. And do they deserve it! This fine 16-track collection features their biggest hits, this R&B outfit from the 1950s marrying doo-wop, gospel and jump blues to create a sound that helped forge rock 'n' roll. Among their champions are Mick Jagger, Steve Cropper and Eric Clapton, these two citing Lowman Pauling as a guitar hero. And the songs? 'Dedicated To The One I Love' was covered by The Shirelles and The Mamas & the Papas, 'Tell The Truth' was covered by Ray Charles and 'Think' by James Brown & The Famous Flames. Try topping that! *KK*

Sound Quality: 89%



AUDIOPHILE: DIGITAL



COMPACT DISC



SUPRAAUDIO



DVD



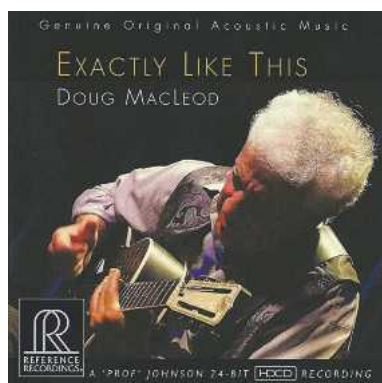
BLU-RAY



VINYL



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DOUG MACLEOD

Exactly Like This

Reference Recordings RRO135 (HDCD)

Deservedly winning awards all over the place for his mix of acoustic blues, uptown jazz and R&B, MacLeod has long been an audiophile fave because of Reference Recordings' productions. This latest set is immediately involving, the sublime sound reeling you in with its natural tenor. All of the tracks are originals, but the fun is identifying his influences, most of which are worn on his sleeve. The opener is the kind of rock 'n' roll homage that Brian Setzer could cover, while the other ten tracks include pure slices of Tony Joe White-style swamp rock, the sort of slow burners Keb' Mo' favours and more. A modern blues album – if you can handle the oxymoron. **KK**

Sound Quality: 91%



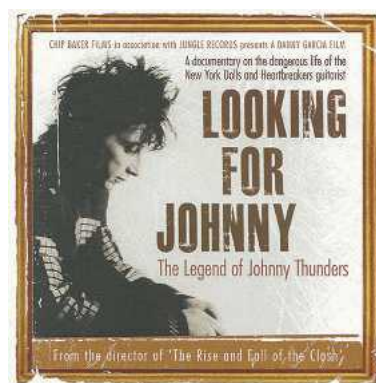
THE MOODY BLUES

The Magnificent Moodies

Esoteric Recordings ECLEC 22473 (two discs)

After Fleetwood Mac's blues-to-rock metamorphosis, no other band so changed its style like The Moody Blues. Before the concept albums that made them stadium fillers, the Moodies were a soul/blues/R&B-based outfit like most bands during the 'British Invasion' of the early '60s. This stunning expansion of their first LP from 1965 – centred around the hit 'Go Now' and augmented by more than 40 bonus tracks – gives us pretty much everything before the band re-emerged during the hippie era with *Days Of Future Passed*. Differing drastically from that album, the full story makes their transformation seem that much more unlikely... and epic. **KK**

Sound Quality: 86%



JOHNNY THUNDERS

Looking For Johnny

Jungle/MVD Visual MVD 6544D (DVD)

Among punk's many casualties, Johnny Thunders is adjudged to be one of the genre's greatest losses. A founder member of The New York Dolls, without whom The Sex Pistols, *et al*, would not even exist, Thunders left an extensive body of work with the Dolls, his later band The Heartbreakers and other ventures, most of which have been bootlegged or released posthumously. His death was cloaked in mystery and this documentary attempts to shed light on the matter. Augmented by a host of extras, it is a fascinating tale unlike any other rock saga, as it leaves space for conjecture. If we knew the answers, what would happen to the legend? **KK**

Sound Quality: 88%



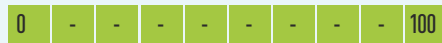
THE BAND

The Last Waltz

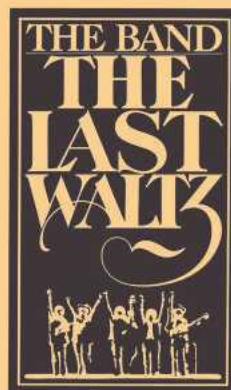
Mobile Fidelity UDSACD 2-2139 (two SACDs)

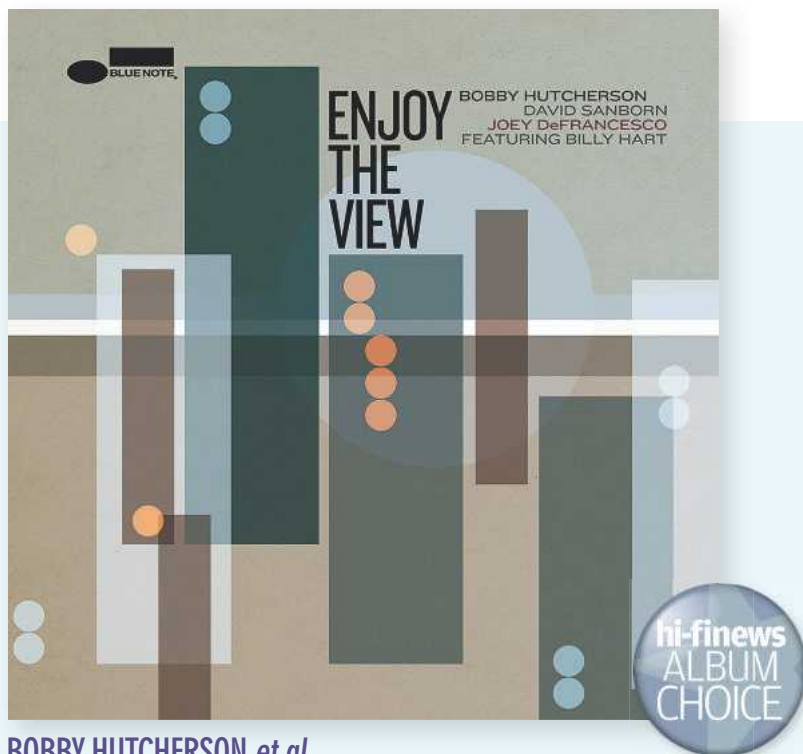
In the annals of 'greatest-ever rock concerts', the Band's farewell, held at Winterland in San Francisco on Thanksgiving Day, 1976 (the fourth Thursday of November, to non-Yanks), ranks among the highest. Because this group was so influential – and few would downplay their contribution to roots music, alt.country and other genres celebrating Americana/Canadiana – the guests they attracted were all A-listers: Bob Dylan, Neil Young, Joni Mitchell, Emmylou Harris, The Staples, Van Morrison, Muddy Waters, Eric Clapton, Paul Butterfield and others of that calibre. Alternating the guests' music with Band classics, the set is a representation of the state of music of the day and perfect testament to a musical legend. **KK**

Sound Quality: 92%



ORIGINAL MASTER RECORDING™





BOBBY HUTCHERSON *et al* Enjoy The View (96kHz/24-bit; FLAC)

www.hiresaudio.com; Blue Note 001977902

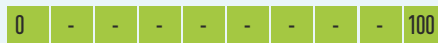
The veteran vibes player Bobby Hutcherson marks his return to the venerable Blue Note label with this all-star set, produced by label president Don Was and with an all-star line-up including saxophonist David Sanborn, organist Joey DeFrancesco, and drummer Billy Hart. None of these stalwart performers are exactly strangers to the recording studio thanks to extensive careers.

As you might expect, this is a joyful set, with DeFrancesco's Hammond bouncing off Hutcherson's understated

vibes, and assured rhythm-keeping by Hart. It's a relaxed, good-time set of tunes, played by a bunch of old masters completely at ease with themselves and what the others are doing.

If you're after ragged-edge improvisation, it may be better to look elsewhere, but if you're into great musicians doing what they do best, and given the space in the sound-picture to shine, then look no further. *AE*

Sound Quality: 95%



PUNCH BROTHERS

The Phosphorescent Blues (96kHz/24-bit; FLAC)

www.hiresaudio.com; Warner Music/Nonesuch

There's nothing like being ambitious: according to Punch Brothers lead singer and mandolin player Chris Thile, this album grew out of the question 'how do we cultivate beautiful, three-dimensional experiences with our fellow man in this day and age?'. So we have songs about recognising a song – the epic 'Familiarity', all ten minutes plus of it – and about shining your light by holding a smartphone in the air at a gig, complete with a backing chorus comprising vocals submitted by fans, these two topping and tailing the set. All sound a bit icky and navel-gazing? Far from it: with the assured production of T Bone Burnett, some serious dynamics and close focus on the performers, this set is at turns attention-grabbing, unpredictable, quirky and sincere. It swings from folk to classical to even a little rocky, but all in a good way, and is hard not to like. *AE*

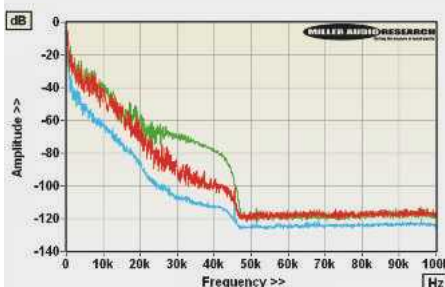
Sound Quality: 90%



OUR PROMISE

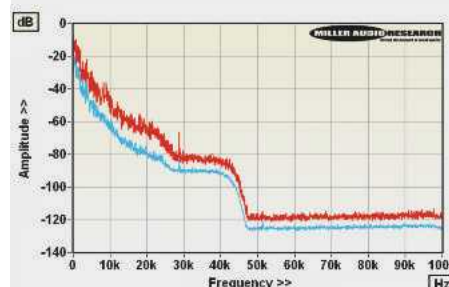
Following our Investigation feature [*HFN*, Jun '11] where we examined the claimed quality of high-resolution downloads, *Hi-Fi News & Record Review* is now measuring the true sample rate and bit-depth of the HD music downloads reviewed on these pages. These unique reviews will be a regular source of 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

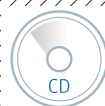


A genuine 96kHz recording but not without some 'hot' ultrasonic content [green trace, Graph above] that's as likely to be distortion from the percussion mic feed as true >20kHz harmonics. Some tracks also have a parasitic at ~38kHz. *PM*

LAB REPORT



There's clearly some heavyweight production talent thrown at this album but levels of noise suggest either analogue recording or mastering at some point in the '96kHz chain'. Very little instrumental content beyond 30kHz. *PM*



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DVD



BLU-RAY



VINYL



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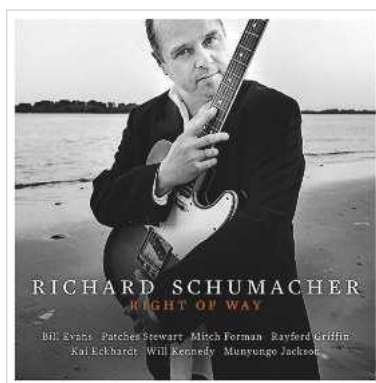
BLANK & JONES

Relaxed Jazzed 2 (44.1kHz/24-bit; FLAC)

www.hi-resaudio.com; Soundcolours SC0138

Blank & Jones is not so much a band as a brand: a duo of producers specialising in trance, techno and electronica, based in Köln, Germany and with a dozen or so albums and even more singles to their name since they got together to create *Sunrise* back in 1997. All of which might suggest what to expect here: banging choons, and a bit of ambient trippiness, right? Erm, no: here the duo teams up with German pianist and composer Marcus Loeber to create an album all about intimately recorded solo piano, playing gentle, melodic pieces. And that's about it: this is, as the title suggests, a relaxed, slow-paced set of tracks, none of them especially memorable but all suitably chilled out. The piano sounds nicely weighted and detailed, and the whole thing might be just the thing to play at a dinner party (or a laid-back hi-fi show demonstration). **AE**

Sound Quality: 85%



RICHARD SCHUMACHER

Right Of Way (44.1kHz/24-bit; FLAC)

www.hi-resaudio.com; Straightvibe Records/BrokenSilence 11885

Accomplished guitarist Richard Schumacher was born in Boston (1955) but grew up in Hamburg. In his mid-twenties he returned to Berklee College of Music to study jazz composition and arrangement. Back in Germany in the 1990s he formed the Vibe Tribe jazz collective project and his own Straightvibe Records label dedicated to jazz and world music. Despite *Right Of Way* being an analogue recording, ironically it delivers that rather 'dark' and dry sound reminiscent of the many 'audiophile' releases from Tom Jung's digital-pioneering DMP label. It sounds great, with a good sense of space around the instruments and plenty of bass punch, even if leading-edges sound artificially smoothed-over and the sense of acoustic over-damped. Schumacher's playing is divine alongside stellar tenor sax and trumpet contributions from Bill Evans and Michael Stewart. **JB**

Sound Quality: 75%



MOZART

Requiem, K626; Vesperae Solennes de Confessore, K339; Soloists/Bach Collegium Japan/Masaaki Suzuki (96kHz/24-bit; FLAC)

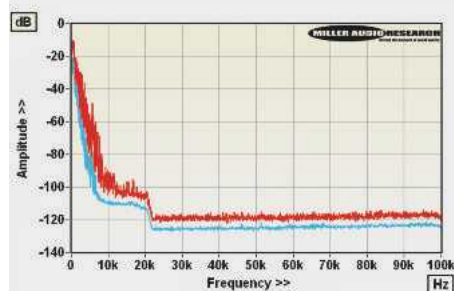
www.ecclassical.com; BIS BIS-2091

Masaaki Suzuki turns to Mozart and the unfinished *Requiem*. The principal question here is whose edition do you perform, and in this recording Süßmayr's completion is used together with additions by Joseph Eybler with an added 'Amen' fugue (discovered in 1960) after the *Lacrimosa*. An alternatively scored *Tuba mirum* follows the second of two Vespers settings from 1779-80. This is a cleanly sung *Requiem* but somewhat polite and ordinary: a complete contrast with the earthy, more urgent Dunedin Consort/Linn, which sounds far more authentic to me [*HFN* Jul '14]. This BIS production tends to favour choruses over the orchestra, although timpani are very prominent and the four soloists are widely spaced stage-front. The British soprano has more character than her colleagues. **CB**

Sound Quality: 70%

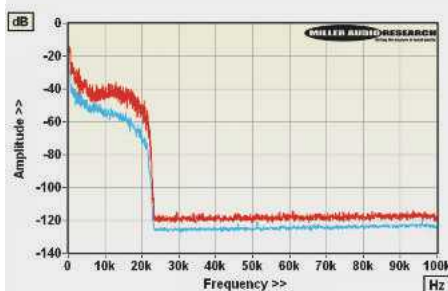


LAB REPORT



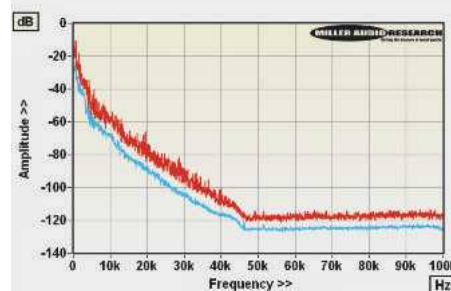
Although only recorded at a CD sample rate of 44.1kHz, the 20kHz bandwidth is more than sufficient to capture the full bandwidth of this solo piano. Peak levels are sensibly below 0dBfs and post-production is free of compression. **PM**

LAB REPORT



An analogue recording that was subsequently digitally mastered at the CD rate of 44.1kHz (but with 24-bit quantisation), it's only the very quietest interludes that will benefit, subjectively, over the silver disc's 16-bit coding. **PM**

LAB REPORT



This is the genuine article – a non-upsampling rendering at 96kHz which is more than sufficient to capture the massed vocals and accompanying orchestra ['Dies Irae' on Graph, above]. The music remains a matter of taste. **PM**

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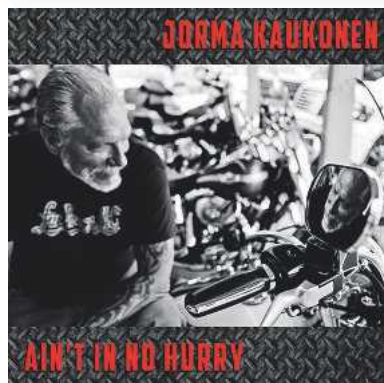
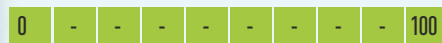
HUSKY RESCUE

The Long Lost Friend Special Edition

Catskills Records RIDCD025

Husky Rescue is a criminally under-exposed Finnish electronic combo whose fourth album, *The Long Lost Friend*, appeared only as a self-released item in 2013. Its eight haunting tracks are expanded to 24 for this special edition, which includes not only rare 7in releases but also an entire new album, *Hypnopompic*, featuring the group's impressive new line-up. As well as shimmeringly gorgeous electro-pop songs with meltingly luscious vocals by Johanna Kalen, we get computer-synth wiz Marko Nyberg's richly atmospheric instrumental compositions in partnership with composer Anthony Bentley. Not just the most imaginative, but probably the most sonically sumptuous electronica album we'll hear this year. *JBk*

Sound Quality: 95%



JORMA KAUKONEN

Ain't In No Hurry

Red House Records Red House 282

Here's an extraordinary thing: a venerable psychedelic era axe hero successfully re-inventing himself as a folksy septuagenarian singer-songwriter. Admittedly, Kaukonen's first major band was the psychedelic folk-rockin' Jefferson Airplane, and he did reinvent himself in the '70s as a nimble-fingered acoustic picker in his ragtimey duo Hot Tuna, but to do it again in 2015 on an album of delightful original songs and imaginative reinterpretations of well-loved folk-blues standards is one heck of an achievement. Impeccably recorded in his home studio, this is a must for any devotee of understated folksy picking and the wisdom only achieved with years. *JBk*

Sound Quality: 89%



JAMES AND THE ULTRASOUNDS

Bad To Be Here

Madjack Records CD-MJ-026

This Memphis-based quartet has been kicking up a storm on the local bar-band scene for ages but, finally, you can peek into the heart of their punked-up rock 'n' roll volcano. Frontman James Godwin is a no-holds-barred Dylanesque vocalist and lyricist who would have been at home in New York City's CBGBs in 1976, and his band knocks up a frantic facsimile of the poppier aspects of The Velvet Underground, with songs that rarely stretch beyond 3m. 'Fran Got Sectioned' and 'Party Dracula' pretty much tell you what to expect most of the time, but 'Streets Get Slick' suggest there's a significantly subtler band lurking inside which will reveal itself later. *JBk*

Sound Quality: 87%



SAYCET

Mirage

Meteores Music MM005

Saycet is actually Parisian Pierre Lefevre, who holds down a day job as chief sound engineer at the Pompidou Centre. This is a luscious-sounding album, combining elements as diverse as (you guessed it) Jean Michel Jarre-style danceable pop instros to more contemporary chilled ambient tunes with vocals by Phoebe Somsavath, which verge into territory formerly mapped out by Human League, Annie Lennox and other '80s electro-pop icons. What separates Saycet from most offerings in this genre is the warmth and humanity of the music, making it accessible to fans of folktronica songstrel Ellie Goulding or even, at a stretch, dance-pop queen Lady Gaga. *JBk*

Sound Quality: 93%





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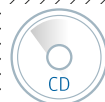
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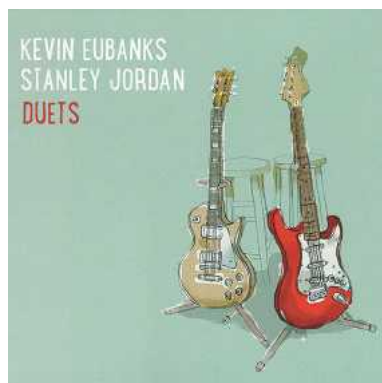
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KEVIN EUBANKS & STANLEY JORDAN Duets

Mack Avenue MAC1092

These two guitar wizards first thought about teaming up in 2011. After touring together briefly, they recorded this album in Eubanks' own well-equipped studio. Both play piano too, so you hear Eubanks at the keys accompanying Jordan's guitar on Thad Jones' 'A Child Is Born' while Jordan returns the favour on Miles's 'Blue In Green'. More typical, perhaps, is the opening 'Morning Sun' where Jordan's two-handed 'touch technique' and Eubanks' fleetest fingering build up a shimmering web of sound. Yet this isn't a battle where virtuosos try to outdo each other. It's a true collaboration of kindred spirits, creating a warm, engaging and relaxing musical experience. *SH*

Sound Quality: 85%

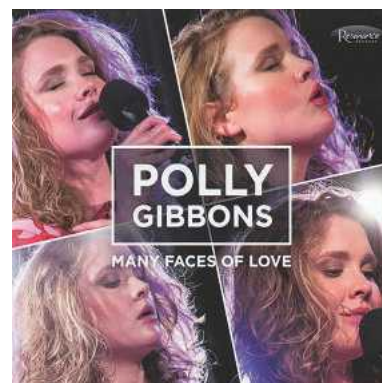


GILAD ATZMON & THE ORIENT HOUSE ENSEMBLE The Whistle Blower

Fanfare Jazz FI1501

In the late 1990s Atzmon played with Ian Dury And The Blockheads and last year he guested on Pink Floyd's *The Endless River*. But he's been leading his Orient House Ens. for 15 years and this is the group's eighth album. As the Israeli who became a pro-Palestinian activist, Atzmon is more than controversial, and some concerts have been cancelled after Jewish community protests. Yet he continues to prove that he's one of the most arresting sax players of today. At fast tempos he's commanding, in ballad mode he offers an intensity to stand comparison with Parker's – Atzmon is a musician who can't be ignored. *SH*

Sound Quality: 80%



POLLY GIBBONS Many Faces Of Love

Resonance RCD-1022 9 (CD + DVD)

Last year, the gifted singer found her jazz feet on *My Own Company*, an album with James Pearson's trio which includes the award-winning 'Midnight Prayer', co-written with Pearson. Meanwhile, having seen her on video, George Klabin of Resonance brought Gibbons to California to record with pianist/arranger Tamir Hendelman, long-time Diana Krall guitarist Anthony Wilson, violinist Christian Howes and the rhythm team of Kevin Axt and Ray Brinker. You can see them doing some of the same songs, like the classic Sarah Vaughan vehicle 'After Hours' and Rickie Lee Jones' 'Company', live in front of a studio audience, on the bonus DVD. *SH*

Sound Quality: 90%



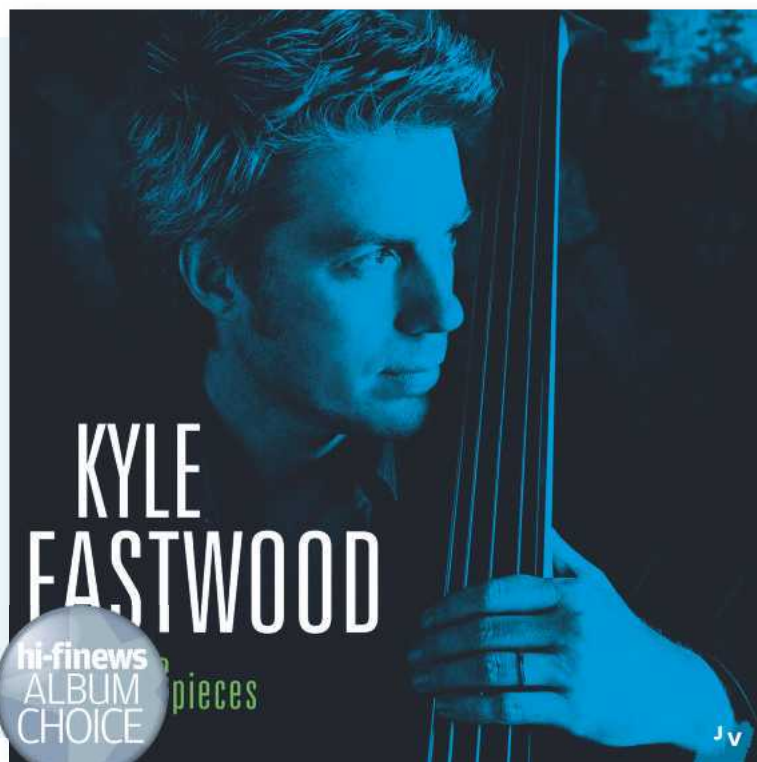
KYLE EASTWOOD

Timepieces

Jazz Village JV 570034

For his seventh album as leader, the bassist has rebuilt his long-established quintet with two new members. Still on board are British pianist Andrew McCormack and trumpeter Quentin Collins, but they're now joined by Australian saxophonist Brandon Allen and London-based Cuban drummer Ernesto Simpson. Eastwood says he wanted to pay his debt to the jazz of the late 1950s and early '60s, music he'd loved since introduced to it by his famous dad, and this line-up is perfectly equipped for the task. For example, a fast and furious workout on Horace Silver's 'Blowin' The Blues Away' has Allen doing just what the title says, and there's fabulous hard-bop ensemble work from the two horns, while McCormack shines too. A treat. *SH*

Sound Quality: 90%





BRAHMS

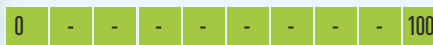
Serenades 1 and 2

Leipzig Gewandhaus Orchestra/Riccardo Chailly

Decca 478 67775

Brahms's two orchestral Serenades (rather lesser in scope, No 2 is scored with double winds and two horns, but has no violins) were not much known until Kertesz's LSO/Decca LPs appeared in 1968; then an equally fine Boult/LPO set was issued a decade later by EMI. In the new booklet note Chailly refers to Boult's readings as providing a clue for his tempo for the long opening *Allegro molto* of No 1. These new Leipzig recordings match the feeling of his (award-winning) 'stripped down' Brahms Symphonies cycle and while I didn't particularly warm to that set, this 'prequel' is gloriously played, conducted and recorded. This is a definitive coupling. **CB**

Sound Quality: 95%



BEAMISH/DEBUSSY

The Seafarer/La Mer (arr. Beamish)
Sir Willard White, Trio Apaches

Orchid Classics ORC100043 (96kHz/24-bit at theclassicalshop)

For their debut recording, Trio Apaches asked Sally Beamish for a transcription of *La Mer* as a companion piece to *The Seafarer*: a setting of a pre-10th century poem found at Exeter Cathedral (following an account of a sea voyage, the principal theme is the mariner's spiritual life ashore). Constantly fascinating as 'reimagined' for piano trio, the Debussy works extremely well – the one spot which doesn't quite satisfy is the big tune for cellos 4m 37s into (i). Trio Apaches make the music sound very French, and it has been finely engineered at St George's, Bristol. The booklet has the texts but says too little about the Beamish piece. **CB**

Sound Quality: 85%



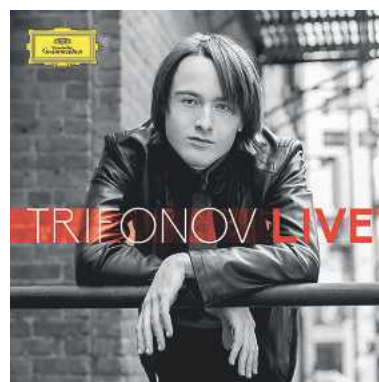
WALTON

Symphony 2; Cello Concerto; Improvisations on an Impromptu of Benjamin Britten
Paul Watkins, BBC SO/Edward Gardner

Chandos CHSA 5153 (SACD hybrid; and up to 96kHz/24-bit)

Walton changed the dedication of his Second Symphony to George Szell, but revisiting his 1962 Cleveland LP – abrasively severe – I wondered if it did the work that many favours. Gardner's new recording has plenty of energy and it would be hard to choose between it and Martyn Brabbins' on Hyperion – different views of the work with each conductor. There's also the lighter, more colourful Litton/Decca. Paul Watkins's Elgar Concerto has proved immensely rewarding and his new Walton is similarly detailed and scrupulous. (The Piatigorsky/RCA bears a unique sense of identity!) **CB**

Sound Quality: 85%



TRIFONOV LIVE

Piano works by Chopin, Liszt and Scriabin
Daniil Trifonov

DG 479 3795

This is a repackaging of two recitals: Carnegie Hall 2013, Steinway D; and in slightly less good sound, Teatro la Fenice, 2010, Fazioli F308. The young Novgorod pianist, trained in Moscow and Cleveland, played Scriabin's Sonata No 2, the Liszt and Chopin's Op.28 *Preludes* at his NY debut; and in Venice all Chopin – three Mazurkas, the *Andante spianato*, etc, concluding with Sonata No 3. Martha Argerich has described his fingerwork as 'technically incredible' but it's the unwavering *musical* focus in these performances, to match his often astonishing lightness and dexterity, that impresses. A pianophile's 'must-have'. **CB**

Sound Quality: 90%



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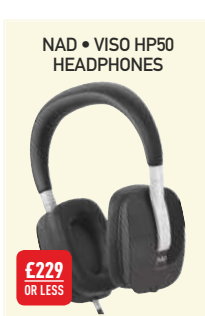
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Paul Miller Editor

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

Price of progress

Much is made of the price of flagship high-end hi-fi separates, says **Paul Miller**, but not all that glitters is 'audio jewellery' – the best is very low volume, very high cost, precision engineering

Our exclusive technical review of Naim's incredible Statement amplifier necessarily touches on the – er – touchy subject of its price tag. At £155k, the NAC S1 preamp and NAP S1 monoblock combo is certainly the costliest amplifier we've ever reviewed in *Hi-Fi News*. It's probably the most expensive (production) amplifier in the world, although a Constellation Reference Altair/Hercules II Mono would likely run it close...

Our reviewer, Andrew Everard, adroitly second-guesses the naysayers by applying the predictable hi-fi/automotive analogy. Yes, the Statement costs as much as a premium Bentley (for whom Naim is its ICE partner), but Bentley not only has a more substantial turnover than the Salisbury specialists but it'll also sell rather more of its cars than Naim will shift Statements worldwide. Frankly, when a company aims to sell units in the tens, rather than thousands, then its economy of scale is almost non-existent.

INDECENT PROPOSAL?

Still think £155k is implausibly high for this product? Let's spin the argument around and imagine for one crazy moment that you'd addressed the board at Naim Audio and asked them to build you a one-off (or even 50-off) amplifier. 'Cost-no-object and at least 750W/8ohm per channel' you'd say, 'devote the cream of your R&D and production engineering staff for as many years as it takes and if you can't find the components you need then build them from scratch or have the most prestigious technology suppliers fabricate the parts for you.'

You pause for breath and then, 'I want unique casework, so that'll mean customised tooling for all the

'£155k, for your personal project, no longer seems so unrealistic.'

metalwork'. There's blue smoke coming out of the FD's calculator just in time for you to add, 'and after an indecent number of prototypes I want my final sample built and fettled entirely by hand... several hundred skilled man hours per amplifier should do the trick'. Like I say, a crazy proposal. But, if you really had made the bid, how much do you think that amplifier would cost you? Suddenly, although £155k remains the stuff of dreams, this figure, for your personal project, no longer seems so unrealistic.

BESPOKE HI-FI

I was struck by this 'commissioning' approach to hi-fi design during a conversation with Magico's Alon Wolf about his very limited

edition M-Project floorstanders. Fifty pairs were budgeted for and fifty duly sold at US \$130k, or thereabouts. So much about this incredible loudspeaker seems to be a 'one-off'. The tweeter's 28mm beryllium/diamond dome was modelled to push its high-frequency performance beyond Magico's original 26mm unit, all without increasing the moving mass. It also uses a new and massive motor assembly loaded

into an acoustically improved back chamber for even lower distortion. But after all the prototyping by Magico's contractors, only 50 units were built.

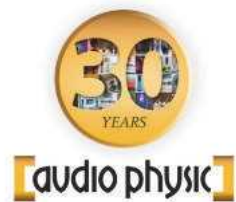
It's the same story with the 180kg cabinet – edge-free top and bottom plates, a curved front baffle fashioned from a single slab of alloy, flanked by lacquered carbon-fibre sides and structurally reinforced by a complex aluminium skeleton. The tooling for each piece is bespoke – the cost astronomical – while the reject rates for infinitesimally small blemishes in the carbon weave or imperceptible variations in the alloy's hard anodising are excruciatingly high.

Even with Magico's relatively affordable S3 [*HFN* Nov '14] and S5 [*HFN* Dec '12] floorstanders, you can save yourself £5000 simply by opting for its proprietary M-Coat finish rather than the traditional hard-anodising. Same speaker, different finishing process and a direct reflection of the exorbitant cost of large-piece anodising, not to mention the number of wasted panels sent for recovery. Scale this up a few-fold and we can start to appreciate why monumental cabinets the size of those that embrace the M-Project and new S7 [see News, p14] cost as much as they do. ☺



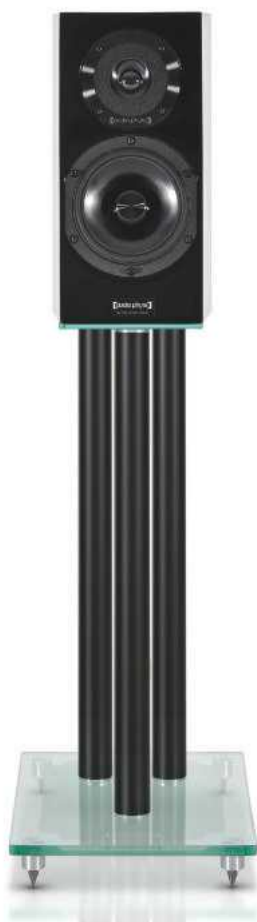
ABOVE: All 50 pairs are already sold but the final set of Magico's celebratory M-Project loudspeakers were briefly on demonstration at Imacustica in Portugal in late March

COURTESY, JOSÉ VITOR HENRIQUES HIFICLUBE.NET



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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

Tricky bits

What the hi-fi world wants is hi-res, says **Barry Fox**, but delivering this content at lower data rates is the real holy grail. With more than one way to achieve it, will we witness a format war?

It seems a safe bet that the next big thing in hi-fi will be hi-res streaming, with 96kHz/24-bit music playing on demand. But when and how?

French online music service Qobuz recently held a 'Music Is Back' press briefing (with surprisingly few hi-fi press invited) and handed out promotional material which promised hi-res streaming 'early this year'.

Obviously not too early this year, though, because in March Qobuz was still saying it was 'early days yet'.

CEO Yves Riesel and Business Development Director Benoit Rebus admitted that they still have no sure way to get the data rate below 3 or 4Mb/s. But they are 'working with Meridian' on using MQA bit reduction [Investigation, *HFN* Apr '14]. Meridian people were present and confirmed this.

RIVAL SYSTEM

Hi-res high priests Linn will support Qobuz, the company said later. But Linn Technical Director Keith Robertson is not yet an MQA convert.

'Moving to 24-bit streaming would be awesome, a major step forward,' he told me. 'We will support any codec that's open and widely used. If MQA is open and widely

used we will support it. But MQA is an announcement right now. There is no technical information that is public. There's no commercial information that is public. The authentication system and how it will work is not public.'

So now seems a good time to mention a rival system, called Auro. Although this was developed for immersive cinema sound with Atmos-style voice-of-god speakers, it is based on very clever PCM technology that was developed and patented ten years

'Auro's technology is available as a software upgrade for high-end AV amps'



ABOVE: Original tracks in ProTools ready to be downmixed using an Auro software decoder

ago to get more bits into less bandwidth, without quality loss – just like MQA.

In Belgium recently, Auro inventor Wilfried Van Baelen showed me how it is possible to mix two – and he claims, up to four – hi-res channels into one channel

and recover them in hi-res. For an acid test demo he used industry standard ProTools editing software with an Auro coder and mixed two completely different hi-res mono song

tracks into one Auro PCM track. An Auro software decoder recognises instructions buried in the PCM to un-mix and play the two tracks completely separately.

This trick is possible because the four or so Least Significant Bits of 24-bit PCM audio are deep in the noise floor and lost by most consumer equipment.

'If the full dynamic range from 24-bits were reproduced we would only experience it once because our hearing would be permanently damaged,' notes Van Baelen. 'Blood would be coming out of

our ears. So we can use the LSB to carry the instructions for re-construction.'

Auro's coding technology is currently used in cinemas around the world (although curiously not yet the UK) and, Van Baelen says, is available as a 160 Euro software upgrade for high-end AV amps from Auriga, Denon, Marantz, McIntosh and Trinnov.

The coding self-adjusts, using more or less of the LSB space to suit the dynamic range of the music content.

NEW AND CLEVER

So far I've found surprisingly few people in the UK hi-fi world who are aware of this clever system. But suggestions made in the original patents, and the demo I heard, leave little doubt that Auro coding could be used for reducing the bandwidth needed for stereo PCM streams. I suspect Sony's mysterious LDAC may work in similar fashion.

The hi-fi world wants hi-res. Hi-res needs a new and clever way to reduce bits. And there is already more than one way to achieve this. Let's hope that hi-res streaming is not now bogged down by a new format war. ☺

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SME

"The best pick-up arm in the world"



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

A persistent format

A renewed interest in vinyl among music fans in the US means record bins have begun to appear in the unlikelyst of places. What's needed now, says **Barry Willis**, is an interest in quality turntables

Until this past January, I believed that the resurgent interest in vinyl records was a passing fancy – an exercise in nostalgia for the middle-aged music lovers among us, and an exercise in retro-cool for the younger crowd. I'm not so sure anymore.

Most hip recording artists now release new albums first on vinyl, followed after a respectable interval by CD, downloads, and streaming. It's almost become a matter of professional pride to launch new releases this way.

The music-buying public can't seem to get enough of it. According to impressive statistics published in the March 14th edition of *Billboard* magazine, sales of vinyl records in the US grew by 52% in 2014, a year in which sales of digital albums declined by 9.5%.

TEN-YEAR SURGE

The growth was in keeping with a steady ten-year surge for vinyl. In 2005, unit sales of vinyl were 857,000, but in 2014 exceeded 9m, a sales total for that year estimated at \$325m. The average cost of manufacturing a vinyl album was \$5.50, while the average retail price was \$36.11. Oh, and most buyers of new vinyl were under the age of 35.

The International Federation of the Phonograph Industry (www.ifpi.org) publishes its own report on global music sales. Most recent figures available (as of March 2015) are for the 2013 calendar year, with a total of \$15 billion in sales worldwide, a decline of 3.9% from 2012.

Streaming and subscription services in 2013 exceeded \$1 billion, a 51% gain worldwide, accounting for 27% of total digital sales. Both Europe (0.6%) and the US (0.5%) enjoyed growth in music sales

RIGHT: Record bin at Whole Foods organic grocery store offering new 180g vinyl LPs and (below) a VPI Traveler turntable



'Recent gains made by vinyl means it's no longer statistically insignificant'

overall. Spain, Italy, and Sweden all saw solid gains in 2013. The biggest drop in a major market was in Japan, which saw a decline in sales of 16.75%.

Worldwide sales of recording in physical formats (CD and LP), fell by 11.7% in 2013 to \$7.73 billion, from the previous year's \$8.75. Physical formats still account for more than half (51.4%) of the industry's global revenues, compared to a figure of 56% the previous year.

Recent gains made by vinyl, especially in view of declining CD sales, have lifted it out of the 'statistically insignificant' category. *Billboard's* report also mentioned that major record pressing plants in the States have added substantial numbers of new or refurbished presses, and that one, United Record Pressing of Nashville, is building a second plant near its current one, and that the new one will run 16 presses – not a minor investment.

These numbers are both fascinating and encouraging, but the surging interest in vinyl has led to some almost comical retail exposure. Record bins are now popping up

in the most unlikely places, such as at Whole Foods, the organic grocery chain. A bin at one such store was chock-a-block with audiophile recordings priced from \$25 to \$60 each.

Arrayed nearby (and *de rigueur*) were assorted headphones, accompanied by the most hideous collection of very cheap record players imaginable: 'Record Man' and 'Crosley' brands, uninspiring plastic devices with short and, I suspect, ill-fitting arms, maybe a quarter-Watt of built-in amplification, and sporting a pair of tiny on-board loudspeakers.

NEXT ASSIGNMENT

Presumably the proximity of these related items takes advantage of a record buyer's impulse, but half-speed masters and 180g pressings deserve better than a disposable close-and-play.

How about a sweet little VPI Traveler? Or anything from Pro-Ject – affordable quality. There are many good record players out there, new and vintage alike.

This industry's next big assignment is to make this fact stick in the minds of first-time vinyl buyers. Ultimately it could lead to a renaissance of interest in high-performance audio gear. Wouldn't that be a pleasant outcome? ☺

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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

Top tips

Cartridge tip mass is rarely discussed these days, but it can have a significant effect on the way your vinyl sounds. **Jim Lesurf** compares how the issue is addressed by MC and MM cartridges

While they're loved by many audiophiles, I've never really liked moving-coil cartridges. In part this was because for quite a while I was forced by circumstances to listen to one I hated. I won't name and shame it now, but at the time it was being used for demos because so many others thought it was the bee's knees. To my ears it sounded like a horse's behind in full song.

That said, I have nothing against moving-coil in theory. It's just that in my view many examples suffer in practice from a problem few mention. High effective tip mass. This means that the LP's groove walls have to apply a lot of force to move the stylus. And the higher the frequency you want to replay, the greater this force becomes.

RECORD WEAR

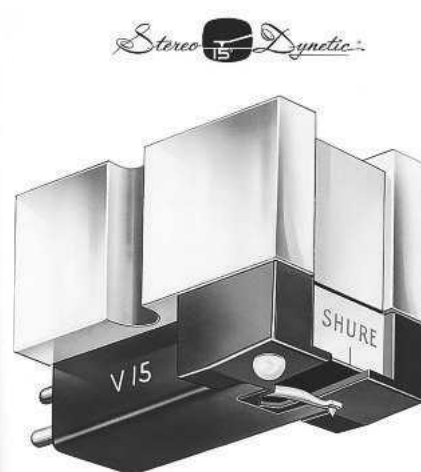
Back in the '60s and '70s, the main concern people had when it came to this issue was record wear. But, as research by people like Walton and Kelly in *Hi-Fi News* and *Gramophone* magazines had shown, there were other audible consequences due to the vinyl being squashed out of shape by the huge pressures involved. One is a risk of increased distortion. The second is a reduction in how loud a sound can be played without the stylus leaping out of the groove – or ploughing a new one!

The third is a form of mechanical resonance where the relatively squishy vinyl walls act like a spring against which the tip mass can resonate or ring. The result tends to be that the cartridge's output rises with frequency until it hits a peak, then falls away again. This is the 'peaked treble' effect you can see in many published measurements.

'Vinyl walls act like a spring against which the tip mass can resonate or ring'



ABOVE: Review of Shure V15/III in *HFN* Aug '73 and the original Stereo Dynetic model from 1964



It was due to these problems that firms like Shure put a lot of effort into developing moving-magnet cartridges that had a very low tip mass.

Alas, this mechanical effect has often been confused with an entirely electronic resonance that tends to occur with MM designs. Here the culprit is the pick-up

coils, which usually have a very high inductance. This can 'ring' against the electronic load of the cables and RIAA amplifier input. It's an effect that *HFN*'s John Crabbe diagnosed and

exploited back in the day to improve the response of the Shure V15 series.

Since this effect is electronic it can be manipulated directly by the user carefully choosing just the right input resistance and capacitance for their RIAA preamp.

Sadly, you'll have no such luck if your stylus has a very high tip mass. Then the equivalent is to ensure that the mechanical suspension of the (MC) stylus has a low

compliance and high mechanical damping – not something the user can easily adjust. And low compliance and high damping tends to increase further the pressure the vinyl has to exert. This can adversely affect other aspects of the cartridge's performance.

A COMEBACK?

Most of the old MM designs with ultra low tip mass are no longer available. And even many good current MM designs tend to have much bigger diamond tips that the old V15s. Although, these won't have their coils adding to the mass to be shoved about by the vinyl. Given the recent growth in interest in LPs, I wonder if low-mass MM cartridges will make a comeback? Especially as some less costly designs have survived by being used by another kind of 'MC', or should I say 'DJ'.

If nothing else, ease of stylus replacement is attractive to those who just want to go on playing LPs with no fuss. Recently there has been a campaign to persuade Technics to give its direct-drive turntables a rebirth. Maybe we should call on Shure to resurrect its V15! ☺

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Low Distortion Loudspeaker Cable



by Black Rhodium



"Compared to many high-end cables whose bulk and rigidity (or fragility) seem contrived to make their installation as arduous as possible, Black Rhodium's Duet DCT++ CS is a positive joy to hook up. But while the cable is unusually 'bendable' its sound has real spine – its bass powerful and robust while the treble is smooth rather than incisive or biting. Certainly one for the shortlist, the Duet's warm quality is suited to sharp-sounding systems."

Paul Miller, Hi-Fi News, March 2015

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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

A history of high-fidelity

Predictions and opinions on the future of audio can be amusing with hindsight. **Steve Harris** dips into a book by *Audio Amateur* editor Ed Dell and finds there are some puzzles still to be solved

As I write this it's almost exactly two years since Edward T Dell, Jr passed away peacefully, having not long since celebrated his 90th birthday at his home in Peterborough, New Hampshire. It was only in 2011, when he was 88, that Dell relinquished the reins of the publishing business that he'd started in 1970.

Ed Dell had lived through the history of high-fidelity from its beginnings and, as the founder, publisher and editor of *The Audio Amateur* and related publications, he was part of that history for more than 40 years.

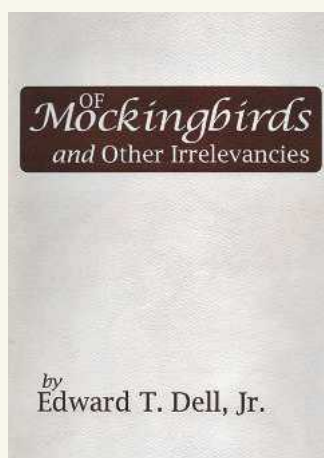
All this came to mind when, by chance, a friend loaned me a copy of the little book that Ed Dell published in 1993, *Of Mockingbirds And Other Irrelevancies*. Thanks again, Ashley!

FREE RANGING

This isn't a book about building equipment. It's a collection of Dell's free-ranging editorials from the first 20-odd years of *The Audio Amateur*. The title comes from an early piece, written when Dell was still living in a suburb of Philadelphia, telling how he'd sometimes wake early, before the hum of commuter traffic started, to a beautiful dawn silence broken only by the mockingbird's call.

It's amusing to find Dell in May 1972 welcoming another kind of dawn, the start of video gaming, with the early Magnavox Odyssey 'ping pong' games console: 'We salute Magnavox for what we consider a most innovative and positive development for TV entertainment. With the way TV programming is going, intelligent people need some alternate use for the machine much of the time...'

RIGHT: The late and fondly-remembered Edward Thomas Dell, Jr, founder and publisher of *Audio Amateur* in the US, and his 1993 book *Of Mockingbirds And Other Irrelevancies* which collects his editorials of previous decades



Reporting on the November 1977 AES conference that saw digital recording demonstrated by Mitsubishi, 3M and Soundstream, Dell commented: 'It was overwhelmingly evident that the digital era is upon us in audio... the digital revolution will have far wider consequences than any of us can probably anticipate.'

But he also added presciently that 'The PCM format chosen seems quite adequate, but others ought to be tested experimentally before we are locked into what may be a "just a little too limited" format.'

Two years before this, in November 1975, Dell reported:

"Why do we seem incapable of building good acoustical environments?"

'A few weeks back, the Philadelphia Orchestra and the Boston Symphony announced nearly simultaneously, that they would no longer use Fisher Hall at Lincoln Center for concerts... The reason? Bad acoustics.... Why do we seem incapable of building good acoustical environments? Even when we hire outfits like Bolt, Beranek and Newman to do the designs – a giant consulting firm at the top of the field.'

When built, originally in 1962, as the Philharmonic Hall before Avery

Fisher became involved, the classic 'shoebox' shape initially specified by the consultants BBN had been fatally widened to give more seating capacity.

Dell's piece continued: 'While I applaud the efforts being made in the new discipline of psychoacoustics, I think we would do well to study a lot more carefully those classic structures we have that are such miracles of acoustic excellence and why they work.'

BEYOND IMAGINATION

Ed Dell lived to see change and progress in electronics that went beyond anything he could have imagined in the 1970s. But the music world still admires the classic old venues, while the troubles of the Avery Fisher Hall are still to be solved.

It's ironic that such problems should still afflict the one major concert hall that has been funded by a great hi-fi pioneer. But in November 2014, faced by the need to raise \$500 million to refurbish the Hall, the Lincoln Center authorities announced they would remove Fisher's name in order to sell the naming rights to the highest bidder.

So the Hall will finally lose its historic audio-industry connection. But perhaps those 'Ailing Acoustics', as Dell called them 40 years ago, will be fixed at last. ☺

YOUR VIEWS

Sound Off!

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TOO FEW UK SPEAKERS! READER ASKS FOR MORE ALL-BRIT BUILT MODELS

As a reader of *Hi-Fi News* over many years, I am disappointed by the lack of reviews of loudspeakers made in the UK by companies that are 100% British. Many well known English makes are now foreign owned, such as Wharfedale. British companies' products, like those made by Harbeth and Proac, etc, are rarely reviewed. Meanwhile, continental makes such as Cabasse and Dali are not only tested but are often featured on the front cover of the magazine.

I appreciate that *HFN* must look far and wide to fairly represent the range of loudspeakers available and living in the EU makes it easier for potential buyers to have access to audio equipment made overseas. That is a positive.

You appear to link similar products in *HFN*. For instance, if you feature a new amplifier you often refer to an older one. Then, of course, you have your Vintage

Review series. As you will be aware, Harbeth's first loudspeaker was the HL Monitor, a model which was the same size as the 2ft³ BBC LS3/6 monitor. Harbeth still manufactures a loudspeaker that is based on the classic 2ft³ cabinet. This is the Super HL5plus.

Could I make a suggestion? As a way to combine the past with the present, how about a feature comparing the original Harbeth HL monitor with the modern Harbeth SHL5? I feel it would make fascinating reading...

Martyn G Miles, via email

Paul Miller replies: While it's always tempting to give more space to the 'home team', *HFN* is very much an international title read by literate audiophiles the world over. We're also one of the very few hi-fi magazines to provide credible and repeatable measurements on loudspeakers and it's this in-depth coverage that acts as a magnet to progressive speaker manufacturers from all continents. It's the reason why you'll read about the latest high-end Sonus faber before it's seen in Italy or a Wilson or Magico before it's reviewed in the US.

This same penetrating review style may also be the reason a very few loudspeaker brands fight shy of supplying us their products, despite repeated requests. I'll leave readers to work this out for themselves, but the (small) list certainly doesn't include the likes of KEF, B&W, PMC, Monitor Audio, Kudos Audio, *et al*.

And neither does it include Harbeth or Spendor, two companies that have recently demonstrated 're-inventions' of cherished classics. So, Martyn, I hope you'll be pleased to learn that reviews of both the Harbeth Super HLplus and Spendor SP100R2 Classic are in the pipeline.



ABOVE: The Harbeth Super HL5plus standmount – see www.harbeth.co.uk

Why vinyl scores higher than hi-res

AVERAGE REVIEW RATINGS SHOW VINYL TO BE SUPERIOR

Over the past couple of years *Hi-Fi News* has enthusiastically promoted hi-res downloads and written about the demise of vinyl, SACDs and CDs. Yet in the April issue I note the following...

Album Reviews: Vinyl – average score given 90.3%, Audiophile: Digital – Blu-ray, SACD and CD, average score given 90.3%, Album Reviews Hi-res Downloads – average score given 78%. Album Reviews Rock – (you do not specify what you were basing the review on, vinyl, CD or download), average score given 90%, Album Reviews Jazz – (you do not specify what you were basing the review on, CD or download) – average score given 85%. Album Reviews Classical (SACD and CD and vinyl), average score given 80%. Given the above scores why would I want to switch to hi-res downloads? In fact vinyl seems to come out as the preferred source!

Mr J Jarvis, via email



ABOVE: Vinyl and hi-res review pages from *HFN* Apr '15

Christopher Breunig replies: Our rock, jazz and classical reviews are based on CD copies unless specified otherwise in the headings, as this is the medium the record companies uses for reviewers. The availability in various formats is shown by the icons adjacent to the cover pictures.

The ratings will vary according to the author of the review. With KK's vinyl reissue page it is likely that he'll be reviewing well-produced 180g pressings meriting a high rating. The 'Hi-Res Downloads' pages involve different reviewers with perhaps different priorities and in all cases the percentages involve a degree of 'is this album worth buying', or with historical transfers have to balance musical worth against sound quality.

Furthermore some downloads don't match up to their technical billing, which is why the Editor runs his lab reports so you know *exactly* what you are buying. So I don't think your averaging can really suggest any inferiority, even if the team has at least two vinyl lovers!

Streaming vs silver disc

READER PITS HIGH-END CD TRANSPORT AND DAC AGAINST HI-RES REPLAY OF TRACKS

Having discovered that I could send music files from a hard disk drive or USB pen to a DAC via my Oppo BDP-105EU Blu-ray player without needing to have a computer in operation, it was time to have a play.

The highest resolution my then dCS Elgar plus DAC could handle was 96kHz/24-bit. This meant I could compare a hi-res version of a track from Amy Duncan's *Cycles Of Life* album download from the Linn site with the same track on CD. It did sound better – a bit like comparing the SACD layer of a hybrid disc with the CD layer when heard on my dCS Verdi La Scala player.

Encouraged by a friend who was busily ripping all of his CDs to hard disk, I downloaded dBpoweramp and ripped a few discs. It was tediously slow. Using a second computer and adding a second external CD-ROM drive to each meant I could now rip four discs simultaneously.

I now wondered where, in the scheme of things, download resolution compared with that of SACD (1-bit DSD at 2.8224MHz). Twenty-four times 96kHz gives 2.304MHz – quite close, but presumably to get resolution higher than SACD one would need 192kHz/24-bit. The DAC I owned at the time would not go higher than 96kHz and so hi-fi lust began.

Eventually, after a home demonstration, a dCS Scarlatti DAC took up residence together with a Paganini transport and clock.

It is very impressive at how good CD can sound when done really well and now the silver disc is outperforming the computer file. For example, the title track from Joji Hirota's wonderful album *The Gate*

sounds clearer, crisper and has a far more detailed and three-dimensional sound when played on CD. The ripped track sounds less distinct and flatter in perspective.

Following Mr Lange's letter in the March '15 Sound Off pages, I repeated the comparison with the file on a 4GB USB drive plugged into the USB1 input on my Oppo BDP-105EU, as recommended by Paul Miller. The CD still wins hands down. Tracks from *Burlesque* by Bellowhead only confirmed the impressions. So, a poorer but happy consumer. The hard disk drive has been disconnected.

Is the comparison a fair one? We are often told in *HFN* that streaming outperforms silver discs. If my Oppo player is passing the file to the DAC without doing any processing to it, then my very good transport is clearly better than the streamed file. There is a 'but', of course: dCS transports upsample to DSD frequency and send the data to the DAC as a single bitstream at 2.8224MHz, so perhaps the comparison is not a fair one.

Phil Thorogood, via email

Paul Miller replies: Your last sentence hits the nail on the head, Phil – there are a lot of variables in your comparison. I've used the Oppo BDP-105D (the latest '105) as a transport to deliver media from its USB1 and network inputs out to different DACs via its S/PDIF connection and I've not had equal success with every pairing. Sometimes the same file sounds superior delivered via PC to the DAC's USB input, other times it's better read from a drive connected to the BDP-105D and ushered over S/PDIF. The fact that discs read within the Paganini sound better than files delivered over S/PDIF just proves you have a very fine transport, nothing else.



ABOVE: The dCS Paganini transport can upsample CD data to DSD before transmitting it

8

Lanes On Your Entertainment Superhighway



RJ/E Forest



RJ/E Cinnamon



RJ/E Vodka



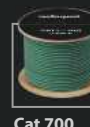
RJ/E Diamond



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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Sabrina

AT OXFORD AUDIO

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Making sense of MQA

WILL MERIDIAN'S SYSTEM ALLOW THE MUSIC INDUSTRY TO REINTRODUCE DRM?

Does the world really need another high-resolution audio format? Files that are 96kHz/24-bit and 192kHz/24-bit audio sound superb, but the difference between high-resolution releases and 44.1kHz/16-bit CD audio is not always audible because it depends on the quality of the original masters. To my ears, the superiority of high-resolution audio is only audible in about one-third of the 'high-resolution' albums I've obtained.

While reducing the file size of high-resolution audio is a worthy idea, Meridian's MQA system [see Investigation, *HFN* Apr '15] is not exactly lossless, and the system has an authorisation key system which will restrict by whom, and under what circumstances, the high resolution audio will be playable. This is yet another music industry scam to reintroduce DRM. And existing music servers and high resolution portable players will not be equipped to decode MQA's high-resolution audio.

As for advancing the cause of quality audio, more could be gained if record companies were to release music that is both better recorded and mastered.

Philip Cohen, Florida

Keith Howard replies: As Mr Cohen has clearly not yet heard MQA, he might be well advised to keep his powder dry. It is not just 'another high resolution audio format' but an attempt to reorder the criteria applied to the capture and dissemination of audio that reflects better how the human ear works. Apparently this message still hasn't registered.

Neither is MQA merely a bit-reduction system, as Barry Fox has suggested. It is a technology that encompasses the entire audio chain from studio to home in a way that is unique, both in its philosophy and its realisation. It is not 'a scam' and it does not include DRM. I have been assured by Bob Stuart that the third patent to which Barry referred in his original Opinion piece [*HFN* Mar '15] is not part of MQA, which is why my April Investigation article made no mention of it.

Barry Fox replies: Nice point about DRM. Let's never forget that the reason the world 'went MP3' was the squabbling failure of the music industry and the SDMI (Secure Digital Music Initiative) to agree on a secure/better alternative to MP3. Personally I still believe that 44.1kHz/16-bit CD quality, if done well, is plenty good enough for most domestic listening. But because I am not as young as I was, I am open to attack along the lines of 'you couldn't hear the difference anyway'. My reply to that is, come on a birding walk and see who can hear a Goldcrest.

I have the greatest technical respect for Bob Stuart and Peter Craven (and Keith Howard), and have said many times that I sincerely hope that MQA does what is promised, does not include DRM and does not bog us down in another format war. The problem is that hard fact information on MQA has been very sketchy, and released in dribs and drabs, at different events in different countries.

Currently, the only people who have a reasonable idea of what MQA exactly does and does not do will have signed a Non-Disclosure Agreement, which means they are unable to talk about it.



ABOVE: Meridian's Bob Stuart (centre) announces MQA's tie-in with Tidal earlier this year

WIRELESS FRONTIER?



Not only are wires still very much the lowest-distortion highest-performance way to send both analog and digital audio information, but when it comes to sending power, "wireless" is just a nifty science project, not part of a home entertainment rig.

The challenge of not adding distortion as AC power goes from the wall to the electronics, and the challenge of not adding distortion as audio power is sent to a loudspeaker, are almost the same. The amount of energy transferred through these cables, and the size of the associated magnetic fields, puts them in a different class from all other audio and video cables.

Speaker cables need to maintain perfect integrity across the audio band and then some, while AC cables only have to try to be perfect in a narrower band. AC cable design is therefore a subset of speaker cable design because AC cables are subject to almost all the same distortion mechanisms, and benefit from almost all the same damage minimizing techniques.

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In the lap of the Quads

READER DETAILS HIS 40-YEAR QUEST TO BUILD DEDICATED AMPS FOR BARGAIN SPEAKERS

I recently came to the end of what I termed a 'project', but on reflection it dawned upon me that the process had taken 40 years! It all began in about 1975 when I was working as a lab technician at the BBC Designs Department in London. One lunchtime I spotted a pair of Quad electrostatic loudspeakers for sale in the window of REW in Charing Cross. They were brand new and were on sale at £120 each. That must have been a bargain, even in 1975.

I bought them and was delighted, though I couldn't afford the amplifier I would have liked (probably a Radford). My Rotel integrated amp could not handle the Quad's capacitive load so I had to pad-out the speaker loads with 40hm high power resistors – far from ideal. I started saving the pennies...

By chance, one of my colleagues at the BBC had set about designing a power amp specifically for the Quads and gave me a couple of printed circuit boards for my own use. The design was a push-pull transistor circuit using the then widely employed 2N3055 silicon NPN power transistors. I wired up the boards, but life intervened and it wasn't until 1978 that I returned to the task.

The basic idea was to create what is now termed a 'monoblock' amplifier for each speaker. For each Quad I made a shelf from 15mm MDF. This shelf was just short of the width of the speaker and jutted from the back by about 150mm. It could now be screwed firmly to the underside of the speaker frame.

I was then able to get hold of some 3.5mm-thick aluminium and had a plate cut for each speaker. I then secured these plates to the undersides of the newly fitted shelves. This meant that each amplifier could be assembled onto



ABOVE: Reassembled unit showing amp (left) and speaker inverted to show underside of amp

its separate plate at leisure while the thickness and large area of the plate formed a decent heatsink.

I was now working at EMI Radar in Hayes, which was a manufacturer of military equipment. There was plenty of old military grade stock, so it was easy to obtain most of the parts I needed for the amps from laboratory spare stock. The only parts I had to purchase were the mains transformers and the power supply electrolytic smoothing capacitors. I saw some surplus stock advertised in *Wireless World* and bought four massive capacitors – one each for the positive and negative supplies on each amplifier. I strapped the capacitors to the plate with nylon ties. The capacitance value was of the order of 250,000µF. The amps run for several minutes after the power is switched off. Separate supplies were provided for the low power circuits.

This should have been the end of the saga, but there were a few more twists to come. During the mid '90s, the Finnish company Gradient started producing dedicated subwoofers for Quad electrostatics. The Gradient system comprised a pair of speaker units, one for each channel, with each assembly containing two 10in woofer units arranged side by side, forward facing. Each assembly formed a plinth upon which a Quad unit is placed.

The three feet are removed from the Quad, which is then secured to the subwoofer assembly with wood screws. The final result looks good as the Gradient units are self-effacing and the Quads are raised by about 30cm, which is helpful in terms of acoustics as it raises the listening height of the speakers to about couch level.



Was this the end of the quest? Not quite. One of my Quad tweeter panels developed a rupture and could be caused to spark if really high signal levels were applied. I contacted the German company Quad Musikwiedergabe GmbH as I knew it had obtained the old Quad jigs and fixtures. It made sense to have the tweeter panels changed on both speakers in order to retain proper balance. I authorised and paid for the work and the units were returned to me just after Christmas 2014.

The new treble panels have introduced more 'bite' and incisiveness into the sound. One eye-opener was The Rolling Stones' *RRRR!*, which I bought on Blu-ray disc on the strength of Ken Kessler's recommendation in *HFN*. I played this on a small Sony Blu-ray player which has an S/PDIF output that I routed into a Naim NDX. The sound and the brilliance of the re-mastering is astounding. Even an early single like 'It's All Over Now' emerged in impressive stereo. It allows a renewed appreciation and enjoyment of material that I had considered 'old hat'.

Nick Villans, via email

Steve Harris replies: I'm full of admiration for Nick's DIY work, and it's great that his old Quads are making the most of modern sources. It is interesting that Nick heard such a striking improvement after both treble panels had been replaced. When there's been a gradual deterioration over time, the loss of treble can go unnoticed until it's fixed. The same goes for the bottom end. When I had my own pair of secondhand Quads refurbished, with the power supplies brought up to spec, suddenly I had bass, and never really felt the desire to add subwoofers.



ABOVE: Reader Nick's Quads up and running

CD isn't dead yet

WHY NOTHING BEATS THE SILVER DISC FOR SHEER EASE OF USE

Barry Fox really hit the spot when writing about PC back-up in his April Opinion. I share exactly the same view and his tip to try restoring a backed up music file onto your PC hard drive to see if it is truly backed up is a good one, which I shall try.

For 44.1kHz/16-bit files I don't have this problem because I still buy CDs and then rip them. This means that I keep the CDs as 'negatives'. Hi-res files I burn to a DVD as I do not trust PC HDDs. I have seen too many problems with them in other contexts.

An aspect of computer audio that is not often mentioned is how complicated it still is to use a PC as a music server. Sound quality is not the problem; it is the operational part. I tried to introduce my wife to the concept. Once she had JRiver on screen it worked out quite well. Then suddenly a warning screen appeared bearing the words: 'Do you want to allow a program to take over?'. It was time for an automatic update of JRiver. Another time the PC turned off while we were using it to play music due to a large Microsoft update, another time an update of Java, and so on....

A further barrier comes when it is time to buy a new laptop. As Windows does not support more than 96kHz/24-bit you need to find and download a USB driver file and different files are required for different outboard DACs.

A second problem is that many retailers and distributors often do not know. Few support the files needed from their homepage and if they do, I've found the instructions are often very poor. And then there's the software needed to play music files and set up a PC to do this. How do

you find programs like foobar2000, JRiver and others if you are a beginner? It's not easy.

If you go into a superstore and buy a laptop and ask them what options are provided to play high resolution files on an appropriate DAC – including DSD – they look at you as if you are an alien. And if I ask them to prepare the PC with programs like Foobar2000 or JRiver that are ready for DSD DoP so that you can just plug'n'play when you arrive home they smile weakly and decline.

So, why not go with streamed music, you may ask? The easy answer is that I am not interested. My music will be available to me for as long as I live or as long as I want. I have full control over it. I have friends now complaining that music libraries created some years ago in some of the well-known subscription music services are no longer fully available as some tracks have been withdrawn.

Meanwhile, my wife has given me clear instructions on the matter. 'I do not care if you rip files using computers or whatever, but you had better make sure there will always be a CD player in the house that works. The brand doesn't matter because they all work the same and have the same kind of buttons and our amplifier has a button clearly marked "CD". This is real plug'n'play and it is a standard I understand.'

I agree with her. The CD player is certainly not dead yet.

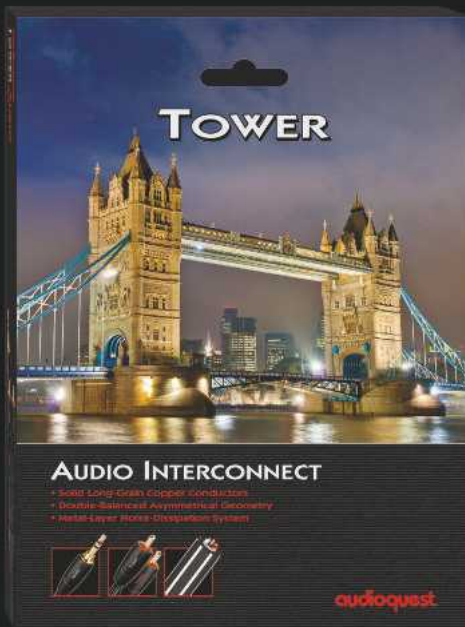
Robert Petersson, Sweden

Barry Fox replies: Always a pleasant surprise to be agreed with. My hobby horse has for a long while been that computers (and smartphones and tablets) with the power of a megaton bomb are sold like bags of sweets to people who – through no fault of their own – don't know how to use them, but then don't take the time and trouble to learn how to use them.

So they end up infected with viruses, and bogged down with clutter and corrupted files. They then lose all their photos and music when they buy a new device in the vague hope it will not succumb in the same way. But I fear readers would rebel if I wrote too many computer tips in a hi-fi magazine.



ABOVE: CD – plug'n'play the ol' school way



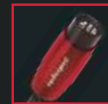
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Sansui AU-317II amplifier

From the golden age of Japanese hi-fi comes a sturdy little amp packed with all the features you could need. But can it still punch above its weight on sound? Read on...
Review: **Tim Jarman** Lab: **Paul Miller**

The original Sansui AU-317 was launched at a time when all the major Japanese manufacturers were on something of a roll.

Between them, they had refined the art of producing hi-fi equipment to a stage where reliable, high performance, units could be produced at any price point while the low value of the Yen made their components very competitive in export markets.

This was 1978, very close to 'peak Japan' in vintage audio terms. Sansui liked to present itself as a serious manufacturer that only made hi-fi products – you couldn't at this stage buy a Sansui TV set or portable radio, although in later years this rule would be relaxed. Back in the late 1970s, though, Sansui's slogan 'All hi-fi, everything hi-fi' held true, in contrast to the Matsushita company, which could sell you anything from a basic rice cooker to a Technics turntable good enough for use in a commercial radio station.

POPULAR RANGE

As was common at the time, Sansui's amplifier range comprised a sequence of models with minor differences at each step so as to cater for all requirements and budgets. The 17 amplifier series was inaugurated with the AU-317 (50W per channel), AU-517 (65W) and AU-717 (85W), all of which met with a high level of acclaim from reviewers in the UK.

The popularity of the range saw Sansui fill in some of the numbers with extra models, such as the AU-117, AU-217 and AU-417, then introduce MkII variants of



ABOVE: The MkII line-up of the small-chassis Sansui 17 series amplifiers: AU-117, AU-217 and AU-317. Cosmetically they all looked similar, but each step provided more facilities and greater power

most of the series, the key change in all cases being greater power output. The Sansui AU-317II seen here was introduced in 1980 and was rated at 60W per channel – a solid figure for an amp of this size.

The 17 series was offered in two chassis forms. The small chassis was used for everything up to the AU-417 and up. The latter type is a typical slab of Japanese heavy metal but the former are more pleasingly proportioned, the AU-317II looking

neat and appearing at first like a more substantial NAD 3020 [see *HFN* Nov '12].

The die-cast rack mount handles are largely decorative in a domestic environment but send some none-too-subtle messages about 'professional quality' – an important factor for 1970s hi-fi man. While some Japanese manufacturers, notably Sony, made its units progressively smaller, more minimal and more finely finished, and jewel-like as the range ascended, Sansui's approach was simpler. It made them bigger, blacker and with more knobs on.


GENEROUSLY EQUIPPED

The AU-317II rests at the ideal point of this particular curve in that it has all the features one could want without things getting out of hand. In basic specification terms it was a typical amplifier product of the day, but now it seems positively

LEFT: By 1980 the MkII model had appeared. Pictured here in Sansui's 1980 catalogue are the AU-317II and AU-417 with matching tuners




30MHz Saw Rate Waveform



100V Div. 100ns Div.
30MHz Saw Rate Waveform
The graph shows a sawtooth waveform with a sharp vertical rise and a slower, linear fall. The title is '30MHz Saw Rate Waveform'.


4MHz Sine Wave Output Forms



Two sine wave waveforms are shown on a grid. The top waveform is larger than the bottom one. The title is '4MHz Sine Wave Output Forms'.

The two traces above show the output waveform of the driver and the output of the 40V transformer. The driver waveform is a high-frequency sine wave, and the transformer output is a lower-frequency sine wave. The driver waveform is labeled 'Driver' and the transformer output is labeled 'Transformer'.


Power Amp 30s Bandwidth Response



A square wave pulse is shown on a grid. The pulse is sharp and rectangular. The title is 'Power Amp 30s Bandwidth Response'.

Two traces are shown on a grid. The top trace is a square wave pulse, and the bottom trace is a sine wave. The title is 'Power Amp 30s Bandwidth Response'.

Power Amp of a 40MHz Bandwidth Response



A sine wave waveform is shown on a grid. The waveform is a smooth, continuous sine wave. The title is 'Power Amp of a 40MHz Bandwidth Response'.

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"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



RIGHT: An interior view, messy perhaps but the components the Japanese used in the late '70s were top quality. Sensitive sections are protected by a metal screen, bottom right

Even though this model pre-dates CD by a few years there is a useful auxiliary input that is ideal for any modern line level source. Slightly confusingly it is labelled 'tape/aux', even though it is solely an input and offers no recording facility. A proper tape loop is provided for that purpose and this works completely independently from the aux input. The protection circuit means that the amplifier switches on silently and without any pops, bangs or other histrionics. After a few seconds a relay engages and you are ready to go.

All the controls operate with typical Japanese slick precision. Only the volume knob is metal (the rest are moulded plastic) but the quality of construction is clear. The tone controls have a more restricted range than is usual, though they can be bypassed completely if they are not needed.

Any half decent Japanese amplifier of this period needs a useless trinket or two and, sure enough, Sansui has added both a high-filter switch and a mono microphone input complete with a variable mixing control. I cannot think of a use for either, other than to keep the knob count up.

TIM LISTENS

I tested the AU-317II using my usual Cyrus CD8 SE2 CD player, Monitor Audio PL 100 loudspeakers and Chord Calypso cables. The amp's 60W per channel rating appeared plausible in terms of subjective performance. It played loudly with ease

'For the price of just a few decent LPs you can have a quality amp'

and always sounded solid and in control. Typically for a DC-coupled Japanese design the sound was vivid and fast – not the most

subtle perhaps, but always full of life. Tonally the amp was neutral with no apparent premature curtailment of the response at either frequency extreme. Its character was dry and matter of fact, each

part of the overall sound picture presented as correctly scaled without any undue emphasis. There was no booming bass, forward midrange or jangling treble here. In fact it all worked together very well.

Playing Kate Bush's 'James And The Cold Gun' [from *The Kick Inside*, EMI CDP 7 46012 2] the ample power reserve seemed to drive the song along with the energy it

needed. The opening piano chords were well defined even if I did notice a lack of central focus as the other instruments came in. The reason for this was hard to place as simpler parts of the recording were full of detail and there was no suggestion of dullness.

This was minor gripe and only really evident when judged against a very high standard of quality. Repeated listening to this, and a range of other discs, at increasingly high volume settings showed no deterioration in the presentation until things got really anti-social.

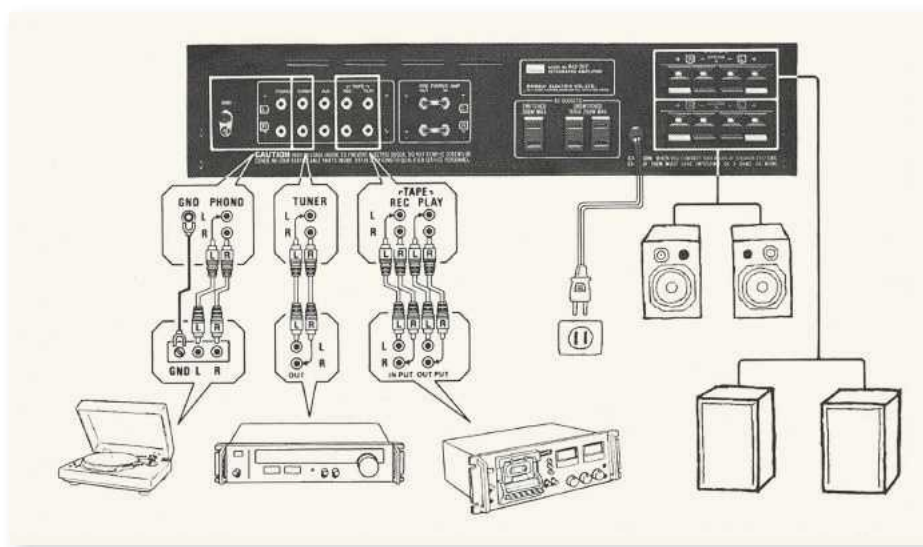
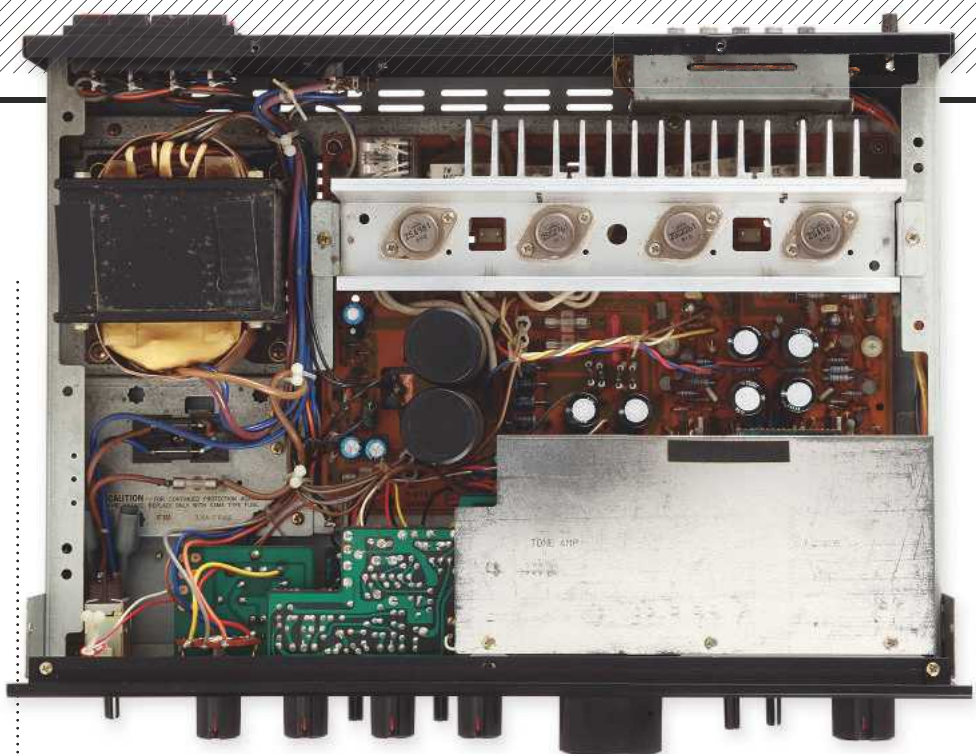
On a further positive note, Kate's distinctive vocals can easily get out of hand with a system which isn't working well together, but the Sansui was able to keep them correctly in check – a good result.

BROAD IMAGE

Yousou N'Dour's '7 Seconds' [Chaos 660508 2] demonstrated the Sansui's ability to construct a convincing soundstage, which consisted of a broad image that filled the gap between the loudspeakers and extended a little way beyond them on each side.

Within this landscape both vocalists (Neneh Cherry also features on this recording) were easy to place and although the mix is clearly the result of a lot of work done in the recording studio, everything seemed to have a stable position. Again, though, the soft focus of the midband was noted. I can't recall another amplifier of

LEFT: Hook-ups for the MkI model; the AC outlets and pre/power amp links had disappeared from the MkII. The TU-317 tuner shown is a fine addition once you own the amp





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LAB REPORT

SANSUI AU-317II (Vintage)



ABOVE: From the rear this could be just about any Japanese amp of this period. There are enough inputs for a full system but the speaker terminals are spring-clips

this type that produces this effect. The dry character took away some of the low-end warmth that I'm used to hearing in this track, but this is really just a matter of personal preference and loudspeaker choice.

In short, this isn't a 'muscle amp' in the manner of bigger Sansui amps like the AU-919, but it is a good deal more useful when it comes to features than the lower-powered A&R A60 [Vintage Review next month] and NAD 3020 – its competitors of the day. And even though the greater power on offer did not appear to provide greater subjective level than these two rivals, the sound seemed to be more consistent at high levels.

BUYING SECONDHAND

The AU-317II has proved to be a durable model that presents few reliability concerns. As with any amplifier, it is still worth budgeting for the cost of having the bias and offset adjustments set up properly by an engineer, as they are bound to have drifted in the last 35-odd years. This should not be too expensive.

SPECIFICATIONS		
AU-317	AU-317	AU-317
POWER OUTPUT	60W	60W
POWER BANDWIDTH	20Hz-20kHz	20Hz-20kHz
THD	<1%	<1%
IMPEDANCE	8Ω	8Ω
INPUT SENSITIVITY	20mV	20mV
SNR	78dB	78dB
POWER CONSUMPTION	19W	19W
Dimensions (WHD)	430x110x340mm	430x110x340mm

ABOVE: Specification sheet for the 50W AU-317, 30W AU-217 and 15W AU-117

The protection circuit is effective in keeping the output transistors safe but some people can break anything. As things stand, it probably isn't worth the hassle and expense of rebuilding a badly blown-up example; it's simpler just to find one in working order. Similarly, ignore ragged specimens with rusty tops, chewed-up front panels and knobs missing – there are plenty of good samples out there.

An easy to resolve weakness concerns a couple of small resistors in the preamp stage which fail with age and result in distortion or complete loss of either channel. Replacement is simple once you realise the whole front of the chassis hinges up for service inspection, as the internal layout isn't the neatest and can be a bit daunting if you don't know about this feature.

Cash values are currently marginal, which means that you get a lot of amplifier for your money. For the price of a few decent LPs you can have a quality piece of kit that should still have decades of life left in it. The matching TU-217 and TU-317 tuners are also both super reliable and highly recommended. ☺

HI-FI NEWS VERDICT

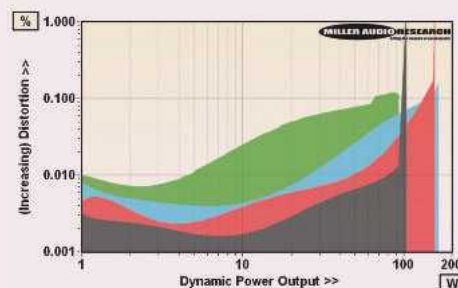
Typical of a whole generation of Japanese designs, the Sansui AU-317II is a capable and very likeable amplifier which even now should fulfill the majority of listening needs. Functional and sturdy, if the sound is to your taste then these can be an absolute bargain if bought shrewdly. It pays to be selective as there are a lot of examples about, so even a mint-condition sample won't break the bank.

Sound Quality: 77%

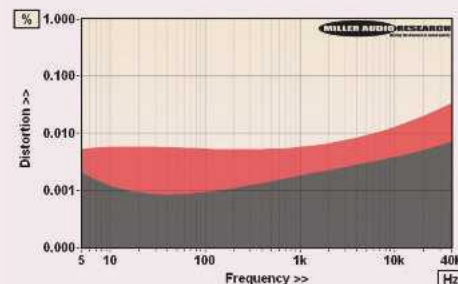


Aside from improvements in rated noise and distortion, the MkII boasted some 10W extra output over its forebear, the AU-317. This, and more, was met in practice with the AU-317II achieving a full 2x75W/8ohm and 2x105W/4ohm with 103W/8ohm and 156W/4ohm available under dynamic conditions. Into lower impedances, protection limits the output to 166W/2ohm and 95W/1ohm, equivalent to a maximum current of just under 10A [see Graph 1, below]. Distortion was originally specified as <0.03% 'at or below rated power output' although this does not refer to frequency. Again, in practice, the AU-317II achieved a far lower 0.001-0.003% distortion through bass and midrange frequencies over its full 60W rated power bandwidth. I took the preferred results from its left channel here as our sample incurred a higher 0.004-0.045% via its right channel, indicating some (understandable) age-related weakness! Via frequency, distortion held to a low 0.001-0.005% from 20Hz-20kHz at 10W/8ohm [see Graph 2, below].

The output impedance is moderate at 0.145-0.225ohm from 20Hz-20kHz, rising to 1.17ohm at 100kHz, so there's some variation in extreme HF response with undulating speaker loads. Into 8ohm the response has -3dB points of 2Hz-85kHz, the latter falling away to 73kHz, 57kHz and 41kHz (-1.0dB/20kHz) into lower 4, 2 and 1ohm loads. The AU-317II is also slightly noisier than most modern transistorised amps with an A-wtd S/N ratio of 78dB (re. 0dBW), but this is far from debilitating. Readers may view a full QC Suite test report for the Sansui AU-317II integrated amplifier by navigating to 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 versus extended frequency, 5Hz-40kHz, at 10W/8ohm (left channel, black; right, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	75W / 105W
Dynamic power (<1-2% THD, 8/4/2/1ohm)	103W / 156W / 166W / 95W
Output impedance (20Hz-20kHz)	0.145-0.225ohm
Frequency resp. (20Hz-100kHz, 0dBW)	+0.2dB to -3.9dB
Input sensitivity (for 0dBW/60W)	20mV / 156mV
A-wtd S/N ratio (re. 0dBW/60W)	78.3dB / 96.1dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.001-0.0053%
Power consumption (Idle/rated output)	19W / 230W
Dimensions (WHD)	430x110x340mm

MC pick-up cartridges

We travel back to 1982 and join **Martin Colloms** as he investigates exotic moving-coil models from Denon, Dynavector, Kiseki, Koetsu and Linn...

*Hi-Fi
News
Sept
1982*

Each month
HFN will bring
you an article
from our vast
archive of
features and
reviews from
yesteryear

It is almost two years since my last look at some of the most costly moving-coil cartridges [see *HFN* Nov '80]. During the intervening period there has been a great expansion in numbers of these expensive cartridges and not all of them can be covered here.

We have chosen the new and less expensive Black Koetsu at £350; the latest Dynavector Karat Diamond at a new reduced price of £350 and the latest and most costly Denon – the DL-305 – costing £370.

An obvious competitor to the Koetsu Black has emerged in the form of the Kiseki Blue at £350 and we've also included an updated review of the Linn Asak DC-1200K, which featured back in the November 1980 round-up.

A current Ittok/Sondek (Valhalla) was extensively used with both felt and Audio Ref mats and, where appropriate, a Mission 774 in a



ABOVE: The new kids on the block at the time of this *HFN* review were from Dutch company Kiseki, its 'Blue' 'Wood' and 'Agate' models on display (l-r) at an '80s show

Thorens TD125 was pressed into service. Amplification was by Sony Esprit and Mission 776/777, with Quad ESL-63, Spendor BC1, and Celestion SL6 speakers. Mastertape comparison replay was used via an IEC/NAB Revox B77.

DENON DL-305

Denon has long been active in the moving-coil field and its classic DL-103 model has been produced for many years now, the design chosen for use at NHK, Japan's broadcasting organisation. Fitted with a spherical stylus, the 103 remains a fine cartridge even by today's standards. Although some mild tracking limitations are present, Denon has pursued a policy of refining stylus tip and trackability.

If taken to the limit the latter tends to dictate high compliances, while a correspondingly low body mass becomes another objective. In this way the relatively high mass but rigidly inert structure of the 103, with its moderate and well balanced compliance (mass 8.5g, compliance 12cu), has given way to the low mass and high compliance of Denon's most costly model to date, the DL-305, (5.8g mass, 33cu compliance).

The body design does present some problems when attempting to mount it firmly in a tonearm. Made from a relatively soft plastic, and possessing mounting channels rather than the more desirable complete holes, it is not possible to bolt the cartridge in very firmly – a marked contrast to the strong arrangements of the Kiseki or Koetsu, for example, which have metal mounting plates.

However, Denon has used its expertise to better effect elsewhere; for example, the cantilever is a thin-wall boron tube cut away at the tip. Here, a tiny, grain-oriented diamond stylus is precisely cemented. Denon uses its own process to produce the boron tube, which is said to have an amorphous or non-crystalline structure (crystalline boron is extremely brittle) while the diamond splint is of rectangular section 100µm x 50µm, ground to what Denon calls a 'special elliptical' geometry. Claimed effective tip mass is 0.17mg, a very low value.

The moving-coil assembly is a wound cruciform, with the magnetic yoke geometry optimised to reduce variations in output level which might otherwise occur under large stylus deflections. While Denon's



coils are wound with more turns than usual, generating a higher output level, the coil's resistance is also correspondingly higher and the true power output is then quite typical of the genre. In using a small coil assembly Denon employs a very strong rare earth alloy magnet to recover a reasonable voltage.

SUBJECTIVE PERFORMANCE

When the 305 was tried in the Ittok tonearm the low frequency and high magnitude of the subsonic resonance resulted in significant stylus deflections. The output lacked sufficient stability for sensible evaluation and the Mission 774 tonearm was therefore employed as an alternative. With mild viscous arm damping, the 305 proved much more stable in its relationship to the record, and auditioning could begin at the optimum 1.3g downforce.

Basic factors were disposed of relatively quickly with trackability considered excellent and tracing distortion generally low. Tonally it sounded clean and open, clearly lacking the oft-encountered moving-coil richness, although surface noise was a little more obtrusive than

usual. This was partly due to the low downforce being less effective at groove cleaning and partly because of the mild lift occurring at high frequencies. Definition was fairly good in the bass but not as taut or well focused as the best examples.

In the midband it sounded sweet and pleasant but it lacked some of the character known on certain voices, while the treble lift gave a

suspicion of a 'feathery edge' to the vocals, especially breath noises and sibilants.

Compared with the best examples, the stereo presentation lacked a little of the space and ambient solidity available on recordings. One listener commented that he felt less involved with the music when the 305 was wired in, though despite these comments it must be said that this is a fine cartridge, but possibly not sufficiently competitive in its exalted price category.

CONCLUSION

Good as it is, and undoubtedly representing a substantial technical achievement, in my view the DL-305 fails to justify its price. Perhaps with the treble rise controlled and a stronger body with improved mounting, plus a much lower compliance commensurate

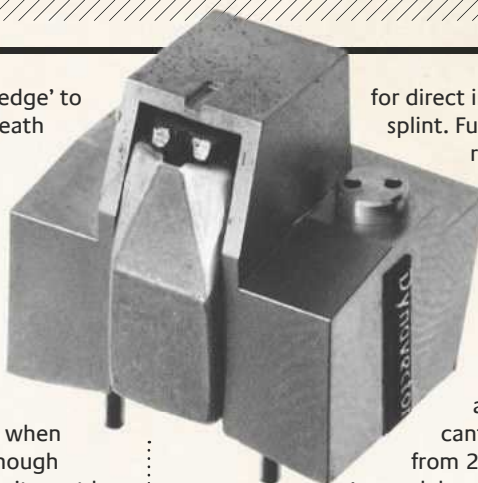
with a 1.8g to 2g downforce, the judgement would then agree with the price. It must, however, be said that if low tracking force

was the main objective, then the DL-305 is one of the finest MC models in current production, and would certainly be kind to records.

DYNAVECTOR DV17D

The Dynavector series of gemstone cantilevered cartridges has made rather patchy progress over the several years since its introduction. I was lent one of the very first pre-production Rubys, expected to sell for around £100, and this black-bodied example sounded magnificent, proving the theoretical soundness of the high cantilever stiffness/low damping approach. Alas, within weeks it failed, the stylus bonding to the sapphire cantilever proving inadequate.

A second went the same way, while a third suffered cantilever rotation. In fact the latter problem afflicted a significant proportion of production models later on, and the tip bond problem was finally solved by laser drilling the cantilever



ABOVE: The '17' insignia of the Dynavector DV17D refers to the cantilever, which measures a relatively short 1.7mm. If a dry but open and neutral balance is your goal, the 17D could be the right model for you

for direct insertion by the gemstone splint. Further developments resulted in the 100D, a diamond cantilevered version possessing astonishing bandwidth, and earlier this year a revised version was released carrying the new insignia '17', this corresponding to the already rather short cantilever being reduced from 2.3 to 1.7mm (most models are 4-6mm).

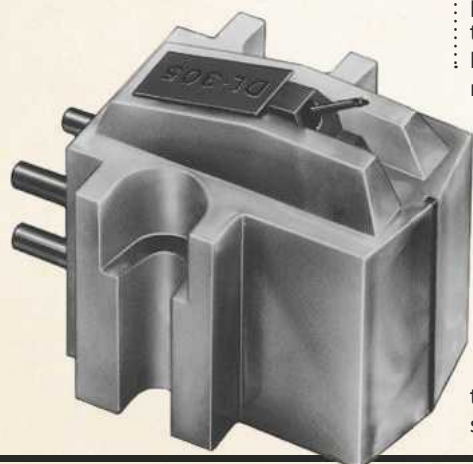
This reduction was ostensibly to produce a further improvement in performance but also permitted the use of a much smaller diamond from which the cantilever must be cut, thus lowering the price from the original £500 to a slightly more comfortable £344.

On a recent test I was less than convinced by the new 17D and Dynavector must have shared some of my misgivings, as it was happy to supply a second sample of revised design when this new review was commissioned. The first had a high compliance (34cu) requiring 1.4g for a sensible tracking angle, but then exhibiting poor vertical linearity due to limited cantilever excursion. The new version tested here has a revised suspension with a 2g nominal downforce and a much lower compliance of 8cu. The latter's low value gives control of the vertical deflection of this very short cantilever, which is something of an about turn for Dynavector.

Inevitably some degree of trackability compromise must ensue, but the important thing is whether or not it sounds better. I can immediately confirm that it does.

Built on a lightweight 5.3g body, this polyester moulding is reinforced with glass fibre for added rigidity. Mounting is via a small, almost rectangular, top face, with internally threaded holes. Despite the reinforcement, these are of limited strength and I have known instances of enthusiasts using epoxy resin adhesive to cement permanently in place short sections of threaded rod. These provide high strength fixed bolts for firmer attachment, a factor of renewed importance in the light of the recent lowered compliance, since energy coupling to the arm will be greater. ➔

'The DV17D joins that select band of high performance exotic cartridges'



LEFT: The Denon DL-305 features a thin-wall boron tube cutaway at the tip allied to a tiny-grain diamond stylus. If low tracking force is the main objective, then the DL-305 is one for the shortlist

変容

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Internally the construction is unusual, primarily to allow sufficient underside clearance with such a short cantilever. The coil assembly, much smaller than usual, consists of 40 turns of 11 micron silver wire, the assembly approximately 1mm square, and is mounted on the upper surface of the diamond cantilever adjacent to the suspension. With a 30ohm coil resistance the output voltage is reasonable at 40µV/cm/s but in real terms the power is low at so 50µW and a good low noise moving-coil input on the amplifier is essential.

Judging by the latest sample, the 17D is suited to medium-high mass arms, and even a 25g mass model is permissible, with no additional damping required.

SUBJECTIVE PERFORMANCE

Rated highly on audition, the 17D provided a highly controlled and stable output of a dry, neutral character. Disc surfaces were comparatively quiet, indicating good stylus geometry and groove fit, while the bass was clean and tight, the midrange well detailed and open, with a lively transparency. Treble information was reproduced without emphasis or smearing, showing fine transient control plus a smooth, flat subjective frequency response.

Very slight mistracking occurred on some complex peaks – and, of course on ‘silly’ recordings such as the Telarc 1812 – but in general most programme material was handled with a reassuring stability and confidence (the original 17D tracked extremely well, but lacked this feeling of confidence).

In presentation, the 17D was more forward than classic cartridge examples, with a trace of veiling and flattening of perspectives in the dimensions of depth and ambience.

CONCLUSION

In my view this latest version of the Diamond joins that select band of high performance exotic cartridges. Here, preference is a matter of taste, to some degree, and the 17D is well worth trying to see whether it would suit your particular system. If a clean, open and neutral balance



ABOVE: The Kiseki Blue sports an elliptical diamond stylus and comes with a cantilever made from aluminium alloy reinforced by a boron overlay. One for systems with a slightly exuberant upper midrange and a delicate well controlled treble

is your prime objective, with no tonal character or emphasis, then the 17D could be the right model for you.

KISEKI BLUE

The Kiseki is the brainchild of a Japanese enthusiast who has spent many years developing moving-coil models and their associated

step-up devices and head amps. Mr Fokadu set a number of targets for his Kiseki Blue – a name derived from the cobalt blue anodised finish of the magnesium aluminium alloy body. The latter is machined from solid bar to maximise the mechanical integrity and link the generator firmly to the generous flat mounting plate. Good coupling between cartridge and arm mount is thus assured where sensible platform headshells are employed.

As with the Koetsu here, unusual and high quality materials are utilised, with special care taken over the material and form of the suspension damping unit. A miniature lathe was built to wind the coil assemblies, these using ultra high purity, oxygen-free copper wire. The damper rubber was chosen to maintain performance consistency particularly with

respect to temperature, as many moving-coils are susceptible to temperature variations.

The cantilever is of thin wall aluminium alloy reinforced by a boron overlay. An elliptical diamond stylus is fitted, a type similar to that used for the current Dynavector Diamond, and comprises a tiny miniature rectangular splint, which in these two cartridges has the long axis aligned with that of the cantilever, instead of across it as is usually the case. Provided that the tip is ground from the new axis, this procedure does increase the strength of the cantilever tube at the tip, reducing the size of the cross cut aperture.

With the coil resistance at 5.3ohm (inductance negligible) and a moderate output, most headamps

are suitable and no special loading is required. The agents provide a note to the effect that the performance reaches optimum after about 15 hours' playing time, and that a 65% relative humidity at 22° is also beneficial. The 15-hour running-in period is unexplained.

The spec quotes a 1.6-2.2g downforce range and we adopted 2g for test. At 11.4g body mass it is certainly no lightweight, but it has a moderate compliance of typically 13cu and is suited to a wide range of arms in the 4-13g effective mass range. The fair degree of subsonic resonance control suggests that arm damping is unnecessary and that higher mass arms, though not theoretically ideal, would work well.

SUBJECTIVE PERFORMANCE

The Kiseki has a legitimate claim to be included in the 'super' cartridge group. The sound possessed that integrated, solid and stable character which makes listening that much more relaxed. Despite the obvious technical similarities with the Koetsu Black, in fact the two did not sound alike. If anything, the Blue appeared somewhat lighter and airier with a more explicit and

slightly more forward treble register – taken alone the latter was one of the best heard, with a remarkable shading of fine detail. The sound

'The Kiseki is a very fine cartridge of undoubted musical quality'

was transparent and well focused and low in the usual distortions as well as groove tracing anomalies.

The midrange was sweet with a pleasant character, and the bass was clearly to a high standard, providing good weight, depth and firmness. Stereo images demonstrated depth and precise left-right patterns, though the former was reduced somewhat on occasion by the treble, which sounded a little in front of the mid register. Ambience was well reproduced, though with less feeling of weight that we are used to. The exposition of detail on complex passages was exceptional.

CONCLUSION

The Kiseki Blue is a very fine cartridge of undoubted musical quality and technical merit. As such, ➤

FROM THE VAULT

it begins to justify its elevated price. However, its particular character suggests that some care should be taken when matching it to other components – it would happily partner a system with a slightly exuberant upper midrange and a delicate well controlled treble.

KOETSU BLACK

The creator of this model, Yosiki Sugano, was not attempting to produce a less expensive Rosewood when he developed the Black. Rather he was trying to improve some parameters and yet at the same time make the manufacture a little easier so that higher quantities could be produced.

The various Koetsu models have been popularly described by their casing material and colour. The Rosewood was previously reviewed, and a superior version encased in onyx is also available, known rather confusingly as the Black Level. The new model reviewed here costs rather less and employs a solid, black anodised aluminium alloy body and inevitably perhaps it is called the Black. Two strong complete-hole mounting lugs allow the cartridge to be firmly bolted to the arm.

Some characteristics are similar to those of the Rosewood version, namely the same coil impedance of 5ohm; the very high output power (calculated to be 1600µW) and the wide bandwidth. For the Black the frequency response is specified at +2dB, 10Hz-50kHz, using a sensible high mass arm.

The cantilever is made entirely of boron in a step-tapered form, and a more conventional means of stylus tip attachment is used. On the Rosewood only the tiny tip section cone was brazed by its back face to a flat, ground onto the cantilever. With the new Black, the tip is inserted in a short slot with adhesives used both above and below to secure it.

Meanwhile, body mass is reduced from the 12g of the Rosewood (higher still for the company's Onyx cartridge) and compliance has been upped slightly in an effort to improve trackability.



The resulting subsonic resonance is pretty lively, with a 15dB rise suggesting that damping would help, but when extensively tested in our Ittok arm, lacking a damping facility, the results were, in fact, so good that this cartridge must clearly be regarded as a marginal case with regard to the need for damping.

The output pins are of normal size and are better spaced, making the Black easier to install than the earlier model.

As with the Rosewood, special care has been taken over the choice and form of the suspension damper and it is

here that a good proportion of the 'Koetsu sound' resides.

SUBJECTIVE PERFORMANCE

No doubts were expressed concerning the excellent sound quality of this cartridge. Surprisingly, it did not resemble the Rosewood very closely except in its ability to remain clear and detailed through musical passages of high complexity, where ordinary cartridges simply

ABOVE: The now classic Koetsu Black features a step-tapered cantilever made entirely of boron. Bass was tight and focused and the overall presentation consistently musical over a wide variety of material

blur and splutter over the heavy modulation. This ability is more than mere tracking and concerns the resolution of fine detail.

Tonally it is distinctly different, providing a frequency balance much nearer to neutrality. Depending on your point of view, the Rosewood is musical and the Black a trifle on the 'hard' side; alternatively, it could be said that the Black is correct and the Rosewood essentially too rich.

However, neither viewpoint prevents these two models sounding very good in the appropriate system. The Rosewood defines a rich, sweet balance of great and evident low frequency power which lends an impression of great depth and space, with a firm feel to ambient information. The Black is lighter and more forward in the mid, with explicit detail, but more of a frontal effect in terms of image perspective and depth. Ambience is nonetheless very well portrayed and stereo localisation is particularly crisp.

The treble was not only of very good quality but appeared to unite with the midrange in a balanced manner quite lacking the disembodied effect noted with certain other top-class cartridges. With some models the treble register above 5-8kHz is elevated, or even mildly coloured, and draws attention to itself, but this is certainly not true of the Black.

A particular quality was not fully appreciated until the most recent test amplifier was used – the Sony Esprit. A certain lack of stereo precision on treble transients, which was thought to be a programme fault and heard with many cartridges, was in fact found to be reproduced correctly using the Black when a preamplifier of sufficient quality was employed.


The bass performance was as tight and focused as we have yet heard, and overall the presentation was secure and stable. Piano was notably well reproduced with an almost tactile immediacy.

CONCLUSION

The Black was consistently musical over a wide variety of material, promoting a feeling of confidence and possessing great integrity over the audio range. Reproduction from vinyl disc can never be entirely satisfactory, but a cartridge such



BELOW: A Koetsu Black in service. Two strong complete-hole mounting lugs allow the cartridge to be firmly bolted to the arm



to be sure they have the means of external accountability, the theory can be applied to several contexts.

First, the concept of external accountability can be used to help explain why people in organizations may not do what they are told. For example, if a person in an organization is not held accountable for their actions, they may be more likely to engage in risky or unethical behavior. This is because they know that they will not be held responsible for their actions, and therefore they are more likely to engage in such behavior.

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and maintained at a comfortably warm 22°C (plus) temperature, the audio output is very good indeed. Its midband was particularly fine, demonstrating a tonal purity and musical quality of the highest order, this allied with a splendid transparency and sense of depth, space and ambience.

The bass was extended, with well focused transients and a lively, tuneful quality, while the treble was well above average, possessing considerable detail plus a natural frequency balance and perspective. Occasionally this was an area of weakness with slight tinkly or tizzy effects noted.

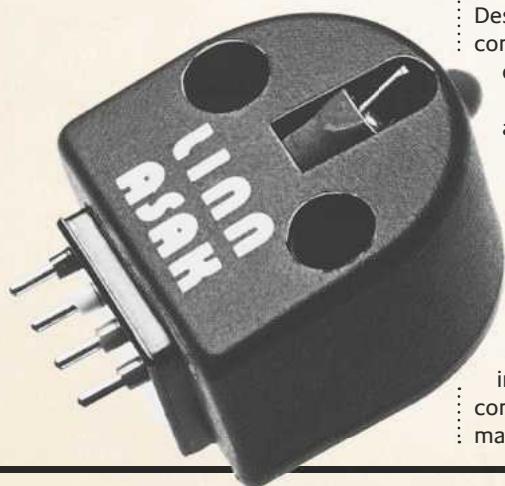
In general, it rated as a good tracker, with the kind of stable focused sound typical of top class designs, but it could sometimes be caught out and just how serious this is may depend on the particular sample concerned, as well as the preferred programme.

While a number of tonearms can give good results with the Asak, it is undoubtedly the Ittok which does it justice. When carefully aligned

Despite minor reservations, mostly concerned with tracking, the Asak continues to set a very high standard for its price category, and conveys a substantial proportion of the qualities expected of a super-fi model.

ABOVE: The pages from the September 1982 issue of *Hi-Fi News* which saw Martin Colloms assess the strengths of a range of moving-coil cartridges both new to the market and relatively well established. The magazine cover was by Geoff Hunt, who decided to depict the Dynavector and Kiseki models as 'spacecraft'

LEFT: A low tip mass model fitted with a first-rate Vital stone, the Asak DC-2100K was specifically designed to partner Linn's Ittok tonearm. Unsurprisingly it is with this arm that it shines, though it gives little to the most costly MCs when partnered with other arms



CHICAGO CES

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Martin Colloms looks again at the '730' preamplifier.

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Clearaudio Unity Tonearm excellent boxed
Clearaudio Basic Symmetry Phono Stage boxed
Conrad Johnson TEA 1b Phono stage
Conrad Johnson Premier Six phono preamplifier
Consonance Cyber 40 phono stage
Garrard 401 Motor Unit, Bastin serviced
Graham Phantom Supreme 12", SME cut
Graham Slee Fanfare Gramamp 3
Haddock 242 Export, boxed
Lehmann Black Cube phono stage
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Linn Majik LP12 with arm cart, near mint boxed
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Linn Sondek, Ittok, boxed new lid
Linn Sondek, Ittok, nice condition
Linn Sondek, Lingo, Naim Aro, superb
Linn Sondek, Grace 707, basic psu, VGC+
Linn Sondek, Naim Aro, Staff build Armageddon
Linn Lingo, excellent
Linn Basic Plus, vgc+
Lyra Erodon Step up
Michell Hydraulic Reference, Fluid arm, excellent
Michell TechnoArm A in black as new mint boxed
Michell Synco/RB250/Eroica, great condition
Michell Focus with Hydraulic platter and Linn arm
Michell Orbe, DC motor, SME V boxed
Moth phono stage
Musical Fidelity XLP5V8 phono stage
Naim Aro, excellent boxed
Naim Stageline S excellent boxed
Naim Stageline N vgc
Oracle Delphi, Zeta, due in
Project PhonoBox SE phono stage, excellent value
Project RPM 10 turntable with arm and platform
Project Debut Carbon, excellent boxed
Project Xpression mk2, arm and cart
Project RPM 4 Turntable/Arm with cover, great!
Project Perspective, Speedbox SE, Shure V15mx
Rega Planar 2, RB250, excellent boxed
Rega RP3 Ellys2 cartridge, excellent boxed
Rega RP6, Exact cartridge, vgc boxed
Roksan TMS 2 with Reference PSU, boxed as new
Scheu Laufwerk mk2 with Unipivot tonearm, due in
SME 3012, excellent
SME 3009/3, excellent boxed
SME V, excellent, boxed, due in
SME V12, nr mint boxed
Technics 1210, near mint, Alphason Xenon
Technics 1210, near mint, boxed
Technics SL110 with SME 3009
Thorens TD150, SME3009 good condition
Thorens TD160 HD turntable
Thorens TD160, Audio Technica arm, boxed
Thorens TD160, Rega arm, replinthed, lovely!
Thorens TD209 turntable package
Thorens TD2030 black turntable
Thorens TD125 c/w SME3009, excellent
Tom Evans Groove, 0.85mV/100 ohm, excellent
Townshend Elite Rock c/w Excalibur, boxed excellent
Transfiguration Orpheus L, good condition
VDH Colibri M/C cartridge
VDH Concorde M/C cartridge
Voyd, Voyd, split phase psu and RB900
VPI Scout, JMW arm excellent
Wilson Benesch Act 1 Tonearm, nr mint superb

Radio/Recorders

Arcam Alpha 10DAB tuner, excellent
Arcam T61, vgc+
Cyrus FM7, vgc+
Denon TU1800DAB, excellent boxed
Musical Fidelity ASDAB, sealed box
Naim NAT03, excellent
Naim NAT01 and NAPST chrome, serviced, vgc+
Naim NAT101 & SNAPS, excellent £500 Naim service
Nakamichi DR10, excellent
Nakamichi DR1, vgc
Nakamichi BX2, excellent
Nakamichi B80, near mint boxed
Pioneer CT91a reference
Pure T01ES DAB Tuner
Revov PR99, rated
Tandberg TCD440a, superb!
TEAC VB000S, superb
TEAC X1000M, serviced, superb
TEAC X10R, serviced, superb
Technics RS1500 in flightcase near mint
Rotel RT1080, excellent
Yamaha KX1200 excellent
Yamaha CT7000, vgc

Amplifiers

dem Call
Almaro 318B with cage, excellent boxed
dem Call
AMR 777 Integrated
299
Arthem Integrated 2 Valve Integrated
999
Arcam P90, vgc+
2499
Arcam A85, vgc+
2799
Arcam Alpha 8P, vgc+ boxed
1499
Arcam Alpha 7, vgc+ boxed
1199
Arcam C31 preamplifier, remote excellent
1999
ArtAudio Jota 520b, excellent
used 1999
Audio Flight Pre and Flight 50 Class A power
dem 1499
Audio Analogue Bellini VB and Donizetti Cento, superb
used 699
Audio Analogue Puccini SE amp. Black
used 1999
Audio Analogue Class A Integrated - HUGE!
used Call
Audio Project ap60 integrated
dem 599
Audio Research Ref 610 Monoblocks, vgc boxed
used 1199
Call
Audiolab 8000Q/MS, silver, excellent boxed
used Call
Audiolab 8000C excellent boxed
used 179
Audiolab 8000P vgc boxed
dem 599
Audiolab 8200A vgc boxed
dem 199
Audion Sterling Plus KT88 Integrated boxed
used 1899
AVI Lab Series Pre/Power, excellent remote
used 1499
BAT VK50se preamplifier, vgc+
used 1199
Bryston 4Bst2, excellent boxed,
used 1999
Bryston B100st excellent boxed
used 899
Chapter Audio Couplet Power Amplifier
used 2499
Chord Electronics CPM2650 Integrated, ex boxed
used 599
Chord Electronics CPA3200/SPM1200E
used 2499
Consonance Cyber 10 Integrated
used 599
Consonance Ref 8.8 integrated valve amp
used 149
Consonance Cyber 211 monos c/w Pavane valves
used 1499
Creek OBH21, excellent
used 779
Creek 4330mk2, excellent
used 449
Cyrus acA7.5, excellent boxed remote
used 499
Cyrus Power, vgc+
used 349
Cyrus XPower, excellent boxed
used 3499
DartZeel NHB108B, excellent £20+k new
dem 249
Denon PMA1500AE, excellent
dem 199
Graef GM50B Mk11 Integrated
used 1499
Graf GM100 valve power amp
used 199
Jolida Envoy 211 Monoblocks, £7k new, superb
used 179
Leema Hydra 2, vgc+ boxed
used 999
Leema Elements Amplifier, excellent
dem 999
Leema Tucana 2, excellent
dem 849
LFD L51 lineage, reasonable shape
used 199
Linn Majik Kontrol & 4100 Power, excellent
used 199
McIntosh C22 & MC275 Commemoratives, boxed
used 249
McIntosh MA5100, excellent!
used 599
Meridian 501V preamp, excellent
used 179
Meridian 501 Pre
used 399
Micromega IA100, great integrated, boxed
used 649
Moon W7RS, excellent
used 2899
Musical Fidelity M3i, excellent boxed, **REDUCED**
used Call
Musical Fidelity A1000 Two box monster Integrated!
used 799
Musical Fidelity A1 FPB Preamp and PSU, excellent
used 249
Musical Fidelity 550K Superchargers, sealed boxes!
used 1499
Musical Fidelity X-T100 Integrated
dem Call
Musical Fidelity Pre 8 and 2 x MA65 chrome fronted
used 599
Naim NAP100, vgc+
used 399
Naim NAPC82, excellent boxed
used 499
Naim NAP250, olive excellent boxed
used 299
Naim NAP250, very late olive excellent
new 1199
Naim NAP250, late olive excellent
used 249
Naim NAP250, excellent late olive
used 349
Naim NAP150, excellent boxed
dem 699
Naim NAPC202 with NAPSC, boxed
new 999
Naim AV2/NAPV175, remote, excellent boxed
used 399
Naim NAP180, excellent boxed
used 849
Naim NAIT 5, excellent remote boxed
used 799
Naim NAP152/NAP155XS, excellent boxed
used 799
Naim NAP90/NAP92, vgc
dem 2999
Naim NAP250, chrome bumper
new 1999
Neutonia Salis Integrated, classy Restek built
used 1499
Onix OA32 Integrated, excellent
used 999
Onix OA25 Integrated, excellent
used 799
Pathos Logos Integrated
dem 599
Placette Audio Passive Linestage
dem 599
Prima Luna Prologue 3 Preamplifier vgc+
used 649
Prima Luna Prologue 2 Integrated, good shape
dem 799
Prima Luna Prologue 3 Preamplifier, **REDUCED**
used 749
Puresound L300 valve preamp
dem 3599
Quad 99 Pre/Power, excellent, remote, Quadlink
used 649
Quad 405, from
used 199
Quad 33/303, vgc, serviced
used 299
Resolution Audio Opus 21 S80 Integrated
dem Call
Renaissance RA02 Monos, vgc and excellent value
used 499
Roksan Kandy K2 Power, nr mint boxed
used 499
Sugden Masterclass Monoblocks, in titanium
used 3999
Sugden A21a line Integrated
used 999
Sugden Masterclass Pre/Monos in Graphite
used 6499
Sugden Masterclass Pre/Monos in Titanium
used 6499
Sugden Masterclass Integrated in Titanium
dem 2749
TagMcLaren 60iRV, excellent boxed
used 299
Talk Electronics Hurricane/Tomado Pre/Power
used Call
Tannoy TA1400, excellent boxed
used 599
TEAC Distinction A1000 Integrated, ex demo
dem 599
Trio L07C good condition
used 249
Union Research Prelude Integrated, excellent boxed
used 1199
Union Research Simply Italy Integrated
dem 999
Union Research S2K Integrated, excellent
dem 699
Yamaha AS500, excellent boxed
used 179
Yamaha A-S3000, nr mint boxed
dem 1999

Digital

used 1199
Arcam Alpha 8, excellent
dem 1999
Arcam Alpha 8se, excellent boxed
used 499
Arcam CD17, excellent
used 299
Arcam CD73, vgc+, remote
used 249
Arcam CD37, remote excellent, reduced
used 199
Atoll 100SE DAC
used 99
Audio Alchemy digital transmission interface/psu
used 499
Audio Analogue Maestro SE CD
dem 3999
Audio Analogue Paganini (later model)
dem 3999
Audio Synthesis Transcend CDT (Modded SONY)
dem 2499
Ayre Evolution DVD
dem 379
Bryston BDA1 DAC, excellent boxed
dem 3999
Cary Audio CD306 Pro, near mint boxed
dem 14299
Chapter Audio Sonnet CD & Nevo remote
used 899
Chord 'One' CD player
used 199
Chord Qute EX DAC, excellent boxed
used 299
Consonance CD120 Linear
used 199
Consonance CD2.2, new sealed
new 499
Consonance Droplet, vgc+
dem 499
Creek Destiny Integrated CD player, boxed
used 1749
Cyrus Discmaster/Dacmaster, vgc+
used 2499
Cyrus CDX12, mint boxed just back from Cyrus
used 2999
Cyrus CD8, boxed remote
used 2249
Cyrus CD7Q chip, vgc+
dem 1999
Cyrus dAD3, remote, vgc+
used 2499
Cyrus CD8se, boxed remote
used 3749
Denon DNP720AE, near mint boxed
dem 799
EAR Acute 3, mint boxed
dem 999
Exposure 2010CD, remote
dem 2999
Goldenote Kala, near mint boxed
used 119
Klein Design Katana cd player (no remote)
used 119
Kelvin Labs DAC, rare
used 249
Leema Elements CD player sealed box
used 199
Linn Majik CD, just factory serviced, excellent!
used 599
Linn Karik 3, excellent boxed remote
used 7999
Marantz CD17, remote, excellent
used 749
Marantz CD63K1, remote, boxed excellent
dem 2999
Marantz NA7004, nr mint boxed
dem 1999
Meridian 506/20 with MSR
used 1999
Meridian G08, remote boxed
dem 899
Meridian 563 DAC reasonable condition
dem 1899
Meridian 500 Transport, excellent boxed
used 299
Meridian 602/606 combo with remote
used 1499
Metrum Acoustics Octave NOS DAC
used 6999
Micromega MyDAC, excellent boxed
used 749
Musical Fidelity 3.5 CD
used 299
Musical Fidelity KW SACD, new laser, upgraded ps
used 4499
Musical Fidelity M1 DAC, excellent boxed
used 329
Musical Fidelity M1 CDTB
dem 499
Musical Fidelity M3 black boxed
dem 699
Musical Fidelity M1Clic
new 699
Musical Fidelity XDac, excellent
used 199
Myriad Z20DAC, excellent boxed
used 449
Naim CD5i, excellent boxed
used 1499
Naim DAC, nr mint boxed
dem 499
Naim CD5i, near mint boxed
used 699
Naim CD53, excellent boxed, remote
used 1899
Naim CDi, excellent boxed
used 599
Naim CD3.5, vgc
used 299
Naim CDX2, excellent boxed
used 1099
Naim CDX2, excellent boxed
used 349
Opus BDP83se, excellent boxed
used 1199
Peachtree DACi, excellent
used 349
Prima Luna Prologue 8, ex demo boxed
used 1199
Quad 99CDP, excellent **REDUCED**
used 1199
Rega Planet 2000, excellent
used 599
Rega Apollo R, excellent
used 449
Rega Apollo 35th Anniversary, excellent
used 449
Rega L0 DAC, excellent
used 699
Rega Saturn, excellent boxed
used 399
Roksan Kandy K2CD, excellent boxed
used 299
Rotel RCD965BX, excellent boxed
used 399
Sugden Masterclass CD original version
used 1999
TAG McLaren DAC 20, excellent
dem 599
Tube Technology Fulcrum CD transport
used 649
Tube Technology Fulcrum DAC (inc DAC64 chip)
dem 799
Yamaha CD-S3000 near mint

AV/Accessories/Cables

dem 599
Audeze LCD2 excellent
dem Call
Audeze LCDXC excellent
dem 899
Beyer Dynamic T1, vgc boxed
dem 999
Bryston BHA-1 Headphone amplifier, superb
used 3999
Cyrus PSXR, excellent from
dem 999
Elemental Audio Equipment Rack
dem 499
Elemental Audio speaker stands
dem 499
Ergo AMT phones with Amp 2 (£2.5k new)
dem 1499
G-W T2.6F Valve headphone amplifier, excellent
used 599
Grado GS1000 and RA1 amplifier
used 599
Isotek Nova power conditioner
dem 1199
Lehmann Rhineland
used 199
Musical Fidelity M1 HPAB
dem 399
Musical Fidelity Triplex power supply
new 199
Naim XPS DR, ex demo
dem 2599
Naim XPS, excellent boxed
dem 1499
Naim HiCap, various
used 399
ProAudio Bono Reference Platform
used 999
Stax SR404/SR0060i, stand, cover etc boxed

Loudspeakers

new 799
Acoustic Energy AE1 Classic
dem 799
Acoustic Energy AE1 Mk11 in Gloss black
used 3249
Apogee Duetta Signature (Reality rebuit) Superb
dem 599
Art Audio Stiletto in Maple
new 1999
Aspara Acoustics HL6 in Oak
dem 699
Audio Physic Tempo in Cherry, fair
dem 749
Audiovector Si3, near mintboxed
dem 1199
Call
Audiovector Si3 Super, near mint boxed
dem 399
Aurum Cantus Music Goddess in Gloss black
used 3499
Avalon Ascendant Mk2, mint crated, £10k new
used 1749
B&W 805s in cherry, excellent
used 349
B&W CDM1se in cherry, excellent
used 299
B&W CDM1nt boxed, excellent
used 299
B&W DM601s3, vgc+
used 249
B&W DM602s3, vgc+
used 349
Castle Howard, excellent
used 1999
Castle Chester vgc later versions
used 1999
Davone Ray, vgc in walnut, great!
used 499
Eminent Technology LF78, some marks
dem 549
Epos M22 in Cherry
used 349
Ferguson Hill FH007&8 'desktop' audio set boxed
dem 999
Final 400 Electrostatics with ES400 Sub
dem 2249
Focal Electra 1008, mint boxed
dem 2749
Focal Electra 1028, mint boxed
dem 3999
Focal Electra 1038, mint boxed
used 1999
Gallo Nucleus Reference 2, rare, superb & boxed
dem 499
Heco Celan 500 in Silver
dem 399
Heco Celan 300 in Mahogany
dem 1499
Heco Statement in gloss black, £3k new
used 249
Kef Q100, brand new, sealed box
new 999
Kudos C10, boxed vgc and cheap
new 2499
Leema Xandia Mk1 in black
dem 349
Leema Xero in Mahogany
used 499
Living Voice IBX R2 in stunning Zebrano, excellent
dem 999
Mark & Daniel Maximus with treble extenders E2500sh
dem 699
Mark & Daniel Mini in Grey inc. Marble cabinets.
used 1299
Martin Logan Mosaic, excellent boxed
used 3499
Martin Logan Quests, superb sound, reduced
dem 8999
Martin Logan Prodigy, excellent
used 199
Mission 782se nr mint boxed
used 399
Mission Freedom 5, vgc in Rosewood
used 179
Mission 752, rosewood excellent
dem 399
Monitor Audio RS8 excellent
new 1999
Monitor Audio GX300, ebony near mint boxed
new 4999
Monitor Audio GX 5.1 Home Cinema set **BARGAIN**
new 699
Monopulse Model S
new 1499
Monopulse Model A speakers
new 399
Monopulse Model C
used Call
Monopulse M1C8 Floorstanders, boxed vgc+
used 1749
Naim Nsat x4, NCent and NSub, boxed excellent
dem Call
Naim Ovator S400, excellent
used 399
Naim Credo, excellent
used 699
Naim SBL, vgc+
used 999
Naim SBL mk2, vgc+
dem 3999
Nola KO speakers in black
used 5995
Nola Micro Grand Reference inc stands, £15k new
used 599
PMC GB1, excellent, new boxes
used 899
PMC Twenty 21, excellent boxed, ex dealer demo
used 1399
PMC Twenty 22, excellent boxed, ex dealer demo
used 1599
PMC Twenty 23, excellent boxed, ex dealer demo
used 2499
Proac D38 in Yew, boxed fair
used 1999
Proac D28, good condition in cherry boxed
used 1399
Proac Studio 140 mk2, nr mint boxed
dem 1199
Proac Studio 110, excellent boxed
used 499
Proac Studio 115, excellent boxed
used 749
Quad 21L Floorstand
used 249
Quad 11L2, excellent boxed
dem 799
Red Rose Rosebud £2.5k new with (used) stands
used 149
REL Sterling, black ash vgc
new 599
Revel M22, excellent boxed
used 699
Revolver RW45 floorstander in Cherry
dem 4995
Revolver Cygnis Gold in Black, £14k new
used 5999
Sonus Faber Elipsa, superb boxed
used 1199
Sonus Faber Cremona Auditor, boxed
used 999
Spendor A6, in Walnut excellent boxed
dem 399
Sunfire True Sub Subwoofer
used 999
Tannoy Prestige Autograph Mini, ex boxed
used 2499
Thiel CS7.2, vgc, just refurbished...
used 2999
Totem Mani Signature, boxed near mint
dem 449
Totem Mite in black
used 249
Totem Rokk in mahogany, excellent
new 999
Totem Staff, near mint boxed
dem 499
Usher N6311, transit damaged to clear
dem 2999
Vandersteen Quattro, accessories, transformers etc
used 1999
Vedolyned DD18 sub in black
dem 2999
Veritas H3 (Lowther drivers) in gloss black, 100db
used 4899
Wilson Audio Duette, excellent
dem 1999
Wilson Benesch Actor floorstanders

Special system deals

dem 599
Consonance Ping CD/AMP
used 699
Linn Klassik Movie 05, excellent boxed
used 1349
Call
Naim Uniti 24/192, excellent
used 799
Orelle EVO CD and Amp was £2700
dem Call
Yamaha CXA5000/MXA5000 as new boxed

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Transparent Audio Music Link Plus	£135	Sonus Faber Amati Homage	£7,990	Kubala Sosna Anticipation	£190	Audio Research DS450 (New-sealed box)	£5,750
Cardas Audio Golden cross tone arm cable	£370	McIntosh C2500	£4,500	Artisan Silver Cables Digital (Pure Silver 1m)	£180	Wadia 381i	£3,990
Kondo KSL vc tone arm cable	£480	Audiolab 8200 CDQ	£650	Wellborne Labs DRD45 monos Rectifying psu	£1,995	Nottingham Analogue Wave Mechanic	£250
Transparent Audio Reference digital balanced	£490	Wadia DigiMaster X64.4	£990	Avantgarde Acoustics Duo 2.2 & 225 subs	£6,490	Boulder 2060	£14,990
Elac FS 207.2	£450	Focal JM Lab Diablos Utopia III & Stands	£4,590	Nordost Vishnu Power Cable	£250	Boulder MMMC Phono stage & psu	£1,795
Acoustic Energy AELITE THREE	£350	Alon Phalanx	£4,990	Vertex AQ Mini Monocayo Speaker Links	£360	Wadia S71	£7,990
Linn classic	£350	Focal JM Lab Alto Utopia	£4,750	VPI Classic 2/JMW 10.5i & SDS psu	£2,490	Meridian Audio DSP 5200	£7,500
Talk Electronics Storm 2 Integrated amplifier	£200	Plinius CD-Lad (pre-processor by-pass)	£390	PS Audio P300 Power Plant	£460	Meridian Audio DSP 2000	£16,500
Ruark Rapsody	£200	Naim Audio CDX2	£1,490	Primare Cdi 10	£550	Bryston BP-26 and MPS-2	£2,200

CD Players and DACs		Avalon Arcus	£3,450	Audio Note Kego	£35,000	Krell Evolution 202	£5,990
Accuphase DP500	£2,490	Avalon Time	£57,600	Audio Research DS450 (New-sealed box)	£5,750	Linn Klimax Kontrol	£4,250
Arcam iDAC + Squeeze	£250	Avantgarde Acoustics Duo 2.2 & 225 subs	£9,490	B.A.T. VK-255 SE	£3,700	Luxman C500f	£8,990
Audio Aero Capotile Signature	£3,300	B&W htm 2D	£2,800	Bel Canto Ref 1000 M (Mk2) Mono blocks NEW	£4,300	Mark Levinson No 326s Reference	
Audio Aero La Source	£29,500	B&W DM 70 Continentals	£1,800	Bel Canto Ref 1000 monos	£1,990	Dual Mono Pre	£8,170
Audio Aero La Fontaine	£17,500	B&W Matrix 800	£5,990	Beyond Frontiers Audio Tulip w/ DAC	£8,500	Mark Levinson No 380	£1,790
Audiolab 8200CD	£600	Beauhorn B2.2 Revelation	£1,800	BMC Audio CS2 Integrated/ Power Amplifier	£4,595	McIntosh C2200	£3,750
Audiomeca/ Pierre Lurme Mephisto CD Transport	£790	Dali 300 Mk2 in Rosewood	£1,650	BMC Audio M2 Monoblocks	£9,190	McIntosh C2500	£4,500
AVI Series 21 MC4 Reference	£690	Eclipse TD512, A502 + Stands	£2,000	Boulder 2060	£14,990	Musical Fidelity Kw Phono	£1,450
Bel Canto Dac3	£2,199	Eggleson Works SAVOY	£15,000	Chord Electronics 1200c	£1,690	Nakamichi 410	£198
Bel Canto USB Link 24/96	£349	Elac FS 207.2	£450	Chord Electronics SPM 5000 MK1	£3,800	Plinius CD-Lad (pre-processor by-pass)	£390
Bluenote Stibbert valve improved	£1,800	Focal JM Lab Diablos Utopia III & Stands	£4,590	Conrad Johnson Prem 8A monoblocks	£4,950	Sony TAE 800	£2,990
BMC Audio BDCCD1.1 Belt Drive CD Player	£3,195	Focal JM Lab Electra 1028Be	£2,695	Crimson Electronics 640 E3 Monoblocks	£3,399	Tom Evans The Vibe pre & Pulse power supply	£2,750
BMC Audio PureDAC	£1,290	Focal JM Lab Grande Utopia III EM	£121,999	Edge NL Reference Monoblocks	£34,990	VTL TL 6.5 Signature Line Pre	£9,990
Cambridge Audio dacmagic plus	£165	Focal JM Lab Scala Utopia 3	£18,999	Edge NL 12.1	£8,900		
CEC TL0X	£9,990	Focal JM Lab Stella Utopia III EM	£47,990	Gryphon Antileon	£5,990	Turntables/Arms/Cartridges & Phonostages	
Copland CDA822	£650	Focal JM Lab Alto Utopia	£4,750	Halcro DM 88 Monoblocks	£24,950	Aesthetix IO Eclipse	£15,590
Cyrus CDBX	£400	Focal JM Lab Diablo Utopia III & Stands	£8,100	Halcro DM38 with 220/110 V transformer	£8,500	Astin Trew AT8000 phono	£450
Esoteric P05 D05	£5,500	Gamut S5	£9,490	Jadis ja-250	£15,000	Audio Research PH8 black	£3,890
Krell EVO 505 (110v)	£3,395	Genesis Technologies Genesis G200		Jeff Rowland model 3	£2,450	BMC Audio MCCI Phono MC	£2,300
Krell Evolution 525	£5,990	Genesis Technologies 5.3	£12,990	Jeff Rowland Model 3 Monoblocks	£2,500	Boulder MM/MC Phono stage & psu	£1,795
Krell KPS20II	£1,490	Hansen Audio Emperor	£32,500	Karan Acoustics KA M2000	£22,990	Cello Cartridge	£4,000
Krell KPS25sc	£2,995	Hansen Audio Prince V2	£18,000	Krell EVO 302	£5,500	Clear Audio Insider Gold	£1,000
Marantz UD 9004	£2,690	Hansen Audio The Knight	£9,900	Krell FPB 200	£1,750	Clear Audio da Vinci V2	£2,890
Mark Levinson No 31.5 Reference CD Transport	£3,590	Heco celan 500	£550	Lamm Lamm M1.1	£6,990	Dr. Feickert Analogue NG High-Precision	
Mark Levinson No 512 CD/SACD	£12,255	JBL 250 T1	£2,890	Leema Acoustics Corvus	£999	Cartridge Alignment Tool	£149
Mark Levinson No 512 CD/SACD	£7,995	Krell Moun	£85,000	Linn Klimax Solos	£8,995	ELP TL-1LRC	£3,500
Mark Levinson No 31 & 30.5 Transp/Dac	£7,450	KEF resolution 3	£2,700	Luxman M800A stereo power	£8,990	EMT 950 Broadcast Turnta Fabulous	
Mark Levinson No 31.5 Reference CD Transport	£3,500	Living Voice Auditorium	£1,350	Mark Levinson No 33H	£9,900	BBC Wide body	£6,500
McIntosh MCD1100	£7,490	Loewe Reference stand speaker	£1,400	Mark Levinson No 532	£17,362	Gale GT2101 Turntable	£7,990
Meridian Audio 508	£600	Martin Logan Summit	£5,500	High current Dual Mono Power Amp	£7,500	Jan Allaerts MC1B mk1	£1,495
Micro Seiki CDM2	£225	Martin Logan Summit	£4,490	Mark Levinson No 532H Reference	£4,995	Klyne Audio Arts 6PE mm/mc	£1,950
MICROMEGA Microdac	£850	Martin Logan Logos Centre	£890	McIntosh MC275 (2 Available)	£4,250	Kuzma Stabi (wood) & Ref psu	£1,990
Moon 300D	£899	Martin Logan Request	£1,550	Musical Fidelity 308 K Mono-blocks	£650	LFD MCT SE Phono mc	£3,500
Musical Fidelity M6 CD	£1,100	Meridian Audio DSP 5200	£7,500	Naim Audio Nap 180	£600	Manticore Mantra	£300
NAD M51	£650	Meridian Audio DSP 7200	£16,500	New Audio Frontiers NAF Performance 2A3	£4,000	Marantz tt15s1	£825
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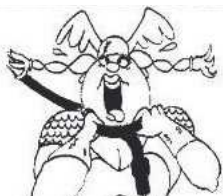
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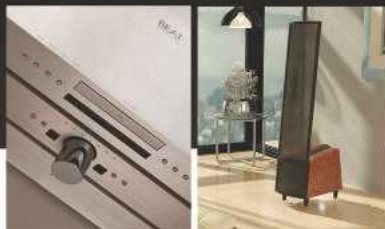


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LAST WORD

OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

Ken Kessler describes one of the most hateful consumer products he's experienced. What is it?



After five months of despair, hating the Pono player with a passion I only ever displayed before for Bose, the device finally started to operate with a semblance of competence. Without warning, after countless failed attempts, it finally showed up as a drive on my Mac, so I could upload some music. Then, just as quickly, it stopped.

This dilemma is new to you because I took a vow of silence about Pono after my early encounters with the most hateful consumer product in my experience since trying to connect scanners or printers to PCs in the era before USB. It defies belief.

SLAVISH FAN

A brief recap: being a slavish fan of Neil Young, I bought into the Kickstarter Pono campaign, ordering the limited edition Buffalo Springfield player. While awaiting its arrival, I reported on this pending high-resolution music player for a couple of mainstream publications, giving it the benefit of the doubt. Its gestation period, however, proved to be pachydermic.

Both the hardware and the website were subject to delays. Because the Kickstarter Ponos were released at drip-feed speeds prior to Christmas 2014, I secured a review unit thanks to the good graces of Charlie Hansen of Ayre, the hugely respected audio

designer whose team ensured the Pono's superlative sonic performance.

The demo Pono (in a cheesy rubberised yellow case) came pre-loaded with two Neil Young albums, *Harvest* and *Storytone*, at the highest level of Pono encoding: 192kHz/24-bit FLAC. I compared the sound to the iPod, Astell & Kern AK120 portable and playback via Fidelia through my Mac. With Pono-supplied music, it was dazzling. But the player itself, the touchscreen interface and the entire half-baked experience were, at best, off-putting.

Nothing I did, armed with two PCs and two Macs, allowed me to connect the player to its website. To give you some idea of the site's importance, a Pono without access to it is almost as unusable as an iPod without iTunes. The sole saving grace, unlike the iPod, is the slot for a MicroSD card, so I could load that, but not access the internal 64GB storage. And I hate to say it, but you can hear a difference between music that's stored on the internal

memory and on the MicroSD card.

Emails jockeyed back and forth, basically hinting that I was either computer-illiterate, cursed or simply a *putz*. 'Nobody else has had these problems,' they reassured me with hippie/we-wish-we-were-Apple superiority. So I Google'd 'Pono Problems' and found whole chat rooms not only echoing my

experience, but recounting glitches I hadn't even suffered.

Throughout all of this, Charlie was doing his best. Out of respect for the excellent sound quality and Ayre's efforts, I agreed to write off the whole *megillah*. But was I shirking the responsibility of journalist-as-consumer advocate even though other voices were revealing that all was not well on Sugar Mountain? Predictably, Pono could continue to claim that all was still in the beta stage. But that is making excuses for the Pono's too-hasty launch.

Using the Pono is unpleasant because the screen is too small and the touch response too eager to select unwanted tracks or functions. The hardware is nasty, especially when compared to Sony's slick NWZ-A15 at less than half the price. The Pono's physical controls are limited to volume and an on/off button that also pauses, but nothing like the Sony's 'game pad'.

PRICE IS RIGHT

Indeed, it's only price that works in the Pono's favour against its real competitors, the A&K players and Sony's high-end NWZ-ZX2 costing a lot more. But they're built like mechanical wristwatches. The Pono is built like a plastic digital watch as sold in petrol stations. I'm too disillusioned to proffer the full litany of curses, like the lack of Bluetooth on audiophile grounds. Huh? You don't have to use Bluetooth, but it sure is handy if you own a Jambox or Foxxl.

As for the website, I'm still not able to access much of it. At the time of writing (early March), the site won't update my Ponos to the latest firmware level – despite the message saying 'Would you like to update to v1.05?'

But maybe this isn't about hardware. It's about software, with Pono hoping to be the high-res riposte to iTunes. The bait is the excellence of the pre-loaded 192kHz/24-bit material, with the promise of purchases from the site sounding as good.

But Neil, no matter how good they may sound, I for one will not be buying Led Zeppelin's catalogue for the 12th time. No, not even my beloved Buffalo Springfield justifies it, though you caught me out with Kickstarter. Never again. ☹

'The Pono was dazzling with the pre-loaded Neil Young albums'

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- José Victor Henriques, Hi-Fi News & Record Review

GENIUS



Modern retro – that's the thinking behind the new Audio Research G Series. It pays tribute to the original designs of company founder William Z. Johnson, while at the same time encapsulating the very latest thinking on tube amplifier design. Welcome siblings to this famous family, sitting comfortably alongside its already legendary Reference range.

It makes use of an all new output tube, the Tung Sol KT150: from the company responsible for the famous 6550, launched 60 years ago, this new design is destined to find a place throughout the Audio Research range.

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