

hi-fi news

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IT'S MAGIC!

Wilson Audio's bewitching Sabrina

WIN!

Five £200
KEF M400
headphones
P67



Retro hi-fi

Vintage Review &
From The Vault, p118

Pioneer U-05

Headphone amp/USB DAC

Arcam CDS27

SACD & network music player

Rega's vinyl flagship

RP10/RB2000 & Apheta 2



SMALL FACES
OGDENS' NUT GONE FLAKE

INVESTIGATION

Rock on film

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The Who to Spinal Tap, p24

Allnic H-3000

All-tube MM/MC phono stage

• **PLUS** 18 pages of music reviews & features • **VINYL RE-RELEASE** Mott's *All The Young Dudes* on LP
• **OPINION** 12 pages of letters & comment • **VINTAGE REVIEW** Cambridge Audio P50 integrated amp
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FREE! Chord's 'Outstanding' SilverPlus USB cable See page 88



Xs - a new standard from Pass Labs

Xs 150: "Infinite smoothness in all registers. Unheard of power and authority. Control during the softest passages. I am speechless. I honestly never expected this dramatic an improvement.

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What HiFi? January 2015

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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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Hi-Fi Choice

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AV Forums

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BRINGING MUSIC AND MOVIES TO LIFE



RIGHT: Musical Fidelity's MF-200 headphones and V90 amplifier get upgraded for fully balanced operation. First in-depth test, p68



ABOVE: Arcam's value-packed CD/SACD-playing network streamer, p48



VINYL: The Small Faces' *Ogdens' Nut Gone Flake* is this month's Vinyl Icon (p78), while Steve Sutherland reveals how Bowie transformed Mott The Hoople as *...Young Dudes* is re-released on 180g LP, (p76)

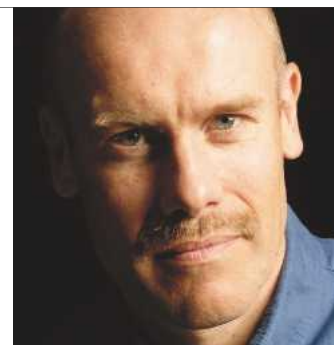
RIGHT: *Hi-Fi News & RR* is the exclusive UK representative of EISA's Hi-Fi Expert Group and editor Paul Miller is EISA's Hi-Fi Expert Group Manager



Our six senses are not mutually exclusive. Any music lover who's experienced that sense of expectation from cautiously cueing-up a treasured LP will understand this perfectly well. There's a tactile involvement at work, a ritual that enhances our engagement with the music we hear in a way that's impossible to achieve by accessing a playlist via a mobile phone app, for example.

So when, listening to a recent Radio 4 Today broadcast *en route* to the office, most of my senses suitably numbed by the interminable dullness of a commute around the M25, I was not terribly surprised by the announcement of an ebullient-sounding Charles Spence, Professor of Experimental Psychology at Somerville College.

Dining under blue lights or eating from red crockery diminishes appetite just as, it seems, wielding heavyweight cutlery inspires us to 'pay significantly more for exactly the same food', according to the Prof's research. Obvious though this may seem to every audiophile who has shrugged off a plastic, parts-bin remote in favour of a hefty fistful milled from solid alloy, this culinary analogue has not, until recently, been objectively verified.



By contrast, the impact of environmental and psychological cues on our perception of sound, and enjoyment of music, has been the subject of much debate, and experiment, for many decades. Our emotional readiness is critical to our appreciation of sound. Eat a good meal off any colour plate and the sound of your system

'Eat a good meal and the sound of your hi-fi will likely improve'

will likely improve. The triggers are many and manifest, from a hi-fi product's 'mood lighting' to the colour of the speaker's drive units (or covering grille).

By sheer coincidence I stumbled upon a feature we published in 1977 that explored the psychology of the listening experience and its expression in terms of 'musicality'. Fresh 'From The Vault' [see p124], these observations are as pertinent today as they were 38 years ago.

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

Luxman 700 series

ICONIC HIGH-END MARQUE POPS THE CHAMPAGNE ON NEW SOURCE AND AMPLIFIER COMPONENTS

One of hi-fi's most enduring brands is celebrating its 90-year history with the launch of a combined CD/SACD player/USB DAC, a fully analogue stereo preamp and matching power amp rated at 2x120W/8ohm, or bridged to give 420W/8ohm in mono. The brand is Luxman and the models are, respectively, the D-06u, the C-700u and M-700u, all priced at £6995.

The D-06u combines the 384kHz upsampling, digital filter and DSD filter options provided by TI's TA3152 DSP chip with Burr-Brown's PCM1792A DAC, itself compatible with LPCM inputs

up to 384kHz and DSD up to 5.6MHz. 'Luxman Audio Player' software for PC/Mac supports FLAC, ALAC, WAV, AIFF, MP3 and DSF file formats over USB.

Luxman's partnering C-700u preamp – its design borrowing from the flagship C-900u – offers seven line-level ins (five on RCA and two on balanced XLRs), plus four line-level outputs (two RCA and two XLR). The M-700u is a physically massive amplifier, bedecked with 'real time' VU meters and powered by an equally substantial PSU.

Luxman/International Audio Group, 01480 447700; www.luxman.com



More High Voltage

T+A'S R SERIES FEATURES TRICKLE-DOWN TECH



With its HV series now complete [*HFN* Mar '15], T+A has leveraged its 'High Voltage' technology into a new range of slimline separates. There are two series within the range – the lower-profiled cases named 2000 R, and 2500 R for the taller models. At present, the range consists of the £4204 PA 2000 R integrated amp (rated at 180W/4ohm), the larger £5577 PA 2500 R integrated (based on the PA 2000 R but with a bigger PSU and rated at 260W/4ohm), the £4202 MP 2000 R CD player/USB DAC/Network Client and the G 2000 R turntable. The latter comes in two guises – £3432 with a Rega tonearm and Ortofon 2M Bronze MM or £4719 equipped with a Clearaudio Carbon-2 tonearm and MC-2 cartridge.

T+A elektroakustik GmbH & Co. KG, Germany, 01353 721089; www.taelektroakustik.de

HI-FI NEWS' NUGGETS

END OF THE PRE?

Just as Linn's DS (Digital Streaming) players replaced its CD players in 2009, six years later the brand has also called time on standalone preamps. Integration is the key, Linn having merged source selection and volume control into its DS range to deliver a single new product – the DSM. www.linn.co.uk

IN MEMORIAM

Jacob Jensen, the influential Danish designer and stylist of consumer products, died on the 15th of May, aged 89. Although he opened his own design office as early as 1958, he will be better remembered for his work with Bang & Olufsen where he held a variety of roles from 1965 until 1991. Some of Jacob Jensen's best known work for B&O has reappeared in *Hi-Fi News'* Vintage Review series: the Beolab 5000 system, the Beogram 4000 turntable and the Beomaster 4400 receiver. Jacob's designs helped elevate B&O from the position of a regional manufacturer serving a local market to a worldwide export success.

Shapely Dynaudio

UPDATED CONTOUR SPEAKERS

Following a series of cabinet, crossover and driver upgrades to its Contour range of loudspeakers, the Danish Dynaudio brand has re-released these models in a 'Limited Edition' guise. The bookshelf Contour S 1.4 LE (£2950) and the floorstanding Contour S 3.4 LE (£5250, pictured) are both available in four finishes: burbinga piano lacquer, oiled walnut, mocca piano lacquer and black piano lacquer.

Both speakers have a composite baffle, including a layer of damping material and a thick metal plate, while the woofers have mineral-loaded polymer cones, light aluminium wire voice coils and rigid, low resonance die-cast aluminium baskets. Rated sensitivities are 85dB and 86dB (1.4/3.4 LE).

Dynaudio International GmbH, 01353 721089; www.dynaudio.com



Retro-chic from Yamaha

NEW INTEGRATED BOLSTERS YAMAHA'S COMMITMENT TO HI-FI



Beefing-up its hi-fi range still further, Yamaha has announced another stereo integrated amplifier – the £1400 A-S1100. Employing a trimmed-down version of the balanced MOSFET topology debuted in its costlier A-S2100 and A-S3000 models [HFN Dec '14 & Nov '13], the A-S1100

is rated at 160W/4ohm and features a substantial linear PSU based around a custom EI transformer. The amp combines a digitally-governed volume control, traditional level meters plus a MM/MC phono input. **Yamaha Music Europe GmbH (UK), 0844 811 1116; <http://uk.yamaha.com>**

SAM goes portable

DEVIALET'S SPEAKER ACTIVE MATCHING TAKES TO THE ROAD



Devialet's SAM (Speaker Active Matching) – DSP optimisation for loudspeakers – has typically required three days per model

to implement as the drivers, crossover and cabinet were analysed. Now, thanks to SAM Lab, the same process can be achieved in semi-automated fashion, off site in a claimed eight minutes. The SAM Lab device sits between a Devialet amp and test speaker, acquiring data directly and via a laser (driver) measuring system to have it swiftly 'SAM Ready'. **Devialet UK Ltd, ukdistribution@devialet.com**

Optical pick-up

REVOLUTIONARY MAGNET-FREE PHONO CARTRIDGE

The alloy-bodied DS-W1, from Japan's DS Audio, uses a boron cantilever and Shibata stylus but uses optical (mouse) tech rather than magnets to derive an output. Cost is £6250 inc. phono equaliser/PSU and it can be installed on almost any arm. **DS Corp, 0118 981 4238, www.ds-audio-w.biz**



Thorens' vinyl trio

SUSPENDED SUBCHASSIS DECKS INSPIRED BY TD150/160

While heavyweight decks with outboard motors are the norm, Thorens has been inspired by the glory days of its TD150 and TD160 to design three new turntables featuring traditional suspended-subchassis isolation. Prices range from €3550 to €9500 for the TD 903, TD 905 and TD 907 models [pictured]. The TD 905 has a heavily braced plinth and improved

damping architecture over the TD 903 but both are equipped with the 9in TP 92 tonearm. The flagship TD 907 is fitted with the 10in TP 88 unipivot while its subchassis features a user-adjustable 'conical membrane' damping. **Thorens Export Co. AG, +41 (0)61 811 5837; www.thorens.com**



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Upcoming Events

IMPORTANT DATES FOR YOUR HI-FI DIARY

- 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>
- 04 OCT** Audiojumble, Tonbridge; www.audiojumble.co.uk
- 16-18 OCT** High End Swiss 2015, Hotel Mövenpick Zürich-Regensdorf, Switzerland; www.highendsociety.de
- 24-25 OCT** The Hi-Fi Show Live 2015, Beaumont Estate, Windsor; www.hifinews.co.uk/show

Ayre

Fresh Ayre



With the introduction of the AX-5, Ayre has taken a fresh approach and breathed new life into the Integrated amplifier.

Integrating a number of unique innovations together has allowed Ayre to create an elegant single-chassis design, without sacrificing functionality and Ayre's award-winning sound.

In the words of Charles Hansen (CEO & Head of R&D at Ayre):

'In the simplest view, the Ayre AX-5 is an amalgamation of the Ayre AX-7 and the Ayre KX-R. Yet in another way, the AX-5 is the most radical integrated amplifier ever designed.'

For the full story please go to www.symmetry-systems.co.uk.

THE hi-fi SHOW *Live* 2015

Now in its third year, with more exhibits than ever, the UK's only high-end audio show continues to gather pace as the 'who's who' of world-class hi-fi plan their debuts



24th-25th October

Seen but not yet heard, the silence surrounding Mark Levinson's flagship ML536 monoblock power amps will be broken at the Hi-Fi Show *Live* in October. Hear these awesome 400W amps before their exclusive review in *Hi-Fi News*



The Hi-Fi Show *Live* will be your chance to experience the new KT150-equipped Reference 75, 150, and 250 SE amplifiers from Audio Research. 'Dramatic sonic improvements' are promised from ARC's latest and most significant refinements to its revered Reference range

Advance tickets are on sale for the UK's premier high-end audio event – The Hi-Fi Show *Live* at the Beaumont Estate, Old Windsor on Saturday 24th and Sunday 25th October 2015.

Tickets cost £20 (£30 for a weekend pass) via www.eventbrite.co.uk or via the link on our website.

We will also be offering a concessionary £15 day pass for subscribers of *Hi-Fi News* and *Hi-Fi Choice*, details of which will be announced in July. Please return regularly to www.hifinews.co.uk/show for more details.

**TICKETS
ON SALE
NOW**

Headphone fans will be treated to the great and good (the very good...) in personal listening, including the opportunity to don a pair of the highly anticipated Nighthawks from AudioQuest. Look out for our exclusive review in next month's *Hi-Fi News*!



Featured on the July '15 cover of *Hi-Fi News*, the KEF Blade Two floorstanders will be on-song and demonstrating why they won our coveted 'Outstanding Product' award. Make your way upstairs to the spacious Wessex 8 suite and discover why KEF's point-source loudspeaker technology is making waves to remember



Does Chord's DAVE DAC sound as amazing as it looks? Listen and judge for yourself at the Hi-Fi Show *Live* where the company's engineers will be on hand to present this next-gen WTA upsampling and Pulse Array DAC technology



Munich High End 2015

Words & pictures: Ken Kessler



Guys, c'mon! We're talking about *Munich*! Naturally, there'd be a humungous horn somewhere at the show! This wooden beast from Realhorns (www.realhorns.de) greeted visitors in one of the atriums, and it is genuine. This was the best Munich High End Show ever, and possibly the best event I've attended in 20 years, since the heyday.

If numbers speak louder than my enthusiasm, 506 exhibitors from 42 countries, over 6500 trade visitors and 14,000 members of the public attended. It was a feast of new turntables, loudspeakers, headphones, cartridges, headphone amps and even – yes – pre-recorded open-reel tapes. So rejoice: hi-fi ain't dead yet.

AudioValve reminded *arrivistes* that it has been producing standalone all-tube headphone amps for over 30 years! The latest, the Luminare, is an OTL design with external power supply, said to handle any headphone load, however ornery, and whether normal or balanced. It also powers Stax ESLs – so Stax fans needn't buy an energiser. It's available in black/white, or all-black.

www.audiovalve.de



Love the name – Ambitious Audio Design! Made in Denmark, the Ambitious 2 (there's also the smaller Ambitious 1 with dome tweeter and one woofer) is a rock-solid two-way weighing 70kg thanks to its enclosure of aluminium, steel, carbon fibre and brass. Two woofers are separated by a ribbon tweeter. The speaker will be on sale in 2016. www.ambitiousaudiodesign.com

Oh, mama, Dan D'Agostino kept his word and turned up with his no-limits Momentum Phonostage, which looks like a mini Momentum amp. This is pre-production, but close to finished. What makes it irresistible is its ability to accept four turntables – two MM and two MC – with independent loading for all four. It also offers four 'vintage' EQ settings in addition to RIAA. www.dandagostino.com



Robert Watts (left) and John Franks flank Chord's new DAVE DAC/pre, probably not named after the repeats TV channel (£7995). It contains a digital preamp and a headphone amp and uses an FPGA (Field Programmable Gate Array) and Chord's own software; processing goes up to 768kHz. Outputs include XLR and RCA, with inputs accepting USB Type-B, two optical and four coaxial. www.chordelectronics.co.uk



Pro-Ject now has one of the biggest stands on the main floor, naturally devoted primarily to turntables – I stopped counting at 30 models and was overwhelmed by the choice of colours – with the full range of Box pint-sized components on show. While surrounded by all these LP spinners, it was easy for the public to miss a prosaic black box, on a pedestal in the trade area, the pre-production prototype of Pro-Ject's first LP cleaner, with swing-over cleaning bar reminiscent of the Moth and VPI HW 16.5 machines and promising an equally attractive price. www.project-audio.com



Exactly as promised, TechDAS showed the Air Force III, able to support four tonearms (a natural choice to feed the D'Agostino Momentum Phonostage!) and with all the niceties of the '1 and '2, including air bearing and vacuum LP hold-down, supported on four feet and with a smaller footprint. Price will be half that of the '2, so this deck should really shake up the high-end. www.techdas.jp



Seen at CES in January as a rough box prototype, this is the finished version of the solid-state Nagra Classic Amp, heard through Wilson Alexias. Power is 100w/ch, but they were demo'd in bridged form and rated at 200W into 8ohm. Operation is 'Pure Class A', inputs are balanced and single-ended and size is 277x174x395mm (whd). Naturally, the front features a Modulometer. www.nagraaudio.com

Astell & Kern introduced two new digital players at both ends of the spectrum, the AK380 costing, er, over £3000, and this, the AK Jr. It will be a smash hit because it's circa £399 yet it delivers that A&K 192kHz/24-bit quality in a package smaller and lighter than an iPhone 5. It's gorgeous, all-metal, sleek, easy-to-use and supplied with 64GB internal memory and a slot that accepts a MicroSD card. The AK380 will service up to 384kHz/32-bit, and comes with 256GB of internal memory! www.astellnkern.com



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Trilogy Audio Systems showed up with a new hybrid integrated amp, the 135W/ch 925 (priced from £8995), and this nifty headphone amplifier, shown with a choice of case top colours. Called the 931, it's a purist design with 18dB of gain, discrete single-ended Class A operation, and offering most of the dearer 933's performance, but no remote control. As ever, the standard of finish was impeccable. www.trilogyaudio.com



M-One is the name of Micromega's super-neat slab, which is offered in pretty much any colour or pattern you might like and can be wall-mounted. Prices start at €3000 for a 100W/ch M-One 100 integrated system, with USB, switchable MM/MC phono, wireless, and all manner of conventional digital and analogue inputs. Also offered is the 150W/ch M-One 150. www.micromega-hifi.com



Thrax demonstrated a full system, including a new turntable not seen in this shot. Speakers are the Lyra two-way systems with compression tweeters and magnesium cone woofers above and below in a d'Apollito configuration. Amps are the Heros Class A tube/FET unit in black, and the silver-cased Teres hybrid. www.thraxaudio.com

We loved the look of this adorable orange horn, the Vienna Physix Diva Grandezza looking like a scale model Acapella, standing only 1180mm tall. Drivers include a 180mm horn tweeter, 480mm mid horn and 10in woofer, the latter powered by a built-in 500W Class D amplifier. Weight is a substantial 73kg! www.viennaphysix.at



SME's new Model 15 – seen with Model 309 tonearm and a European price of €10,900 – will slot in between the Models 10 and 20 and is precisely a perfect blend of the two. It's clearly plinthless and with a small footprint like the 10, but it adds the suspension towers with 'rubber bands' that feature on all other SME turntables. We look forward to reviewing it! www.sme.ltd.uk

Sonus faber's new Chameleon range breaks away from wooden enclosures, offering instead a choice of colours. The range includes the Chameleons B, T and C, respectively a two-way bookshelf model, the floorstander seen here and a two-way ideal for centre channel usage. User-replaceable side panels are available. www.sonusfaber.com



SHOWBLOG Sights and sounds from around the globe



Max Townshend, ever irrepressible, was using an app and tablets to illustrate the effectiveness of his new 'rocking' speaker supports. Once he collars you, you're shown how his decoupling stands deal with the effects of 'micro-tremors'. You can just make out in this photo of the tablets atop each speaker, that the one on the right behaves much better than the one on the left. www.townshendaudio.com



QAT showed a range of beautifully-attired components, including these new additions to the Radiance line in pre-production form. No info was offered, but I suspect the PA6 power amp is the amp section of the existing 850 and 575 integrats at 2x100W, and the MS6 server a more affordable version of the M5. www.qat-audio.com



Viva showed a pre-production sample (right, in orange) of an all-new, all-valve headphone amplifier. It's a smaller offering derived from the one in yellow, the 430x250x520mm (whd) Egoista, which offers two headphone outputs, four line inputs and one 'direct' input, pure Class A/zero negative feedback operation, 15W/channel output and a tube line-up of 6N6P, 6SN7, two 845s and two 5U4GBs. www.vivaudio.com

Audiograde's Calora (left) and Apollo are fitted with 25mm Accuton tweeters and 50mm Accuton mids, the latter housing two 220mm Black Aluminium woofers in its 950mm enclosure. The Calora employs two 250mm Kapton-Aluminium sandwich membrane woofers and a 170mm mid. Height is 1430mm, weight 270kg. www.audiograde.de



Audio-Technica grabbed the opportunity for a revival thanks to the headphone revolution. This is the £6000 AT-HA5050H tube-hybrid headphone amplifier/DAC. Headphone impedances are 120, 82, 33 and 0.1ohm, multiple pairs are accommodated, and the USB DAC operates up to 384kHz/32-bit. www.audio-technica.com

Tim De Paravicini was showing a new CD player in the Acute range but he seemed far more excited about the tape deck seen at the right. It's a super-rare Denon DH-610S, a Japan-only item that falls in the pro/semi-pro category. The system consisted of EAR-Yoshino components entirely, heard via the BBC-ish Graham LS5/8s. www.ear-yoshino.com





Reviewer Michael Fremer (left) and Bé Yamamura stand in front of the latter's massive steel horn speakers, described in depth in *HFN* Dec '13. Bé was present to show, too, the new YC Digital system consisting of YC-1 music server, YC-2 192K digital audio interface and YC-3 192K DAC, also described in the *HFN* article. www.yamamuracrawley.com



One of the most impressive new headphone/amplifier combinations was this pairing from Enigma. The A1 amp is all-tube, cool-looking, too, operating as a Pure Class-A triode design. The matching Dharma D1000 headphones are hybrid electrostatics! Sound was startlingly good. www.enigmaacoustics.com

Smiling faces greeted the new version of the Well-Tempered Turntable. The Royale 400's plinth is a massive 636x92x556mm (whd). It has a centre section of layered Baltic ply, drive is via polyester thread, speeds are servo-controlled, outputs are balanced and RCA and the new version of the arm is 16in long! www.welltemperedlab.net

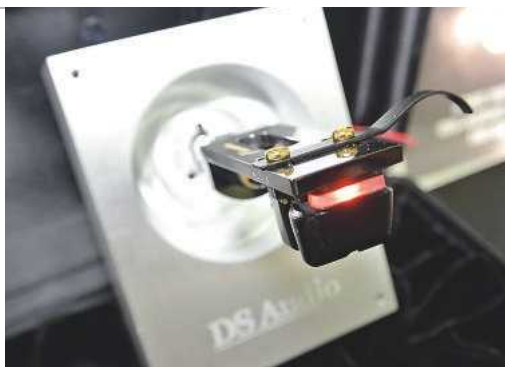


Pearl Evolution's open-baffle speakers have been joined by this adorable, small three-way, the Mini Ballerina, which stands only 650mm tall, with a footprint of 340x340mm. It's offered in a four baffle colours: red, white, black or purple. communications@pearlevo.com



This was the first thing I saw upon entering the show, one of the most over-the-top turntables ever. Construction is flawless, Acoustic Signature's Invictus accepts four arms, platter is a three-layer aluminium/brass sandwich and parts count is 479. It's driven by six motors and comes on a dedicated stand that's above waist-height – at least, for this 5ft 8in reporter. www.acoustic-signature.com

At a show awash with new cartridges, many were in awe of DS Audio's DS-W1 'Nightrider' Optical Phono Cartridge and Equalizer. Shades of the 1960s – only now the technology benefits from the low temperature LED tech used in an optical mouse. For more information, visit the site. www.ds-audio-w.biz



Next month

Hi-Fi News reports from the Headphone Show, California

Classic rock on disc: Pt II

Ken Kessler brings you his pick of rock movies, biogs and fictional favourites

RIGHT: That 'Early Ozzie' haircut, that sneer – it could only be Nigel Tufnel from *This Is Spinal Tap*. Thirty years on, it remains as hilarious as ever, but opt for the Blu-ray for the fullest impact



BELOW: Despite the liberties taken with historical facts, *The Buddy Holly Story* is an absolute joy, and Gary Busey did the singer proud

In part one of this round-up of music videos, [HFN Jun '15], we covered the 'real,' factual films. It's the category that contains rockumentaries about bands or genres, the 'making of' specials that tell how classic albums were recorded and – most common of all – concert films, including festivals. What remains are biogs and 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 perfect spoof, *This Is Spinal Tap*, to that toxic development: period dramas using utterly inappropriate rock soundtracks. This is not the place for me to explain why I despised *Moulin Rouge* and *A Knight's Tale*, to a level nearing the psychotic. Suffice it to say, rock music *is* used appropriately in many contemporary films, with directors like Martin Scorsese enjoying such a deep understanding of rock that he unfailingly chooses the right songs to convey an era.

Thanks to Blu-rays featuring superlative multichannel sound, the immersive pleasure is undeniable – especially for cineastes who love rock.

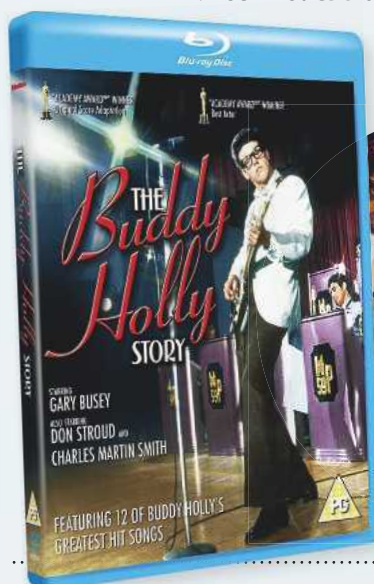
Even fictional rock flicks are defined by subgenres to keep the academics busy. Appealing to those who, like me, are a bit obsessive, I've pointed out multiple editions of some films, addressing major differences. But if you are like me, you'll buy both regardless.

As stated in part one, many titles are only offered as Region 1 DVDs or Region A Blu-rays. For this, I make no apologies, because anyone reading *HFN* who is committed to high-quality viewing has already dealt with the now-trivial regional coding issue, eg, by buying a cheap Region 1/Region A player for under £50.

IMAGINARY LIVES

If one category is a tad worrying, it's the 'biopic' – which does not rhyme with 'myopic', though some may be. I recall my father shouting at the television when they were showing films like *The Glenn Miller Story* and *The Jolson Story*, cursing inaccuracies, 'artistic license', and messing about with the time-frame. Things haven't improved much, with even the surviving members of The Crickets disowning the Oscar-winning *The Buddy Holly Story* [Fabulous Films FHEB2819 Blu-ray].

This 1978 film, while eminently enjoyable, even renamed members of Holly's band, despite no artistic 'get-out clause' due to the passage of time that one can exploit when



making biopics of figures such as Napoleon or Moses. Joe Meek's story was told in 2009's *Telstar* [Aspiration Films MP986D/VFD36198 DVD], but the reality was so bizarre that this pioneering producer's biography needs no embellishment. This earned unanimous raves, though I still think he's no Phil Spector.

What has emerged over the past 25 years or so are some terrific 'imaginary' rock histories, usually thinly-disguised tellings of actual artists' lives. The fun is figuring out whose story is being retold, the definitive example being the aforementioned *This Is Spinal Tap*, which is available in numerous editions, perhaps the best of which is the 2009 Blu-ray [MGM/Studio Canal Blu-ray M113252].

CLOSE TO REALITY

Although a fictional band, Spinal Tap's adventures were amusingly close to reality. For the last 30-plus years, heavy metal bands have been swearing blind that they inspired such-and-such a scene. Whatever the truth, this film is part of a tradition that encompasses every fictional band or performer, including The Monkees, whose two series are available as DVD box sets. In *The Monkees Season 1* [Rhino EM351359] and *Season 2* [Rhino EM351369], life imitated art and the band delivered a string of chart-topping pop classics.

Swallow your bile: Monkees albums were performed by The

Joe Meek's story was so bizarre it needed no embellishment'

Wrecking Crew – LA's finest studio musicians at the time – and the material was written by the likes of Goffin & King, Neil Diamond and others of that calibre.

If one didn't know that the band had been put together for a TV show, they'd have had the same credibility as any band that charted with compositions from the Brill Building. In many ways, then, they were no less genuine than most of Phil Spector's acts.

Shame on the Rock'n'Roll Hall of Fame for refusing them an honour.

Another case of an imaginary band that you wish had really existed is The Wonders, the group in Tom Hanks' sublime homage to all of those American bands that wanted to be The Beatles. *That Thing You Do!* [Fox 24543 86110 Blu-ray or 24543

ABOVE: *Telstar* (left) needed no creative interpretation of Joe Meek's life – he was genuinely odd; *That Thing You Do!* (right) evokes the garage bands in the USA during the 1960s as *American Graffiti* did the street rod scene

38164 DVD] captures, better than any film I've seen, the frenzy that followed the arrival of the British bands that made up the 'invasion' in the wake of The Beatles.

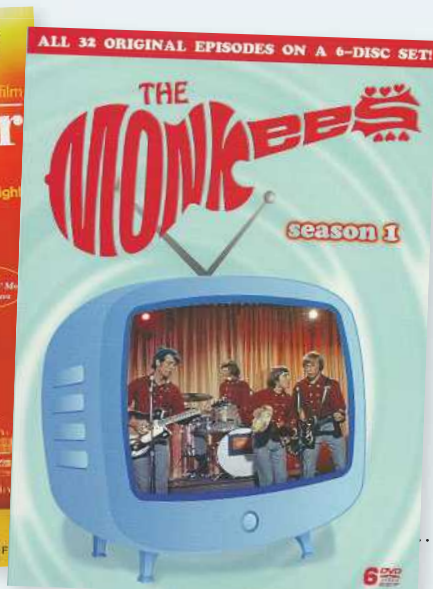
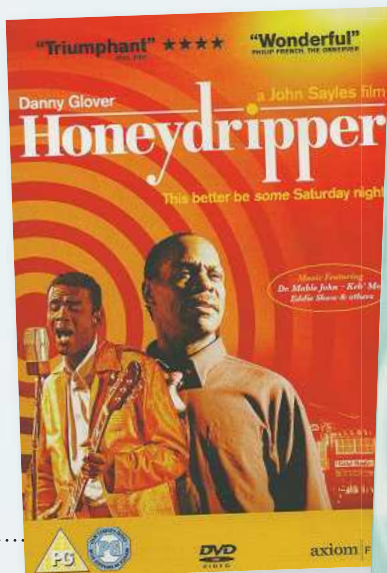
Other musical genres have been subjected to this technique, most recently the highly-acclaimed Coen Brothers' film, *Inside Llewyn Davis* [Sony 42859 Blu-ray]. Its story takes place during the years prior to Bob Dylan's breakthrough, recreating New York's Greenwich Village as it was in early 1961. Folk fans have had great fun identifying the elements culled from the singers of the day, with the smart money on Dave Van Ronk, Ramblin' Jack Elliott and Eric Von Schmidt.

Similar party games followed *Honeydripper* [Axiom Films AXM570 DVD], starring Danny Glover as the owner of a juke joint in the Deep South. He hires a blues legend to help drum up business, a singer who's an amalgam of a number of Delta bluesmen. Here the credibility is ramped up by a soundtrack featuring Mable John and Keb' Mo', and the last work by Ruth Brown.

ACT OF THE DAY

While *A Hard Day's Night* was not the first rock film to present a fictional, if semi-biographical story starring an act of the day – you have to go all the way back to the first talkie, *The Jazz Singer*, to denote where the genre started. This movie inspired most of the others made during 1964-1966.

While these films are, in the main, dated and corny, they have their moments, not least giving us a taste of what was happening during the early 1960s, when British acts ruled ➤



LEFT: The movie *Honeydripper* (left) is a must-see for fans of the blues and R&B, with a standout performance from Danny Glover while the two complete series of *The Monkees* TV show will surprise cynics, as the music is outstanding

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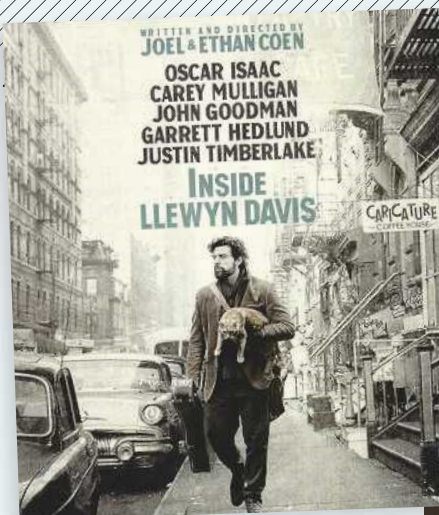
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the airwaves. Herman's Hermits actually made more than one.

Gerry & The Pacemakers (and you shouldn't need reminding that they were huge 50 years ago) produced *Ferry Cross The Mersey* [ATI Tapes 55163 00275] in 1965, 'portraying themselves in a romp through the early 1960s Liverpool Beat Scene'. It featured nine songs, including the title smash, and support included Cilla Black and The Fourmost.

A WILD WEEKEND

The Dave Clark Five's *Catch Us If You Can* [Studiocanal OPTD0898] marked the debut of no less a director than John Boorman. It's actually a decent movie without the rock cred. Unlike The Beatles, who played themselves as a band, here the boys are stuntmen 'who decide to quit the rat-race for one wild weekend on an island'. Renamed *Having A Wild Weekend* for the US market, the Yanks' DVD [Warner Archive 83316 61691] is offered in widescreen rather than 4:3.

Perhaps the most vivid film about that era but not filmed during that period is *Quadrophenia* [Criterion Collection 624 Blu-ray]. Love it or hate it – and I have to say the anachronisms drove me as crazy as James Stewart's Glenn Miller did to my old man – the film is engaging and musically magnificent. (It's also less messy than its cousin film, *Tommy*.) The new edition from Criterion is adjudged to be the best yet, having been approved by the director, Franc Roddam.

Unsurprisingly, there's an entire genre to be covered of musicians-as-actors – Sting in *Dune*, Ringo Starr in *Caveman*, *Candy* and others, all of Elvis's movies – but most should have stuck to their day jobs. David Bowie is a notable exception, but



ABOVE: If wracking your brains for trivia is a personal pleasure, *Inside Llewyn Davies* will have you guessing which bits of this fictional folksinger came from which real-life troubadours

BELOW: Three period pieces showing the acting chops of (l-r) Gerry & The Pacemakers, The Dave Clark Five and Ringo Starr

let's not stray too far. At least Ringo's appearance in the delightful 1969 satire, *The Magic Christian* [Universal 824 236 8 DVD and Olive Films OF666 Blu-ray] includes Peter Sellers and a decent musical score.

There's no music at all in the cult road movie *Two-Lane Blacktop* [Eureka EKA70044

Blu-ray], but it starred no less than James Taylor and Beach Boy Dennis Wilson in their first acting roles. It's a worthy classic, to be filed alongside John Lennon's non-singing debut in *How I Won The War* (MGM 10001159MZ1 DVD), and David Bowie's *The Man Who Fell To Earth*.

It's been all good news for Beatles fans who love films, save for

one gap: *Let It Be*. As every Beatle movie's anniversary occurred, remastered, hopefully definitive versions appeared. If and when *Let It Be* will be released in a commercial form remains to be seen: it is not enjoyable watching the greatest rock band of all time as

it disintegrates.

According to a number of sources, the film is unlikely to be re-released during Paul McCartney's and Ringo Starr's lifetimes. Which

leaves us with four treasures and countless offshoots...

I'm not sure if *Magical Mystery Tour*, the final word being the 2012 Blu-ray box set [Apple 099940 490892], is a masterpiece or a

'Perhaps the most vivid film about the '60s is *Quadrophenia*'



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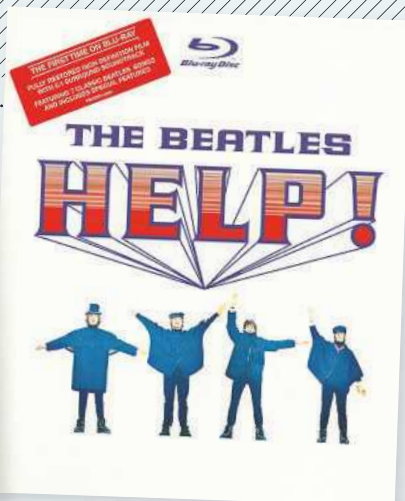
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mess, but it is an essential part of the lore. Less questionable is *Yellow Submarine* [Apple 50999621 46098 Blu-ray], which is, by any measure, a visually stunning, innovative animated feature that hasn't dated despite its utter hippie-ness. For both of these films, the music transcends any criticism, so further comment is gratuitous.

Less easy to dismiss or praise is *Help!*, also released as an overkill box set but a much better buy is the single-disc Blu-ray [Apple 0602537 415861]. Very much of the 'Swingin' '60s' and with The Beatles playing themselves, albeit the band element being secondary to the 'zany' plot, it is a heady reminder of the success of this group, with music recorded at the peak of Beatlemania.

WIT AND CHARM

Still, the highpoint of The Beatles on-screen legacy will always be *A Hard Day's Night*. At least, we have it on Blu-ray, but there are two from which to choose. Remastered in 4K, with Giles Martin – George's son – taking care of the multichannel, mono and stereo sound options, the single-disc UK Blu-ray [Second Sight 2NDBR4035] and the Criterion Collection's three-disc affair [Criterion Collection 711 DVD and Blu-ray] should, in theory, look and sound the same, but the latter seems to have the edge. Criterion provides more extras and a stunning booklet, making the UK version seem a bit mean.

Whichever you choose, this film is as much a document of The Beatles circa-1964 as it is an intriguing work of semi-fiction. It is

a glorious reminder of the wit and charm of the group, which – when combined with pop/rock music that may never be equalled – portrayed them as four lovable mop-tops who would take over the pop scene.

As a film, it is a genuinely noteworthy example of *verité*, it is entertaining and it is engaging, as well as hugely influential. Purely as a promotional vehicle, there has never been anything more effective in

launching a band in a new territory: the world.

So massive were The Beatles that they in turn launched other fictional films. As a 'mockumentary',

The Rutles was as utterly delicious and hilarious as *This Is Spinal Tap*, a knowing and affectionate spoof to delight Beatles fans, who marvelled at its barbs. The film has been completely remastered and augmented with extras to create *The Rutles Anthology* [VSC BRO2027-0 Blu-ray], complete with artwork that parodies *The Beatles Anthology*. And it's still hilarious.

'The Rutles was as delicious and hilarious as This Is Spinal Tap'



INVESTIGATION



TOP LEFT: A perfect fictional evocation of Beatlemania (left), alongside the band's second feature film, *Help!*

ABOVE & RIGHT: A scene from *A Hard Day's Night*, John Lennon being cheeky with the dancers, and the sleeve of the UK Blu-ray

BELOW: George Harrison was involved with *The Rutles*, a Pythonesque retelling of The Beatles saga



For me, the last word in rock-inspired fiction doesn't even feature the band it honours. *I Wanna Hold Your Hand* [Universal 25438 DVD] takes place on the night in 1964 when The Beatles were to have their first appearance on *The Ed Sullivan Show*, which would introduce them to the USA.

It involves six girls from New Jersey, desperate to meet their heroes. The misadventures are classic teen flick fare, but The Beatles element moves it up a level.

START OF A CAREER

Executive produced by Stephen Spielberg and directed by the great Robert Zemeckis, it was the latter's debut film and the start of a career that would include *Back To The Future*. This film also includes 17 songs performed by The Beatles, rather than cover versions.

Along with *That Thing You Do!*, it is one of the most entertaining rock-related films a Baby Boomer could hope to see. Maybe one day, I'll tell you about Louis Prima and *Big Night*... ☺

Rega RP10/RB2000/Apheta 2

Heading the current range and usurping the old P9 flagship, Rega's RP10 now comes with the newly-updated Apheta 2 moving-coil. Is this another winning combination?

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

To mark its 40th anniversary, back in 2013, Rega put out a colourful limited-edition turntable called the RP40. A more significant act of celebration, perhaps, was the unveiling of the Naiad, a final version of the no-holds-barred development test-bed in which Rega founder Roy Gandy's design philosophies had been pursued to new levels without budgetary constraints.

This development work had already borne fruit in a whole new range of turntables culminating in the RP8 [*HFN* May '14] and the RP10. In fact the £2998 RP10 itself first appeared in that anniversary year of 2013, but it now also comes, as reviewed here, factory-fitted with the revised Apheta 2 moving-coil cartridge [see boxout, p31]. Although the cartridge normally costs £998, the RP10/Apheta 2 package is yours for £3698.

EVOLVING TECHNOLOGIES

Most obvious of the Naiad innovations is Rega's Double Brace technology. Rega has always contended that the turntable plinth needs to be as light as possible but also as rigid as possible and that rigidity is really needed between the turntable spindle and the arm. In the Naiad, this is achieved in the extreme by a carbon-fibre chassis member sandwiched by ceramic brace pieces that connect the turntable's main bearing to the arm mount. This technique has been adapted, with less costly materials, on all current Rega turntables except the entry-level RP1.

Rega plinths, from the Planar 2 and Planar 3 on, had used a stressed-skin structure, made from two sheets of phenolic resin with a light particle-board or fibre-board sandwiched between them. Then in the mid-'90s, for the Planar 9 flagship, Rega came up with a special plinth that looked

little different from the outside, but which had as much as possible of the particle-board core cut away, leaving just the essential skeletal shape.

Rega's first production model to incorporate a Double Brace was the budget RP3 [*HFN* Oct '11]. Because the phenolic resin brace pieces provided rigidity in the crucial area, the plinth itself could now simply be made from a piece of low-cost furniture board, rather than using the sandwich construction. For the RP8 and RP10, Rega went much further in making the plinth lighter, with a completely new composite construction.

This again derived from work done on the Naiad prototype [see interview, p33]. Instead of a conventional plinth, there is a skeletal chassis fitted with a Double Brace and constructed with a core of hard but very light closed-cell nitrogen-expanded polyolefin foam between two skins of phenolic resin.

Surrounding the skeletal chassis, but not touching it, is an outer frame made from the same composite material. This frame does not contribute to the functioning of the turntable, which can be used

perfectly well without it, but it supports the usual Rega hinged dustcover.

TOP OF THE RANGE TONEARM

Although the RP10's chassis is the same as the RP8's, the RP10 comes with Rega's current top tonearm, the RB2000, replacing the RB1000 [*HFN* Jun '10], introduced in 2002. Rega's original RB300 was way ahead of its time when launched in 1983, with the now-famous one-piece silicon-aluminium die-cast armtube. Production of this long, thin-walled and complex part was a challenge, and it took a very special collaboration with a leading die-casting company to achieve it. But technology moved on, and modern 3D CAD/CAM techniques made it possible to further refine the design.

From the outside, you might not notice the difference unless you saw the old and new arm tubes side by side, but there's now a better blending of the curves in the

RIGHT: Based on the same skeletal chassis as the RP8, the RP10 turntable comes with Rega's top-of-the-line RB2000 arm and, optionally, the Apheta 2 cartridge





shape, internally and externally, improving the arm's resonant behaviour [see Lab Report, p35]. Although the overall mass has remained the same, there has been an 'intelligent redistribution of mass', which makes the back end slightly heavier and the headshell end slightly lighter, with the aim of further reducing stresses and resonances. The RB2000 arm tube casting is highly polished, with no paint or coating.

Having progressed towards an ultra-light chassis for the turntables, it was important also to reduce the mass of the arm. So a new low-mass assembly was introduced to house the vertical bearing. A high-quality, low-capacitance arm lead is used and the arm is wired in one continuous run from cartridge tags to phono plugs.

Ceramic platters have been a feature of Rega's flagship turntables since the introduction of the Planar 9 (1995). As Roy Gandy puts it, 'Adding engineering philosophy to listening experience, I find that the harder and stiffer the platter

material, the less character it puts into the music. This is a big step up from glass.'

To understand this, says Roy, imagine what would happen if the platter were made of some extremely soft material. While the drive system tried to keep the outside of the platter running at constant speed, the centre would tend to get left behind, then catch up, then get left behind again. With the Planar 9, and the

P9 that succeeded it, the ceramic platter was shaped to give a flywheel effect, being relatively thin at the centre and with a thicker rim. Underneath, the P9 platter had a flat surface from the centre

to the inner side of the rim, where there was a fairly sharp angle.

This sharp transition has now been blended out with a parabolic curve, so that the thickness of the platter varies constantly from the point where it sits on the sub-platter right out to the inner edge of the flywheel-effect rim. This avoids creating a nodal point about which a

"The harder the material, the less character it puts into the music"

ABOVE: A subtly revised ceramic platter is topped with an all-wool white mat, while the decoupled outer plinth frame also provides a base for Rega's hinged dustcover

resonance could be set up. Matching the ceramic in white, the platter mat is 100% wool and, as usual with Rega, there is no provision for record clamping.

SOPHISTICATED NEW PSU

In the Rega turntable range, power supply options are a logical feature. The lower-cost models come with a simple plug-top mains adapter, but you can upgrade later by adding the more sophisticated TTPSU. This offers electronic speed switching for 33.3 and 45rpm, and comes as standard with the RP6 and RP8. With the RP10, though, you get the most sophisticated Rega power supply yet.

The RP10's custom power supply is built around a high-stability crystal oscillator and a new DSP control system which can generate a 'near perfect' sinusoidal waveform to drive the motor. Factory-set vibration and speed adjustments are then made to the power supply to tune the motor for optimum performance.

With little assembly to do, and the cartridge ready fitted, installation is easy. The turntable itself arrives essentially complete and with its two belts in place, so you just have to remove the cardboard spacer that supports the sub-platter in transit, then unpack the platter and put it on. Setting up the arm is straightforward, as you merely have to screw on the counterweight, and balance the arm with the tracking force dial set to zero before dialling in a downforce of 1.8g to 2g, and checking that the pull-out anti-skate device is set appropriately. There is no provision for height adjustment. But you could raise the arm to accommodate deeper-bodied

APHETA REFRESH

Introduced back in 2005, Rega's original Apheta [HFN Aug '08 and Oct '14] embodied a design approach that differed fundamentally from every other moving-coil cartridge on the market. For the Apheta 2, the operating principle, and the tried-and-tested Namiki Vital stylus, remains the same, but the generator system has been completely revised, with the iron cross-shaped former on which the coils are wound being reduced in size by 50%. The significant reduction in moving mass is said to allow 'even more detail' to be extracted from the vinyl. The Apheta's one-piece anodised aluminium body has also been redesigned and is now completed by a clear moulded cover, replacing the flat plastic pieces used before. Looking in through the side, you can see that the magnet assembly, which is threaded into the chassis to give optimum rigidity while allowing for very precise adjustment during assembly, is now much smaller and neater than before.





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TURNTABLE



ABOVE: Along with many other design refinements, the all-metal RB2000 includes a new, stronger and lighter housing for the vertical bearing and comes with a tungsten counterweight

cartridges by adding Rega arm height spacers to the mounting. These come in the form of stackable 2mm-thick three-point stainless steel shims.



MAGICAL TIMING

To describe the sound of the RP10 combination, I could start by trying to characterise the bass, midrange and treble. But actually, it's impossible not to begin by mentioning the sheer vitality that this player brings to the music. Given a well-crafted modern studio recording, the RP10/Apheta 2 combination could demonstrate an almost magical combination of inner detail and timing.

Pure Pleasure's excellent audiophile vinyl reissue of Eric Bibb's 2003 album *Natural Light* [PPAN018] was a great example. On a track like 'Guru Man Blues' Bibb's fine rhythm section seemed to have got things cranked up to a new level of precision and urgency, with a truly solid and stable bass matched by natural-sounding snare and cymbals. With the more straightforwardly acoustic track 'Champagne Habits' there was great natural ambience around Bibb's vocal while the acoustic guitar with its ringing high notes was tangible and totally convincing within the soundstage. Here the tonal balance was sweet and natural, and never over-bright.

Then, of course, I had to play Rega's own Christine Collister album, *Love* [Rega ENS 002], which was recorded ten years ago by Roy Gandy and Gary Bennett on a

Studer 80 analogue tape machine that fed a custom mixing console built by Rega's electronics design wizard Terry Bateman. Here I felt that the textures and timbres of Collister's voice were presented so effortlessly that you could imagine yourself present at the recording session itself.

It also somehow filled me with renewed admiration for Gary Bennett's guitar work, from his crisp and perfect chord accompaniments to the restrained little electric obbligato he plays behind the singer on 'I've Got You Under My Skin'. On the same track the bowed double-bass of Rory McFarlane was simply excellent, woody and full-bodied with a kind of rock-like stability that made it very realistic.

The RP10/Apheta 2 seemed well

equipped to deal with classical orchestral music too. To start with, I pulled out an old faithful, Barenboim's 1967 recording of the Mozart Piano Concerto K467, with the English Chamber Orchestra [EMI

ASD 2465]. In my review of the Rega P9 turntable fitted with the original Apheta cartridge [*HFN* Aug '08], I'd suggested that this recording, with its sometimes too-piercing string sound, could benefit from the treble cut provided by the notch filter on the Rega Ios phono stage.

But this didn't apply in the case of the RP10 and Apheta 2 as, this time, the strings were vivid-sounding but not too edgy or overbright, and the recording sounded fundamentally well balanced. At the start I could have easily believed too that the music was being played faster than the ➔

'The tonal balance was sweet and natural, but never over-bright'

PHIL FREEMAN

With Rega now for 35 years, engineer and company co-ordinator Phil Freeman worked closely with founder Roy Gandy to develop the no-holds-barred prototype turntable that became the Naiad. He explains how this work fed into the RP8/RP10 plinth system:

'We'd been using carbon/foam composites but they were Rohacell-type foams and true carbon-fibre plates, and the manufacturing processes were just too expensive. Then we achieved a prototype using PU foam/phenolic resin laminates, really quite quickly. It just walked over an old P9.

'But the PU foam was not suitable to sell to consumers because it wasn't UV-stable. It took the thick end of a year to source a special foam, and then it needed a specific adhesive process to bond the resin sheet to the foam. Then, we were producing nearly 100 plinths a month. But the demand was 400!'

So at that point you were ready to launch the RP10, but were still trying to meet demand for the RP8?

'Yes, and to some degree we're still in that position today, for though we've finished the range that became RP1, RP3, RP6, 8 and 10, we have a whole new range that we want to get to production. We're having to constantly develop the factory, and our workforce and our suppliers, to cope with current demand, and that is slowing the release of further new turntables.

'We can't say what they are or when it will be, but we certainly don't want to rest on our laurels. We feel we've got more to give!'



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TURNTABLE



ABOVE: Side view with outer frame removed reveals the foam/phenolic construction of the chassis, and shows the arm lead, directly exiting below the arm itself

last time I'd heard it, although this was clearly not the case, because the turntable was rotating at the correct speed. A rudimentary check with a strobe disc showed virtually no speed error [see Lab Report].

I think that this momentary subjective effect was due to the level of detail being recovered as well as the outstanding rhythmic quality of the deck. The bass parts which give a foundation to the music were revealed distinctly and unambiguously, with a real presence and conviction.

INKY-BLACK BACKGROUND

It was also fascinating to hear the detail in the piano sound. Even on a quick descending run, you felt you could still hear clearly the dampers operating on each note.

With Livia Rev's late '70s *Debussy Piano Music Volume III* [Saga 5463] the RP10 did a great job of resolving the reverberant sound so that the power and subtlety of the music could emerge. Even in the almost overwhelming climax of 'L'Isle Joyeux' the Rega combination remained fully in control.

Turning to a long-standing audiophile favourite, *Muddy Waters: Folk Singer* [Discovery HDR 1001], I remembered how I'd been impressed by the RP8's rendition. But the superiority here was obvious, with an absolutely tangible Muddy really hitting home with his songs. It was almost as if the turntable was making you listen afresh to those familiar words, the meaning seeming to emerge with a new clarity.

On a classic track like 'Long Distance' the spell of the performance would last until it closed magnificently with a guitar coda and the final flourish on the drums. Then, on tracks where the rhythm section lays out, I would be

utterly captivated by the percussive sounds as Muddy tapped on the body of his guitar.

Returning to orchestral music, I indulged in the rather nostalgic attractions of Sir Charles Mackerras's arrangements of Sir Arthur Sullivan's music in his *Pineapple Poll* ballet, with the RPO conducted by Mackerras himself (EMI, 1962): one of the first of Hi-Q's series of audiophile classical reissues [HIQLP001]. Here the RP10 gave a well set-out stereo image behind and around the speakers with a fine quality of lightness and space, and with a quickness that really brought life to the instruments.

Both the basses and timpani had great authority and attack, so that even though they are judiciously set fairly far back in the stereo stage, they really drove the music along joyfully in the Finale of Scene 1. By contrast, 'Poll's solo' had woodwinds, strings and brass all emerging beautifully from an inky-black background that once again seemed to pay tribute to the sheer stability and resolving ability of this turntable and cartridge. ☺

HI-FI NEWS VERDICT

Predictable as it may be, the conclusion is that Rega has yet again offered an advance on what went before, with a combination that excels in Rega's traditional strong suits of pace and vitality, and in other aspects too. The Apheta 2 cartridge has improved on its predecessor, and you save nearly a third of its cost if you go for the complete player. This could cost a lot more and still be an enticing package.

Sound Quality: 86%

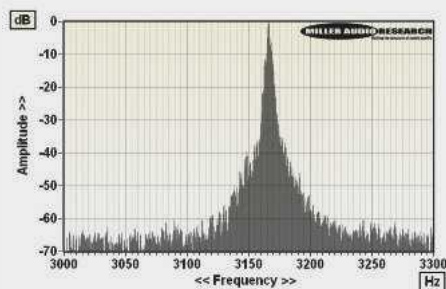


LAB REPORT

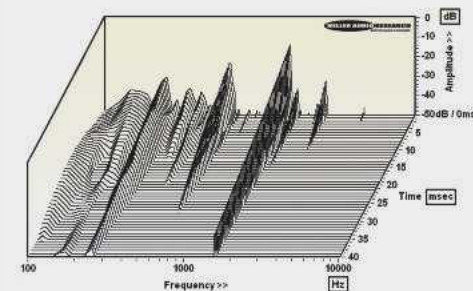
REGA RP10/RB2000

There's insufficient room for a report on Rega's Apheta 2 pick-up, so I'll focus on the RP10 and RB2000 here. Frankly, the RP10 is not only the best Rega deck I've tested but one of the best bar none, irrespective of price. Through-groove rumble is a little better than the RP8 [*HFN* May '14], but at -69.9dB is already at the limit for vinyl noise anyway. The through-bearing rumble tells its own story, however, as the hand-tuned 24V twin-phase synchronous motor, dual-belt drive and precision-cut ceramic platter clearly place little undue loading on this part – a figure of just -73.7dB is 3dB ahead of the RP8 and right up there with the big beasts of the high-end jungle. Wow and flutter is similarly low, the 0.05% peak-weighted total a feature of the platter's concentricity and freedom from cogging/vibration via the motor [see Graph 1]. The (slightly fast) +0.4% absolute speed accuracy is typical of all Rega decks fresh from the box.

The RB2000 tonearm, with its redistributed mass and varying tapers, represents another leap forward. Effective mass is slightly reduced at 10g (from 11g) and friction minimal at <10mg in both planes, but instead of one principal beam mode, its resonant behaviour shows a remarkable reduction in stored LF energy [see cumulative modal decay plot, Graph 2]. The main beam mode is at a high 250Hz together with a harmonic at 650Hz, as seen with the RB1000 [see *HFN* Jun '10] but is far better damped here. The high-Q (but mercifully very narrow bandwidth) mode at 1.6kHz is more obvious only by comparison. Readers may view full QC Suite reports for Rega's RP10 turntable and RB2000 tonearm by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ± 150 Hz, 5Hz per minor division). Low W&F but absolute speed is slightly high (fast)



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	33.46rpm (+0.37%)
Time to audible stabilisation	4sec
Peak Wow/Flutter	0.03% / 0.03%
Rumble (silent groove, DIN B wtd)	-69.9dB
Rumble (through bearing, DIN B wtd)	-73.7dB
Hum & Noise (unwtd, rel. to 5cm/sec)	-63.3dB
Power Consumption	6W
Dimensions (WHD)	450x120x365mm

Wilson Audio Sabrina

Wilson Audio's latest single-piece loudspeaker fills the gap between Duette and Sophia, and it's a stunner!

Review: **Ken Kessler** Lab: **Keith Howard**

Wilson Audio has a serious problem: the all-new Sabrina, although far from budget-priced at £15k per pair, screams 'bargain' so loudly that every model the company sells for below £35k is under threat. Everyone who heard the Sabrinas at a closed-door event at the recent Munich High End Show [see p18] was astonished, and the *coupe de foudre* we all felt proved accurately prophetic when I got to hear the speaker again on my own. It was no fluke, no case of venue or occasion colouring the initial reaction. We knew we were in the presence of a game-changer, a milestone, but time spent alone with it was a revelation.

To create this little miracle – one I suspect will in future be regarded as highly as other bottom of the price-list gems like Audio Research's D70 or the Krell KSA-50 – *père-et-fils* Dave and Daryl Wilson looked backward to the original WATT/Puppy, as well as to the current Alexandria XLF [HFN Oct '12]. Just as the former massacred speakers of twice the dimensions, the Sabrina had to do the same – even the size is similar to its forebear's. As for the XLF influence, the new baby had to exhibit exceptional time-alignment, despite employing an enclosure lacking the tuning capability of designs using two or more adjustable sections.

SLEEK SCULPTURE

The Sabrina's sleek, angular form breaks away from the parallel-sided, wooden or black boxes so loathed by the house-proud. This is, therefore, wholly modern, functional sculpture. Unlike its larger, modular siblings, it is more eye-friendly and not 'busy'-looking like an XLF. Because all Wilson cabinets are made with proprietary materials, the finishes provide the option to choose the colour of what will invade a room despite its relatively diminutive size. That's how it is these days with speakers larger than a small loaf, and so the Sabrina

is offered in three standard gloss colours, including silver, grey and black, with white and red as available extras.

In keeping with Wilson tradition, the Sabrina's cabinet is hand-assembled in Provo, Utah, where the 'X-material' panels are glued with proprietary adhesives. Once constructed, each enclosure is hand-sanded, gel-coated and painted with multiple layers of automotive-grade paint in Wilson's bespoke booth.

THE HIGHEST STANDARDS

Anyone familiar with Wilson speakers knows they're among the best-finished on the market. Having visited the factory a couple of times, I've seen where your money goes: each is inspected, then polished and buffed to standards that are the same from

Duette [HFN Apr '14] up to XLF. (Such is the paint quality, one local luxury car dealer admitted it beat his own body shop's capabilities.)

Lest one imagine that the Sabrina is a

Sophia squeezed into a more compact enclosure, do recall that the Sophia's driver array consists of a 10in aluminium cone woofer, a 7in cellulose/paper pulp mid and a 1in inverted titanium dome tweeter [HFN Oct '10]. It is effectively a one-piece, mini-Sasha [HFN Jun '14] and one of my all-time fave speakers, period.

For the new baby, Wilson's designers fitted an 8in paper cone woofer from the Alexia [HFN Mar '13] modified specifically for use in this enclosure, a 5¾in paper pulp mid and the company's proprietary 1in doped-silk dome Convergent Synergy Tweeter.

In many ways, then, it's more like a scaled-down Alexia than a cut-down

RIGHT: Photos, especially *sans* grilles, do not do justice to the gorgeous looks of the Sabrina when *in situ*; driver complement includes same tweeter as the mighty Alexia



CHIP OFF THE BLOCK

When Wilson starts with a clean sheet, the results often stupefy. Because there was a big enough gap between the Sophia and Duette, and because the latter isn't a floorstander so much as a solution for those who want Wilsons on a shelf or stand, the company had to come up with a new entry-level model. Moreover, the Sophia's price of £18k has crept up enough to leave a hole to fill, and the Sabrina is the result. One other crucial consideration: Wilson long ago abandoned the notion that sound quality was enough and that a manufacturer could get away with ugly speakers if the performance was exceptional. The Sabrina isn't merely domestically acceptable, it's downright gorgeous. With son Daryl hitting his stride, boding well for the second generation of the clan, the voicing is reminiscent of the Sophia and Alexia, on which he worked alongside dad Dave. All the Wilson virtues – detail, dynamics, soundstaging of truly 3D character – remain, but with a newfound ease and accessibility. Dave, you trained him well.

Sophia – which explains why I fell in love with the Sabrina within 20 seconds of my initial exposure: I've been an Alexia user since shortly after they appeared.

The Alexia, however, is emblematic of Wilsons using adjustable driver modules, which exist, in their words, 'to provide unprecedented control over time-alignment in a large variety of listening environments.' The company adds, however, that, 'in a single cabinet speaker such as the Sabrina, the concept is still valid, as the sloping front baffle of the loudspeaker has been optimised for correct driver time alignment in the typical room.'

The crossover is also integral to this alignment and with each hand-built to match the reference network within a tolerance of $\pm 0.2\%$.



SIMPLY REAL

There was no point in ignoring the near-Apogee-like impedance dip that

precludes valve amps [see Lab

Report, p39]. So listening was undertaken with Constellation's 300W Centaur Stereo and the Inspiration One Preamp [HFN Jul

'15] driven by Metronome's C8+ DAC and T6 transport, with all wiring courtesy of Transparent. Note that the positioning involved a toe-in that formed an equilateral triangle, the baffles facing directly toward the hot seat.

Starting with a burned-to-CD transfer of Otis Redding's '(Sitting On The) Dock Of The Bay', the first thing that struck me – something which will always be the primary concern of those who might be downsizing – was the bass. Remember, I had already faced a pair of Sabrinas and there was no surprise left in the convincing and massive scale (which I will get to shortly). What I hadn't noticed before was the absolute control of the lower registers or, especially, the dryness.

Is that a virtue? For me, yes, as I hate soggy, 'flubby' lower registers, as much as I loathe over-damped bass, wherein a speaker makes all bass material sound like the products of a synthesiser. It was the drumming – the magnificent Al Jackson – that sounded so utterly real, with proper decay, which immediately rendered Sabrina's size a non-concern.

Weight, impact, tautness where needed... I do get it when a hard-core fan of paper woofers pooh-poohs polypropylene. Allied to the scale, this impeccably behaved, bottomless bass turns the Sabrina into something inexplicable, like a suitcase that never seems to fill, no matter what you stuff into it. This is a Mini pretending – successfully – that it's a 7-Series BMW.

For this song, scale might not seem that important, but when the brass section swells, you appreciate that intimacy can be preserved even when the performance involves more than a duo or trio. The way that these Sabrinas merged any three-dimensional aspects with tonal realism ➤



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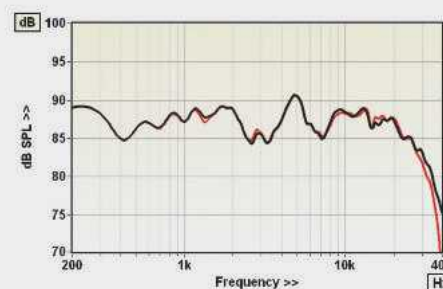
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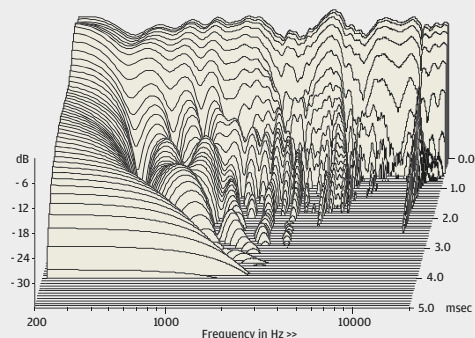
WILSON AUDIO SABRINA

Wilson Audio claims 87dB SPL sensitivity for the Sabrina at 1kHz. Our broadband pink noise figure of 87.6dB suggests that this is, if anything, slightly conservative. Nominal impedance is quoted as 4ohm with a specified 2.53ohm minimum at 139Hz. Setting aside the unrealistic accuracy of the latter figure (we measured a minimum modulus of 2.4ohm at 146Hz), it indicates that 3ohm would actually be a more representative nominal value. Impedance phase angles are quite large at low frequencies which, combined with the low modulus, drops the minimum EPDR (equivalent peak dissipation resistance) to a challenging 1.1ohm at 89Hz, indicating that the Sabrina is a notably difficult load to drive and which demands an amplifier capable of high current delivery.

The forward frequency responses, measured at tweeter height with the grilles removed [Graph 1, below], indicate a flat overall trend but the unevenness is sufficient for the response errors to be ± 3.2 dB and ± 3.1 dB respectively for the review pair (200Hz–20kHz) – fair but not exceptional figures. Over the same frequency range pair matching was very good at a tight ± 0.8 dB. Our diffraction-corrected nearfield bass measurement recorded the bass extension as 55Hz (–6dB re. 200Hz) – a typical result for a modern floorstander of this size. At the other end of the spectrum the output of the soft-dome tweeter begins to fall away only just above 20kHz and is –6dB by about 30kHz (re. 10kHz). The cumulative spectral decay waterfall [Graph 2, below] shows fast initial energy decay over much of the spectrum but a number of low-level resonances are visible as ridges through the treble. KH



ABOVE: Pair matching is good although the forward response is uneven through presence/lower treble



ABOVE: Cabinet shows quick energy decay but there are resonances coincident with the uneven response

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	87.7dB/87.6dB/87.6dB
Impedance modulus min/max (20Hz–20kHz)	2.4ohm @ 146Hz 20.1ohm @ 20Hz
Impedance phase min/max (20Hz–20kHz)	–64° @ 68Hz 32° @ 253Hz
Pair matching (200Hz–20kHz)	± 0.8 dB
LF/HF extension (–6dB ref 200Hz/10kHz)	54Hz / 31.0kHz/29.0kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.3% / 0.3% / 0.3%
Dimensions (HWD)	965x305x386mm

LEFT: Rear view shows that Wilson remains committed to single-wiring-only connections, not bowing to bi-wiring or bi-amping. Note separate, dedicated 'ports' for bass and mid/treble sections

Angie Stone's cover of 'You Will Know' for the Stevie Wonder tribute, *Conception* [Motown MOTW-33401-2/038 579-2]. Again, the percussion was the element that grabbed the ear, but the track also has a unique atmosphere, a fluidity that contrasts with the crispness of the drumming. The vocals – so natural and real as to defy belief – hovered without seeming disembodied because the Sabrina recreates both the ambience and the spatial specifics.

ALL IN THE NAME

Suddenly, the Sabrina seemed to resemble the result of a dirty weekend between a BBC LS3/5A and an Alexia: the pinpoint precision, the vocal authenticity of the former speaker with the sheer command and scale of the latter. Believe me, no LS3/5A was ever accused of command or scale beyond miniature facsimiles of both. But here was that LS3/5A magic, on steroids!

If it turns out that the Wilsons named its Sabrina after the eponymous 1954 romantic comedy starring the inimitable Audrey Hepburn, it would be far more apt than anyone besides a cineaste might appreciate. Should you not know the film, *this* Sabrina is just like that much-missed actress: elfin, delicate, refined and charming, but with inner strength. Here's hoping the Wilsons never watch anything with Roseanne Barr. ☺

HI-FI NEWS VERDICT

Sometimes, you *really* don't have to look a gift horse in the mouth: the Sabrina is the best-value Wilson speaker ever – and I've heard all of 'em since the first WATT. It sounds as 'big' as a speaker double its height and there isn't a trace of compression when blasting loudly. Indeed, it's so startlingly good that I almost considered swapping the Alexias for this more 'small room-friendly' alternative. It's truly sublime.

Sound Quality: 88%

0 - - - - - 100

ensured that the experience was as fresh as at any point since it was first heard 48 years ago.

Deferring to mono, The Cardinals' 'The Door Is Still Open' and 'Shouldn't I Know' [Collectibles COL9977] demonstrated the Sabrina's capacity for focus. Considering that I have heard these over 100 times through the three-times-dearer Alexias – songs that continue to remind me of mono's validity – the smaller speakers' treatment of a central image exhibited the same enchanting qualities, truly Alexia-like in its ability to make the listener forget that the sound was in mono.

Then again, it was so rich and involving, it could possess nothing other than an ability to transport the listener. The peerless vocals were so grand, so in-the-room that I was staggered by the realisation that these recordings were 60 years old. From 2003, however, came

Classé Sigma SSP/AMP2

Now that high-efficiency amps, ranging from Class D, Arcam's Class G or Benchmark's Class H, are winning the hearts and minds of audiophiles, Classé is joining the party
 Review: **Steve Harris** Lab: **Paul Miller**

Paired with the 200W per channel, £2950, Sigma AMP2 power amplifier is the £4250 Sigma SSP preamp/processor, which, says Classé, is 'optimised for stereo' despite its multichannel functionality.

Classé's name springs from the fact that its first product, back in 1980, was a pure Class A stereo amplifier. Today the Canadian company's main focus is on AV, but surprisingly perhaps, it has only quite recently launched its first Class D power amplifier. This is the CA-D200, in Classé's now long-established curve-fronted Delta Series casework. Internally pretty well identical, the Sigma AMP2 here comes in a more conventional enclosure, and so is less expensive to build.

DIGITAL CLASS D

'We chose to exploit our cost advantage as part of the B&W Group to fill the void between the mass market and high-end with some exceptional new products,' says company president Dave Nauber. Since 2011, although still designed in Montreal, Classé products have been assembled at the B&W factory in China.

Interestingly, Classé's Class D solution for the CA-D200/AMP2 appears to have more in common with the original 'digital' TacT Millennium of yore than with the 'current dumping' Class D Devialet amplifiers of today [see PM's boxout, p41]. Along with the Sigma AMP2 power amp, Classé also offers the Sigma AMP5, which squeezes five of these Class D amp modules into the same case. So if you're building a 7.1 channel system around the Sigma SSP you'll need an AMP2 *plus* an AMP5.

As its acronym tells you, the Sigma SSP is not just a preamplifier, it's a surround-sound processor, offering HDMI switching, multichannel audio processing and bass management. It doesn't include any video signal processing, as this would add

significantly to its cost and is likely to be provided by your Blu-ray player anyway. Furthermore, even if it also lacks curves, the Sigma SSP perpetuates the other feature that has been a Classé hallmark since B&W relaunched the brand in the early 2000s: a touchscreen menu system.

Thanks to this, the SSP's fascia belies the product's complexity, with just a few essentials, including a ¼in headphone socket, a USB-A port (for connection of an iPad or iPhone for example) and an HDMI port.

To the right, a large flush-mounted volume control operates in half-dB steps, the volume setting displayed on the screen in type bold enough to see across a room. This is the main feature of the touchscreen's home page, which also shows the selected source and, where appropriate, the incoming sample rate.

Touching the screen from here takes you to the Source Selection page, displaying

all inputs that have already been enabled via the main menu. Actually, two pages are needed to display up to 18 possible sources. However, the physical Menu button to the left of the screen takes you to all the possible setup and configuration options in six sub-menus. The first of these, System Setup, leads firstly to Source

Setup, where you can enable and name each source (an alphanumeric keyboard appears for this) and choose the input connector associated with it.

One of the options specific to the analogue

source inputs is Digital Bypass, which will switch off all DSP functions such as Tone Control and Bass Management, leaving signals in the analogue domain, although of course they will effectively be digitised later by the AMP2 [see Lab Report, p43]. This is really just the start of the Sigma SSP's comprehensive menu system, which covers all the multichannel processor

'This pre/power takes big studio production effects in its stride'



RIGHT: Complete with its efficient switch mode PSU, the AMP2 is a genuinely *digital* Class D amplifier employing a pair of 384kHz modules configured in BTL mode



functions. Alongside System Setup you will find Configurations, Controls, Modes, Video Preview and Status, each taking you down to the next menu level for more options.

AND PHONO TOO

At the back of the SSP, there are seven HDMI inputs, an HDMI output and, more relevant to most two-channel users, coaxial and USB digital inputs. One of the two pairs of analogue inputs can be configured for MM/MC if you specify the optional phono stage. This adds £425 to the price but it can be retrofitted later, for a further charge of £195, which includes collection and return of the SSP in the UK. A set of eight RCA sockets provides enough analogue outputs for a full multichannel system but when used in two-channel mode, the 'Aux' RCAs can be set to mirror the main (front) left and right channels for bi-amping.

Also, instead of some monster myriad-buttoned remote, the SSP comes with a

small, slim, metal-cased handset with just 11 keys catering for all essential functions. Lastly, three assignable function keys can be programmed to access a specific action without having to scroll through the sources or configurations in the menu. For example, you can set a key to open the main menu without having to press the front-panel button.

If you want to operate your entire system conveniently using a single learning remote, you can go to the SSP's 'Teach IR' menu page, choose from a list of all available IR codes in the SSP and transmit them via the front-panel IR window.

BIG AND MAJESTIC

As for the listening, first impressions of this combination were of a clean and neutral sound, smooth and really free of any rough edges. Yet there was really plenty of detail when you listened for it. I had good results on hi-res material: for example running

ABOVE: The SSP's functions can be accessed via its touchscreen but the AMP2 has a moulded blanking plate in place of this. Rackmount 'ears' are created by reversing the sideplates

through the familiar Chesky 2013 sampler tracks, ranging from Patricia Barber's 'The Wind Song' to the Rimsky-Korsakov 'Dance of the Tumblers' from *The Snow Maiden*. Then I turned to CD, mainly using the SSP's coaxial inputs to access its internal DAC.

On some material, the Sigma combination could be almost surprisingly seductive. Listening to Myriam Alter's *Where Is There* [Enja 9312], beautifully recorded in a German studio in 2007, I was drawn in afresh by the lilting combination of jazzy cello, piano, and clarinet plus soprano sax, all the instruments sounding full-bodied and satisfying.

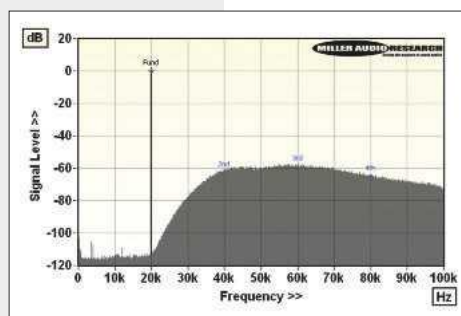
And I was impressed here by smaller details, as in the way the Sigma combination portrayed drummer Joey Baron's tremendous range of drum sounds, including brushed cymbals and many other subtle effects.

With Olivia Trummer's *Fly Now* [Contemplate CMN14005], though, the Sigma combination sometimes seemed

less inspiring, not fully putting over the most delicate nuances of Trummer's vocalising, especially when she sings against her own piano line. But it was convincing on 'All Is Well', her grooving duet ➔

PWM POWER

The quest for reduced power consumption starts with Classe's switch mode PSU which includes a TI-inspired Power Factor Correction (PFC) circuit – unifying the current demand from the mains supply. The amp is similarly 'green'. Analogue inputs are converted via a 48kHz ADC and the digital signal then upsampled by 8x (to 384kHz) before being truncated to – my guess – some 4-to-5-bits. This is used to modulate some 20+ discrete pulse widths (hence PWM) that describe the amplitude of the audio signal, sample by sample. But the reduced bit-size also creates a huge quantisation error, realised as an increase in noise, that's then 'shaped' in DSP away from the audioband out to ultrasonic frequencies. You can see this swell of noise beyond the 20kHz signal in the spectrum. It's also why Classe limits all its specs, including frequency response, to 20Hz-20kHz [Lab Report, p43]. PM



Box-Design by Pro-Ject



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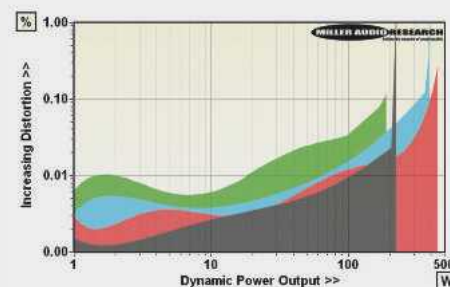
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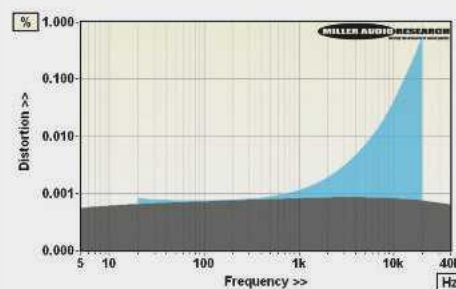
CLASSÉ SIGMA SSP/AMP2

Under the revised livery, the AMP2 clearly borrows from the earlier CA-D200 Class D amplifier – the first 384kHz-sampling PWM design from Classé and rated at the same 200W/8ohm (even the back panel layouts are identical). In practice, the AMP2 delivers 2x230W/8ohm and 2x445W/4ohm under continuous and dynamic conditions (this is a *digital* Class D amplifier, after all) with 390W and 185W available into 2 and 1ohm loads [the latter limited by protection, see Graph 1 below]. While the upsampling and noise-shaping operates up to 384kHz, the AMP2's inputs are initially sampled at 48kHz so the maximum realisable frequency response is little different from CD: peaking here at +3dB/21kHz/8ohm with a load-dependent treble amounting to +0.7dB/21kHz/4ohm and -3dB/21kHz/2ohm. The inductive filter network causes its output impedance to rise at HF from 0.02ohm/1kHz to 3ohm/21kHz, correlating with this loss in treble output and increase in distortion from 0.0008%/1kHz to 0.6%/20kHz [blue trace, Graph 2]. Noise-shaping is effective [see boxout, p41] but the A-wtd S/N is not spectacular at 83dB (re. 0dBW).

The partnering SSP processor offers ~16/17-bit 96dB and 99.5dB A-wtd S/N ratios via analogue/digital inputs (and a linearity error of -1.5dB at -90dBfs), all either sampled (or downsampled) to 96kHz within. So the response is limited to -5.9dB/45kHz (all inputs) and distortion – best case – just 0.0008% from 20Hz-20kHz. Jitter is ~250psec with 48kHz inputs. Readers may view extensive QC Suite test reports for the Classé SSP processor/preamp and AMP2 power amplifier 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 14A



ABOVE: THD versus extended frequency; SSP (1V out, black trace) and AMP2 (10W/8ohm, blue trace)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4/2/1ohm)	230W 445W
Dynamic power (<1% THD, 8/4/2/1ohm)	230W 445W 390W 185W
Output imp. (20Hz-20kHz, SSP/AMP2)	50ohm 0.014-2.5ohm
Freq. resp. (20Hz-20kHz, SSP/AMP2)	+0.0 to -0.3dB +0.00 to +2.9dB
Input sensitivity (for 0dBV/0dBW)	211mV 100mV (balanced)
A-wtd S/N ratio (for 0dBV/0dBW)	96.4dB (SSP) 82.8dB (AMP2)
Distortion (20Hz-20kHz, 1V/10W)	0.00055-0.0008%/0.0008-0.56%
Power consumption (Idle/Rated o/p)	34W 466W (SSP, 34W)
Dimensions (WHD) / Weight	432x95x370mm 12kg (each)



ABOVE: With balanced [XLR] and unbalanced connections on both units, the SSP has a plethora of inputs, including HDMI, coaxial and optical digital, USB and analogue. Numerous HDMI sockets and analogue outputs provide for multichannel operation

with electric guitarist Kurt Rosenwinkel, and commendably unflustered on the noisy climax of 'Precious Silence'.

I found the Sigma combination could sound impressive on a good modern live recording too. Stacey Kent's *Dreamer In Concert* [EMI 5099968093228] offered a stereo picture that was well laid out and presented the group members in clear perspective. Along with Jim Tomlinson's smooth-flowing saxophone, the Sigma amp seemed to highlight the sonorities of Graham Harvey's delightful Shearing-like piano work on 'They Can't Take That Away From Me'.

ROCK-STEADY PIANO

This pre/power could also take big studio production effects in its stride. On Eric Bibb's slickly-produced 2008 album *Get Onboard* [Telarc CD-83675] it gave you the full impact of the grinding guitars of the opening 'Spirit I Am', yet managed to delineate and separate the wild and woolly backing vocals in the midst of all that mayhem.

Yet with the classic Dylan rock recording, *Blood On The Tracks* [Columbia 512350 6], I had mixed feelings. On 'Simple Twist Of Fate', where the relatively gentle accompaniment ought to just help the storytelling along, the prominent acoustic guitar seemed a little too clangorous rather than ringing nicely. On the other hand, with 'You're a Big Girl Now' you could relax into the cunningly different guitar sounds and the rock-steady piano chords behind them.

With Jennifer Warnes' *Famous Blue Raincoat* [RTHCD 5052] I cranked up the volume a bit and sat in anticipation of the opening of

'First We Take Manhattan'. All those audiophile tinkly bits were there, and you could really appreciate the little licks thrown in by virtuoso drummer Vinnie Colaiuta, while the driving off-beat he creates there sounded as if it was coming from real drums, never becoming just a hard thump.

To see how the combination fared on orchestral music, I put on the old 1959 Heifetz recording of Mendelssohn's Violin Concerto with the Boston SO and Munch [JVC XRCJ JMXR-0010]. For the age of the recording there was quite a good sense of air around the orchestra, which appeared effectively laid out across the stage behind the soloist, although the double-basses could have been cleaner and clearer.

Heifetz and his violin were upfront as always but with a fuller and more well-rounded effect than is often the case with this recording, and truly gripping and convincing in the cadenza, where the Sigma pre/power faithfully reproduced the tiniest of string noises. ☺

HI-FI NEWS VERDICT

This combination sounded fine, well-balanced and precisely detailed when playing hi-res digital music files, but devotees of 192kHz audio should note that the SSP is limited to 96kHz. Classé has succeeded in bridging a gap by offering good two-channel sound along with the option of developing a multichannel system, but from the purely two-channel user's perspective, it faces strong competition.

Sound Quality: 75%



Allnic H-3000

Looking for a high-end phono preamp with flexible cartridge matching, pairs of MM/MC inputs and tubes to boot? The Allnic H3000 could be just what you need

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

As the world of top class phono stages becomes increasingly crowded, new contenders need to offer both high performance and a little something extra to make them stand out from the crowd. Fortunately this is not a problem for the Allnic H-3000 as it is positively overflowing with features, while boasting a proprietary tube circuit and novel choke-based RIAA equalisation.

So there are several touches that make it well worth a close look, despite its not inconsiderable retail price of £9000. Even then, this is not Allnic's top model – that honour belongs to the mighty H-5000DHT: a snip at £23,000!

Allnic Audio's website shows that the H-3000 is in good company. Allnic is able to offer not only preamplifiers and power amplifiers that are an excellent stylistic match, but a variety of other items. These include a DAC, headphone amplifiers and even a pair of cartridges, handmade by the company's owner, Kang Su Park.

SITTING COMFORTABLY

The H-3000 is available in silver or black and appears conventional enough from the front. Peering over the top, however, reveals beautifully machined side panels that are cut out into handles for easy lifting. Furthermore, the valves are tucked inside their own transparent tubes. While this is a useful safety feature for owners with young children or inquisitive cats, there is a sonic purpose to their existence. Each valve is located in what the company calls an 'Absorb-Gel' socket, a silicone polymer-based damping seat claimed to reduce the valve's microphony. Furthermore, a handy valve-puller is also supplied by Allnic should any of its tubes need replacing.

Allnic's RIAA equalisation is performed using an impedance-matched LCR circuit and the design is fully transformer coupled

with no (overall) negative feedback. There are two gain stages and these are both implemented using E810F valves – these are wideband RF pentodes renowned for their stability and long life. The rest of the thermionic line-up consists of 7233 triodes and 6485 pentodes, all employed for voltage regulation duties. All internal wiring is point-to-point and both unbalanced and balanced outputs are offered, the latter via XLR.

As part of those convenient features alluded to earlier, the H-3000 offers four separate inputs selectable from the front panel: two MM and two MC. For the MM options, gain is fixed at 40dB and the impedance control has a 47kohm position to suit most cartridges of this type. For the MC inputs, gains of 62, 66, 68 and 72dB are offered [see PM's lab report, p47] thanks to the MC transformers' additional 22, 26, 28 and 32dB step-up positions.

The MC cartridge loading situation is more complicated than may first appear, however. In this case the

loading control has four settings that operate in conjunction with the step-up transformers' gain settings to give 16 possible permutations. On a standard unit, the loading options are 10, 20, 30 and 47kohm giving final load values ranging from 6 to 278ohm. However, the review sample was a custom unit with 20, 30, 47 and 75kohm settings, giving a 12 to 444ohm span. The manual contains a table of the full set of selections available for the standard unit, so a calculator is not required during initial setup...

CURRENT METERS

The H-3000's thick alloy fascia carries two small switches for operate/mute and absolute phase inversion, plus a large rotary input selector. Two small moving-coil meters illustrate the current flowing through the specialised valves. Although these are not marked with any scale, they do indicate the balance of current between each pair of tubes. Should the needle move outside of this zone then one or more of

RIGHT: Our top-down shot shows Allnic Audio's MC step-up transformers and selectable loading, tube regulation and gain stages plus its permalloy output transformers





the valves is past its best. Conveniently, the manual details which tube to suspect according to which way the needle moves – to the left it's an E810F, to the right and it's one of the voltage regulation valves.

Kang Su Park also believes in large valve-rectified power supplies and these are a feature of most Allnic products, including the H-3000. So power is supplied to the H-3000 through a chunky multi-way connector emanating from a sturdy outboard PSU, based around a potted transformer and a 5AR4 rectifier valve. The main power switch is on the front of the PSU so it needs to be relatively accessible, although the length of the umbilical will allow it to be sited away from hum-sensitive components. On the other hand, as the PSU's casework is as exquisitely finished as the main unit, it needn't be entirely hidden from sight!

Finally, it is worth noting that a more expensive version, the H-3000V, is also available for £10,500. This adds adjustable response turnover frequencies and roll-off rates to the mix, allowing users to tweak

the replay equalisation for very early disc recordings that do not correspond to the standard RIAA norm.

A SILENT BACKGROUND

After a good week of warming-up the unit, I listened to the H-3000 using both an Ortofon 2M Black [*HFN* Mar '11] on the standard 47kohm MM setting, plus a Charisma Audio MC-2 moving-coil cartridge [*HFN* Feb '15]. A spot of experimentation with the latter led to a gain setting of 66dB with an internal 'loading' of 30kohm, resulting in a 75ohm load impedance. Set like this, the true character of the Allnic showed itself, albeit taking a little longer than I had expected to work its magic on me.

Rather than wowning you on first listen, the H-3000 gradually draws you in with a sound that is lush and quietly alluring, rather than ostentatiously bombastic. Although during my first few days of

ABOVE: Not a volume control – this is a chunky input selector dominating the H3000's fascia. Buttons for mute and absolute phase inversion sit alongside illuminated valve current meters

listening the H-3000 struck me as a little reticent, over a period of a week or so it came out of its shell to set up a marvellously expansive swathe of sound

across the listening area.

It presented a very wide soundstage that pushed the performers a generous amount both to left and right. Thanks to this fine spatiality, the Allnic never sounded squashed or constrained.

It had fine levels of bass impact allied to good low-end *detail*, and this merged with the sweet and fluid midband to lend depth and gravitas to whatever music was played.

With Eric Bibb's 'Needed Time' from his *Spirit And The Blues* LP [Opus 3 LP19401], the level of instrument and voice detail was superb. Eric's vocals were strong, passionate and soulful, with the backing instruments clean and detailed. A particular delight was Olle Eriksson's double-bass which had a gloriously fruity tone to it, each note ringing out well and underpinning the track perfectly. The soft and melodic nature of music like this suited the Allnic to a 'tee' and it proved a willing and captivating companion.

In the midrange, the detail was undeniably impressive. It seemed to have an uncanny knack of capturing the essence of instruments perfectly and ensuring that the innate timbre and 'feel' of each was not lost. Acoustic material was deliciously atmospheric with plenty of space around, say, guitar string plucks or softly played ➔

'It draws you in with a sound that is lush and quietly alluring'

ALLNIC'S KANG SU PARK

Allnic was founded in 2005 by Mr Kang Su Park; a gentleman who, interestingly, did not originally train as an engineer. Instead, his first qualifications were in French and English languages gained at Hankuk University of Foreign Studies in Seoul. He subsequently spent five years in office work before returning to his first childhood love: electronics and music. Kang Su had been fascinated with electronics from an early age and was taught core skills in the subject matter by his brothers, who were both electricians by trade.

A change of career path led Kang Su to become chief designer at Silvaweld, a Korean valve audio manufacturer formed in 1995. He designed all their valve amplifiers and the items were well reviewed, but after ten years he left to set up his own company. Allnic Audio Labs was the result and the name is a shortened version of 'All Nickel', reflecting the fact that all of the company's transformers are based around a 78% Nickel Permalloy core.

“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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ALLNIC H-3000

This luxurious phono stage is very flexible but not without some certain 'colour' of its own! Four E810F industrial pentodes provide all the gain necessary to deliver a healthy output voltage from a choke-based (LCR) RIAA equalisation network, with generous S/N ratios, albeit at modest to high levels of distortion. The 'straight' MM input offers +39.6dB gain (via balanced outputs) and a corrected response that extends out to 20kHz (-0.09dB) with a -3dB point of 56kHz. Bass frequencies roll gently away below 100Hz, reaching 50Hz/-0.4dB, 20Hz/-1.3dB and with a -3dB point of 13Hz [see Graph 1, below]. The H-3000's output is very substantial too, although distortion increases linearly with level to give 0.2%/0.5V, 0.4%/1V, 0.8%/2V, 1.6%/4V right up to 5%/12V output, all through a 118ohm source impedance.

Distortion follows the same trend at all frequencies but is proportionally higher through the bass (1.3%/20Hz/1V), as illustrated in Graph 2. This THD vs. level trend is most probably a feature of the tube output stage, not the default +39.6dB MM stage or the MC step-up transformer that lifts the overall gain to +61.6dB, +64.7dB, +66.7dB and +69.2dB. As a result, while the input overload margin(s) are impossible to determine, the H-3000 incurs 1% distortion on its output when the MC input is 2.2mV, 1.45mV, 1.15mV and 910µV respectively. I'd be inclined to use the lowest MC gain setting with any MC pick-up (this already enjoying a wide 83dB A-wtd S/N ratio) and then employ more gain in your connected line preamplifier.

Readers may view a QC Suite test report for Allnic's H-3000 MM/MC phono preamp by navigating to www.hifinews.co.uk and clicking on the red 'Download' button. PM



ABOVE: Four cartridge inputs are offered, on unbalanced RCA phono sockets, while unbalanced and balanced (XLR) outputs are offered, selected by two small switches. The chunky multi-way input on the right accommodates the PSU's umbilical cable

woodwind. Rather more modern items, like the analogue synthesizers and drum machines on The League Unlimited Orchestra's *Love And Dancing* [Virgin OVED 6], benefited from a roundness and warmth making it clear that they weren't those 'new-fangled digital things'.

A TOP-END SMOOTHIE

As a result, there was no grey, sonic sterility to be found. Instead the Allnic imbued the music with a rich tonality and made sure that everything that needed to be heard was pulled out. With Dylan Leblanc singing 'If Time Was For Wasting' from his *Pauper's Field* LP [Rough Trade RTRADLP590], the vocals were superb. The H-3000 captured every tremor in Dylan's voice and pulled his performance right out into the room. Equally, the pedal steel guitar backing him had a solid foundation within the soundstage, where often it can tend to drift into the background somewhat.

Dynamically, however, the H-3000 did turn out to be a little reticent on occasion. When the musical material became more dynamic and forthright, the Allnic almost seemed to retreat into its shell. It certainly never sounded jumbled or confused, but somehow never quite managed to take a good rhythm and really run with it.

This was highlighted by Public Service Broadcasting's latest LP, *The Race For Space* [Test Card Recordings TCRVA02]. The track 'Go' intersperses clips taken from Mission Control in Houston during Apollo 11, underpinned by a pounding beat. Through the Allnic the result was generally good, with the vocal clips expertly rendered and standing free of the backing track well. Unfortunately, the underlying beat fell a little flat. This track aims

to convey the excitement of the mission and those taking part, but the Allnic didn't quite stir the soul as well as expected.

At the top end, the H-3000 is a smoothie, of that there is no doubt. It certainly never veers towards being dull or muffled but maintains a soft, compelling nature at all times. This actually works well on rather rougher recordings, taming any unruly treble and making the result more listenable.

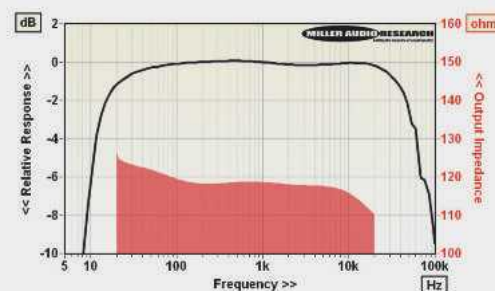
On better cuts the result is even more enjoyable. Despite its languid nature, the H-3000 never seems to miss anything out. It digs into the high frequency content well and serves it up neatly, but not before buffing off any rough edges. The result of this doesn't change the underlying character of the music *per se*, but it does still sound a little 'different' from what I'd expect.

Ultimately, the Allnic H-3000 all but requires you to re-calibrate your listening expectations. It's certainly no run-of-the-mill phono preamplifier in terms of features or sound quality, so you'd be daft to dismiss its possibilities. ☺

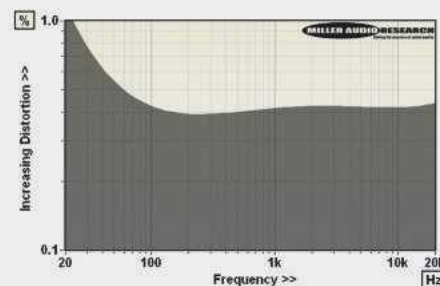
HI-FI NEWS VERDICT

The Allnic H-3000 makes an appealing case for itself in many ways. Its design is elegant, its build quality is in the top rank and it offers useful input loading and gain options. Fans of incisive dynamics and impact might find the H-3000 slightly wanting but those enthusiasts hosting multi-arm decks will find it a boon, as will those seeking a particularly lush and romantic sound from their vinyl.

Sound Quality: 75%



ABOVE: RIAA-corrected response from 5Hz-100kHz versus output impedance (20Hz-20kHz, red trace)



ABOVE: Distortion versus frequency (20Hz-20kHz) at 1V out. Typically >0.4% but higher at higher output

HI-FI NEWS SPECIFICATIONS

Input loading (MM/MC)	20-75kohm / 12-440ohm
Input sensitivity (MM/MC, re. 0dBV)	10.47mV / 347-836µV
Input overload (MM/MC, re. 1% THD)	26.4mV / 0.9-2.2mV
Max. output (re. 1% THD) / Impedance	2.5V / 118ohm (balanced)
A-wtd S/N ratio (MM/MC, re. 0dBV)	82.2dB / 82.6-88.3dB
Frequency response (20Hz-20kHz)	-1.3dB to -0.09dB
Distortion (20Hz-20kHz, re. 0dBV)	0.39-1.3%
Power consumption	73W
Dimensions (WHD) / Weight	430x173x350mm / 16kg

Arcam FMJ CDS27

Arcam's new 'FMJ' disc spinner not only hosts SACD but also includes a network audio player with USB for external drives. Or is it a hi-res media player with CD onboard?

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

For a company once in the vanguard of all things audio and digital with its pioneering Black Box DACs and even a standalone NICAM TV tuner, Arcam has taken its time getting on the music streaming bandwagon. Yes, it's had a range of solutions for those wanting to connect their computer to the hi-fi system, but the £800 CDS27, which is part of the FMJ range, is its first dedicated network audio product.

Well, sort of: while it can play music over a home network, connecting using either wired Ethernet or Wi-Fi, and also access internet radio stations, as the model designation suggests this is also a CD player, or rather a CD/SACD player. And CD players have traditionally been an Arcam strength, right back to the days when the company decided to take on the Japanese competition at its own game with its affordable Alpha One player, built in its Cambridgeshire factory and priced to challenge Marantz, Pioneer, *et al.*

FACING THE COMPETITION

With the CDS27, Arcam finds itself once again up against rivals from points East – and here I'm talking 'Far' rather than 'Anglia'. Novel though the concept of a combined CD/network player may be, this isn't the first of its kind: Onkyo already has a dog in the fight in the form of its neat little C-N7050, while Yamaha's offering is the CD-N301, these two selling for around the £300-350 mark (and less with not much Googling).

And of course there's a number of Blu-ray players out there with similar functionality, such as the £600 Cambridge Audio Azur 752BD [*HFN* Apr '13] and Oppo's BDP-103/BDP-105 models [*HFN* Jan '13], starting from around the same kind of price. So clearly the Arcam has no shortage of competition, and it looks like the designers have had these challengers firmly

in mind, even if initial impressions are that this is two products shoehorned into one box, rather than a completely integrated system. Not that the internal view [shown below] suggests much shoehorning was needed, given the amount of fresh air in the FMJ box.

Basically we have a network/streaming board, running a version of the MediaTek SoC (system on a chip) under Linux, and a CD transport section, each feeding into a common digital-to-analogue conversion/analogue output section, and this slightly 'buy one get one free' sense is heightened by some aspects of the CDS27's design and operation. For example, while Arcam offers app control of the player – despite the fact the basic but functional display just about allows operation across the room using the conventional remote handset supplied – you actually need two apps to 'drive' it, as is explained in our boxout [see p49].

Also indicative of this slightly split personality is the rear-panel layout: yes, there's an Ethernet socket and a screw attachment for the supplied Wi-Fi antenna, along with RCA phono and XLR balanced outputs (the latter to match the inputs

on Arcam's '49-series' amplifiers), but the coaxial and optical digital sockets here are outputs, not inputs, and there's no sign of the asynchronous USB provision for computer hook-up found on many other digital products these days. You do, however, get a USB-A socket on the rear, to which drives can be attached for music playback: as with the network connection, the CDS27 will handle files at up to 192kHz/24-bit on USB media, as indeed it will also play from optical discs in the SACD/CD drive.

DOWNSAMPLING WITH SACD

It's also worth noting that the start-up/standby routine is rather more protracted than we're used to with modern hi-fi equipment. Start the player up and there's a bit of disc-scanning, followed by a few relay clicks as the Arcam sorts itself out, while powering down sees a 'standby' indication come up on the display, followed by a significant pause before relays click again as the player actually goes to sleep.

The DAC here is the familiar 24-bit/192kHz TI/Burr Brown PCM1794, combined with high-precision re-clocking upstream



RIGHT: Three PCBs (from right to left) include a switch mode PSU; embedded PC/DSP board handling all network/USB processes; and audio board with Burr-Brown PCM1794 DAC



and with a linear phase output filter downstream. However, as PM notes in his Lab Report [p51], the player handles SACD discs' DSD content by downsampling it to 88.2kHz/24-bit PCM before conversion, limiting the upper extension of the frequency response with such content.

Separate power supplies are used for the various sections of the player, with discrete sub-regulation on the drive, DAC and audio boards, which are also physically separated to minimise interference. Furthermore, the entire player is built on a damped chassis to exclude external vibration from the electronics, while the cover is also damped in critical positions to the same end.

Designed in the UK but built in China, the CDS27 has an attractive combination of slimline good looks and simplicity of fascia layout, even if that green-on-black two-line display is made to look even more old-fashioned by the Large Print text it displays – though as already mentioned this does improve 'across the room' visibility.

Overall the impression is of a solidly-built piece of equipment (6.2kg is hardly featherweight for what is, after all, a fairly

compact player) even if I'm not entirely sold on the slightly 'shades of black' differences between the casework and fascia when viewed in certain lights.

A BIG, IMPRESSIVE APPEAL

Once you get to grips with the operation of the CDS27 – and it does take a bit more getting and gripping than, say, the less expensive Onkyo and Yamaha players, not least due to that 'two app' routine – it reveals itself to be a highly accomplished SACD/CD player and a more than respectable network one, too, albeit with a very obvious dose of the current 'Arcam sound'.

That means warmth and richness are very much the order of the day, allied to a high standard of detail retrieval and an easygoing musicality, making it extremely listenable and enjoyable, if not the last word in knock-your-socks-off, 'did you hear that?', showmanship.

Certainly there's nothing lightweight or insubstantial about the sound here, meaning that everything from orchestral works to bass-and-drums-driven rock or pop sounds big, impressive and really rather appealing. As well as spinning SACDs and

ABOVE: Arcam keeps it simple, with nothing more on the fascia of the CDS27 than you would expect from a standard CD player. The display is simple, elegant and easy to read

CDs in the internal drive, I also made use of my extensive library of music on NAS storage, not to mention listening to some of the many internet radio streams served up by the CDS27 via the vTuner platform.

While the Arcam isn't the fastest way I know of accessing locally-stored or online content, when you do finally get to it the reward is a sound that's at once mature and highly accomplished, at least by the standards of sub-£1000 network hardware.

First out of the traps was one of my favourite SACD torture discs, Frankie Goes To Hollywood's *Rage Hard: The Sonic Collection* [ZTT 177 SACD], which I am amused to see is currently changing hands for prices pushing on £100 a copy. The Arcam sounds hefty and full-on with the CD layer, and while there's undoubtedly 'more of everything' when playing the SACD version, as 'The World Is My Oyster' segues into 'Welcome To The Pleasuredome' there's not quite the explosive power and slam the very best SACD-playing (or DSD-streaming) hardware can deliver.

There's nothing actually wrong with the presentation, and the music has good impetus and attack, but some of the raw energy, spit and grind of the rhythm section has been lost along the way, making the bombast of the track just a ➔

'Warmth and richness are very much the order of the day here'

ARCAM'S APPS

It always makes life simpler when network products such as this have app control, not least because you get a display in the palm of your hand, rather than having to peer across the room. So the CDS27's display is more legible than many, but there's only so much information you can get into two lines of text! However, 'driving' the Arcam actually requires two apps, one dedicated to the main controls of the player – well, sort of – and the other looking after the location of music on your computer or network server, selection of what you want to play, the creation of playlists and so on.

The CDS27 Remote app does the basic stuff such as disc playback, but it also looks after internet radio operation, allowing station search and preset/favourite storage, while accessing and playing music stored on the network is in the hands of the company's MusicLife app. Both of the apps [pictured] do their jobs, although there were a few freezes and crashes along the way, but the mere fact that *two* apps are needed to exploit all of the CDS27's facilities means using the player involves more than a bit of app-juggling.



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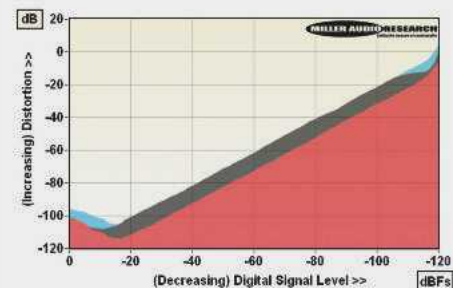
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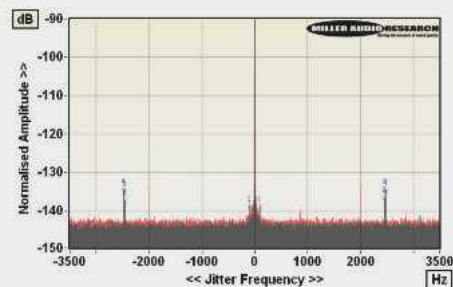
ARCAM FMJ CDS27

For years, the performance of Arcam's digital products was at least partially defined by its choice of Wolfson DACs, so if the CDS27 'looks' different on the bench then this will have something to do with the decision to employ a TI/Burr-Brown PCM1794 DAC. The S/N ratio is a fine 112.3dB with CD, SACD and (wired) network sources although the maximum 4.85V output is reduced to 3.5V via SACD (all at 0dBFS). Bear this in mind if you compare the two layers of a CD/SACD disc. It's also worth knowing that SACD data is downsampled to 88.2kHz LPCM within the CDS27, so the response with these discs reaches -0.2dB/20kHz but is -7.4dB/40kHz. By contrast, the response of hi-res audio delivered over the network connection reaches +0.1dB/40kHz (96kHz media) and -3dB/70kHz (192kHz media). Jitter is very low too at <20psec with 24-bit files, all sample rates, and SACD sources [see Graph 2, below].

Distortion is very low at <0.0006% over the top 30dB of the player's dynamic range at midband frequencies with 24-bit network sources, increasing to a mere <0.0009% over the same range with CD [see Graph 1, below]. Interestingly there's a relatively 'big' increase in THD at very low frequencies/high level - 0.01%/20Hz at 0dBFS via both network and CD, suggesting this is a function of the analogue output stage. Otherwise, low-level linearity is excellent (typically ± 0.1 dB over a 100dB range) as is stereo separation (>110dB, 20Hz-20kHz) and stopband rejection (>125dB for CD). Readers may download full QC Suite reports for the Arcam CDS27's CD/SACD and Network performance by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: THD vs digital level - 1kHz at 24-bit/48kHz over Network (red), 1kHz at 16-bit/44.1kHz via CD (black) and 20kHz via CD (blue)



ABOVE: High res. jitter plots using 24-bit/48kHz data (Network input, red; SACD, black with markers)

HI-FI NEWS SPECIFICATIONS

Maximum output level (Balanced)	4.85Vrms at 70ohm
A-wtd S/N Ratio (CD / SACD / Network)	112.3dB/112.3dB/112.3dB
Distortion (1kHz, 0dBFS/-30dBFS)	0.00076% / 0.00065%
Distortion & Noise (20kHz, 0dBFS/-30dBFS)	0.00060% / 0.0018%
Freq. resp. (20Hz-20kHz/45kHz/90kHz)	+0.0dB to +0.1/-0.8/-11.7dB
Digital jitter (CD / SACD / Network)	115psec / 16psec / 12psec
Resolution @ -100dB (SACD / Network)	± 0.1 dB / ± 0.2 dB
Power consumption	14W (1W standby)
Dimensions (WHD) / Weight	433x87x278mm / 6.2kg



ABOVE: The cluster of digital connections includes inputs (wired and wireless network plus USB-A for flash memory devices) and outputs (S/PDIF on coaxial and optical). Single-ended (RCA) and balanced (XLR) analogue outputs are offered

little muted, and reducing the 'Wow, going to play that again right now' factor to a significant degree.

The Arcam is very much at home with the lush, breathy sound of Cassandra Wilson's Billie Holiday homage, *Coming Forth By Day* [Legacy Recordings 88875063622, 96kHz/24-bit download]. This is almost the definition of a close-up recording, with Wilson's vocals now mannered almost to the point of self-parody: the gentle, seductive sound of 'Crazy' is well served by the warm, refined presentation of the CDS27, with the solo instruments and strings somewhere back there behind the singer's voice in an entirely credible soundstage.

UNARMED COMBAT

However, feed the Arcam with a large-scale orchestral recording - such as the recent Kansas City Symphony/Michael Stern programme with Saint-Saëns' dramatic Third Symphony, the *Introduction and Rondo Capriccioso*, etc [Reference Recordings RR-136] - and whether playing the CD or streaming a rip over the network, there's a certain thickness to the sound.

Yes, that's good for scale and weight, and the second movement sounds suitably smooth and liquid, but it's less convincing when things get busy in the final movement, with organ, piano and orchestra all going full-tilt. There's a definite sense of unarmed combat here: some players do a better job of unravelling the threads while still presenting them as a cohesive whole.

Let's not be mistaken, better the Arcam's big sound with its powerful bass than a thin, lightweight, treble-forward balance, but there are times when it's clear a recording has more to give, and the player is being just a tad polite in its efforts to keep things civilised and under control.

Of course, the sound of the Arcam will be affected by the presentation of the amplification

and speakers with which you choose to use it, and it could be just the thing if you're still suffering from the feeling that digital music is all well and good, but it can't help but sound somewhat mechanical.

There's nothing artificial or edgy about the way the CDS27 plays music, be it from network or disc, SACD or CD: in fact, it retains the kind of 'slightly warm side of neutral' way of doing things that has stood Arcam in good stead for decades, and is none the poorer for that.

It's certainly an interesting counterpoint to the way the much less expensive Onkyo and Yamaha do things - not that either of those budget contenders are exactly lightweight-sounding - and just as the chosen disc/network configuration seems designed to take streaming newcomers by the hand and lead them gently into the brave new world of audio, so the sound here also seems designed to make that transition as painless as it can possibly be.

Now Arcam has taken its first steps into network audio with this hybrid player, combining its traditional strengths with new facilities, it will be fascinating to see whether this is a one-off, or the start of something big. ☺

HI-FI NEWS VERDICT

Arcam's first toe in the network-streaming waters is an accomplished player of both disc-based and file-based music, albeit one with a slightly polite and cuddly sound. It's very easy to listen to, but may be a bit too lush and smooth for some tastes. And from the internal layout to the need for two apps to control it, there's a sense of this being two products in one box, rather than an entirely integrated player.

Sound Quality: 80%



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Robert Deutsch – Stereophile Feb 2015



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Pioneer U-05

The latest in a growing range of combined DAC/headphone amps sees Pioneer returning to serious two-channel products – but is it more one thing than the other?

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

Make no mistake about it: headphones and their ancillaries are big business right now. In fact, this sector of the market is just about the only growth area in the specialist audio market, and not just in terms of units shipped and the amounts of cash crossing the counters. Even more to the point is the number of manufacturers re-discovering (or in some cases discovering for the first time) the allure of personal listening.

TAKING UP POSITION

Pioneer is the latest on the DAC/headphone amp train, which is showing almost unstoppable momentum right now at every level: from pocket devices designed to spiff-up the sound of your iThing or Android device all the way through to mains-powered desktop units firmly aimed at the computer-stored music aficionado.

The U-05, selling for around the £699 mark joins models from other Japanese firms such as Denon and Marantz – not to mention Pioneer's new stablemate Onkyo and TEAC, along with the likes of the Oppo HA-1 [HFN Sep '14] and other rivals all the way up to the rather exotic Aurorasound Heada [HFN May '15] at £2000.

So the positioning of the Pioneer is interesting: it's around the same money as the Marantz HD-DAC1 [HFN Apr '15], so sits above the likes of the Denon DA-300USB [HFN Oct '14], and the products from US company Schiit Audio [HFN Jun '14], but significantly below the Oppo HA-1, which sells for just under £1200.

And as part of a new range including the SE-Master 1 headphones, on sale now in a limited edition of 1000 handbuilt pairs with a £1700 price-tag, the U-05 has a real air of 'statement of intent' about it, from the hefty aluminium casework and an all-up fighting weight in excess of 6kg, through to the choice of headphone outputs provided.

That array of headphone sockets is perhaps the most immediately striking thing about the Pioneer – well, apart from a moment of wonder that it can really take so many controls to operate a headphone amp! You get a choice of a standard 6.3mm headphone socket, or balanced output on either two 3-pin XLRs (one for each channel) or a single 4-pin XLR socket, with a selector to choose between them.

Incidentally, only one of the outputs can be used at any one time. The same control also allows you to revert to the rear-panel outputs and use the U-05 as a DAC. Both RCA phonos and balanced XLRs are provided, and these can be set to fixed or variable level use, for connection to a conventional amplifier or straight into a power amp (or indeed active speakers). There's also a phase switch for these analogue outputs.

Two volume controls are provided, with a smaller one located south-east of the

main control which offers fine adjustment – not that the main volume operation is exactly coarse in its action – and there's also a gain selector, with a 10dB difference between its 'low' and 'high' settings [see PM's Lab Report, p57].

ALL DIGITAL DESIGN

For all that adjustability – and there's more to come – this is very much a digital-based device, with not a sniff of an analogue input to be had. Its digital inputs comprise three electrical, two on coaxial RCA phonos and one on the familiar three-pin AES/EBU connection, two Toslink optical and an asynchronous USB Type-B input, with S/PDIF handling formats up to 192kHz/24-bit and the USB additionally supporting 352.8kHz and 384kHz up to 32-bit, as well as DSD64/2.8MHz and 128/5.6MHz content.

Options include a three-mode switchable digital filter, having 'Sharp', 'Slow' and 'Short' settings, the choice



RIGHT: The U-05's packed interior includes a hefty linear PSU, a pair of (8-channel) ESS Sabre ES9016S '32-bit' DACs and fully balanced analogue stages for line and headphone outs



of handling digital content natively or upsampling, switchable 'Hi-Bit 32' processing to requantise 16-bit and 24-bit data to 32-bit, and what Pioneer calls 'Lock Range Adjust'.

As Pioneer explains: 'Even within the same jitter clock input, by narrowing the locking range, collateral sounds and overtones can be reduced, thus raising the quality of the sound.'

The system provides four steps of 'narrowing' unless you press and hold the 'lock range' button on the remote a bit longer, when you get three further steps of narrowing, albeit with a warning that on the very narrowest setting the sound may be prone to dropouts.

Even the upsampling isn't as simple as it may seem, as this too offers two steps: in the 'low' setting all signals are upped to either 176.4kHz or 192kHz, depending on whether they're a multiple of 44.1kHz or 48kHz, while the 'high' setting upsamples them to either 352.8kHz or 384kHz. In other words, Pioneer may have purist hi-fi intentions, but the U-05 ain't short of toys!

'The upsampling can add a sheen of smoothness to the sound'

Under the lid the beating heart of the U-05 is the now-familiar ESS Sabre 'Ultra' solution with two dual-differential ES9016S DACs, one for each channel. A digital isolator is used to keep USB noise away from the audio sections, and Pioneer's linear PSU is shielded, and has separate outputs for the digital and analogue sections. The analogue section

here uses a discrete component layout rather than relying on IC op-amps, with Pioneer saying high-grade parts include custom power capacitors. Outputs are on machined RCA terminals, and

balanced sockets sourced from Neutrik. Completing the design is a heavy, damped chassis, while the casework panels are all aluminium, and assembled to give a 'no visible fixings' finish.

A GAME OF TWO HALVES

As we've said, unlike some competing designs the Pioneer has no analogue input provision. This limits its use with a conventional amplifier, and means it can


ABOVE: The three sets of headphone sockets – 4-pin XLR balanced, two 3-pin balanced and 6.3mm conventional stereo – dominate the thick metal fascia of the Pioneer U-05

only be used between digital sources and your amp, as a standalone desktop headphone amp for computer audio, or as a digital preamp.

I can't help feeling a couple of analogue ins would have improved the appeal of this unit considerably. The configuration chosen means any conventional sources, such as CD players, will have to be connected digitally to the U-05 for headphone listening. Those onboard DACs had better be good!

In use, the Pioneer proves to be something of a game of two halves. As a DAC it has much to offer, especially if you steer clear of all the digital jiggery-pokery and just let those Sabre DACs work on whichever signal you pass though it in native form. However, as a headphone amplifier it's somewhat less convincing, with a sound that sometimes appears to be on the ragged edge of falling into problems, and always giving the impression that the U-05 is having to work quite hard for its living.

The result is a sound that's not always impressive, unless you use the amp at fairly modest levels and with relatively easygoing headphones. It is sweet enough with smooth and simple 'hi-fi demonstration' jazz, acoustic or small-scale ensemble recordings, where it sounds clean and controlled; but push it a bit with some rock and increase the levels, and some hardness and confusion soon sets in.

As PM makes clear in his Lab Report [p57] – and indeed as Pioneer states in its own specifications – this isn't exactly a powerhouse headphone amp, especially considering that it is mains-powered. For example, it's easily outgunned on sheer output power by the likes of the Marantz 

GIBSON GROWS

Founded back in the 1930s, and formally becoming Pioneer at the beginning of the 1960s, the brand became a technology leader in the hi-fi and home cinema sectors. Seminal products included its Laserdisc players, the classic 'UK-tuned' A-400 stereo amplifier and its celebrated, but short-lived, 'cost no object' Kuro plasma TVs. Of late, however, things have been pretty tough at Pioneer, with the parent company retreating back into one of its core markets: in-car audio and navigation. Its TV division was famously shut down in 2009, its DJ products division sold off earlier this year, and the hi-fi/home cinema division spun off to a consortium comprising investment company Barings and Onkyo – itself now joined with TEAC/Tascam, Stanton, KRK and Cerwin Vega! under the banner of guitar-maker Gibson Brands. Nashville-based Gibson has been in a buying mood of late, adding to its stable Woox Innovations, the company Philips formed to spin off its consumer electronics products. It joins the renamed Gibson Innovations consumer division.

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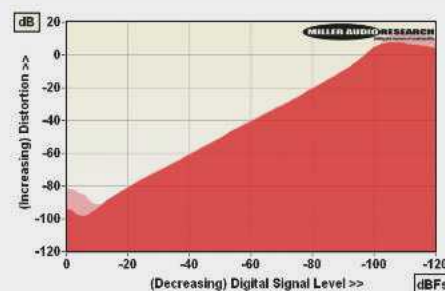
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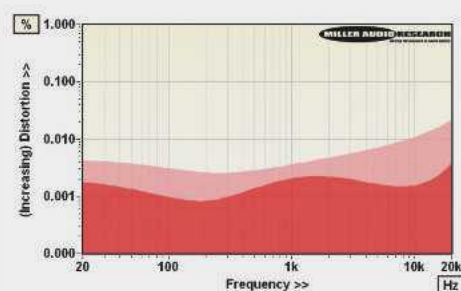
PIONEER U-05

Despite using the popular 8-channel ESS Sabre DAC, Pioneer's U-05 does not quite match the vanishingly low distortion and jitter of some 'audiophile' converters. Via its XLR outputs the U-05 offers a full 4.2V (fixed) output at 0.0003-0.0006% THD (20Hz-20kHz) and a wide 114dB A-wtd S/N ratio but jitter is moderately high at 650psec (normal, direct and hi-bit modes), increasing to 850psec with upsampling engaged. Frequency and impulse (time) responses vary with choice of digital filter: 'Sharp' combines 83dB stopband rejection, a -0.1dB/20kHz response with conventional pre/post impulse ringing; 'Short' offers 30dB stopband rejection, -9.6dB/20kHz response (with obvious in-band ripple) but no pre-event ringing; 'Slow' combines almost no stopband attenuation (-5.7dB), a -3.0dB/20kHz response but minimal pre- or post-event ringing.

Its performance as a headphone amp is compromised by the high ~23-24ohm source impedance which represents a signal loss of 5.7dB into a 25ohm load. Low impedance 'phones are really not recommended here. Fed a peak-level digital input (0dBfs), the U-05 is slammed into clipping when the volume knob is only at its 2 o'clock position, so caution is advised. The difference between 'low' and 'high' gain settings is 10dB but there's no difference in the limited 146mW power output (expect ~300mW/25ohm in balanced mode). Distortion increases by 5-10dB over the top 10dB of the U-05's dynamic range when loaded [see Graph 1] and the S/N drops to 93dB (via USB). Readers are invited to view comprehensive QC Suite test reports for Pioneer's U-05 headphone preamp and DAC performance by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Distortion versus digital signal level at 1kHz (red = unloaded; shaded red = loaded where 0dBfs = 145mW, -10dBfs = 14.5mW and -21.6dBfs = 1mW)



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

HI-FI NEWS SPECIFICATIONS

Maximum output (re. 0dBfs into 47kohm)	5250mV @ <1% THD
Max. power output (re. 0dBfs into 25ohm)	146mW @ <1% THD
Output Imp. (20Hz-20kHz, XLR/headphone)	136-142ohm/21.9-23.8ohm
A-wtd S/N ratio (re. 0dBfs, XLR/headphone)	114.3dB / 93.1dB
Distortion (20Hz-20kHz, re. 10mW)	0.0025-0.022%
Freq. resp. (20Hz-20kHz/45kHz/90kHz)	+0.0 to -0.32/-1.7/-5.3dB
Stereo separation (20Hz-20kHz)	90dB to 58dB
Digital jitter (XLR/headphone)	650psec / 660psec
Dimensions (WHD) / Weight	296x101x271mm / 6.3kg



ABOVE: What's missing? Well, the Pioneer has a comprehensive suite of digital inputs (including USB, S/PDIF on coax and optical, and AES/EBU), and fixed/variable analogue out on XLRs and phonos – but there are no analogue inputs

HD-DAC1 I had to hand, not to mention the little USB-powered AR-UA1 [HFN Jul '15]. Meanwhile the Oppo HA-1 comprehensively puts it in the shade with its prodigious headphone output – its 8.45W maximum output dwarfs the Pioneer's extremely modest 146mW. (This doubles, of course, when the balanced headphone output is used, but it's still hardly massive.)

BETTER USED AS A DAC

That did present some problems when assessing the U-05's balanced output, as the principal headphone choice I had to hand was the Oppo PM-1 [HFN Jul '14] – a fine design but not exactly the easiest drive for an amplifier. Yes, the Pioneer sounded fine when cruising through some gentle music fed via the computer in DSD64. Thus a PS3 rip of Bread's 'Make It With You', from the *Best of...* set [Audio Fidelity AFZ5 197] is smooth and generous, with good vocal character.

But crank things up a little with Genesis's 'In The Cage' [from *The Lamb Lies Down On Broadway*, Charisma 509995 1956325] and it's clear some hardness is setting in, and the bass has lost definition.

The same problem affects the conventional headphone output too, which of course has even less power to play with. I tried various 'phones, including the Musical Fidelity MF-100, B&W H6 and Focal Spirit Pro, and in every case the sound lacked that sense of confidence inherent when an amplifier is driving the transducers with ease.

In this respect the Marantz HD-DAC1 proved much more convincing than the Pioneer, and there's not much even the U-05's various digital processing modes can do to overcome this somewhat

lightweight presentation. Yes, the upsampling can add a sheen of smoothness to the sound, while playing with the digital filtering brings about subtle changes to the musical presentation.

But in both cases the effect is insufficiently dramatic to make any one choice of settings a 'must have'. Instead, one finds oneself rather distractedly playing with all the adjustments rather than listening to the music, which is hardly ideal.

That said, the U-05 is rather more convincing when simply used as a DAC, whether with its fixed or variable outputs. There's much more of the weight and definition the headphone output seems to lack, with a tight handling of bass-lines – eg, those on Marcus Miller's *Afrodeezia* [Blue Note 472 144-2] in 96kHz/24-bit. This showed fine detailing in the midband, and a treble combining sweetness and sting in good balance. Miller's take on 'Papa Was A Rolling Stone' has excellent snap and resonance to the bass, and really motors along via the U-05's rear-panel analogue outputs, whereas the headphone sockets sound rather soft and artificial.

Somewhere in the U-05 is a fine DAC screaming to get out, but unfortunately the headphone section is holding it back. ☹

HI-FI NEWS VERDICT

Taken as a just a DAC the Pioneer U-05 would achieve a rather higher score, but considering this product's somewhat lacklustre headphone performance, the overall sound quality percentage is kept in check. So, while the U-05 is comprehensively equipped with digital features and balanced outputs, the competition in both headphone amp and DSD-capable DAC markets is simply too hot for this one to handle.

Sound Quality: 74%



Focal Aria 948

Heading the Aria series, this French floorstander offers a combination of innovative engineering and sheer size
 Review: **Nick Tate** Lab: **Keith Howard**

There is so much competing for the money in people's pockets these days that hi-fi manufacturers are finding life ever harder. For this reason, the industry needs to offer value-conscious buyers something to tempt them away from other toys. Focal is well aware of this, and the Aria 900 range is its answer.

The French loudspeaker giant offers a selection of attractively modern looking, keenly priced loudspeakers with a large sound – and the 948 tops the Aria range, at £2850-£3100 according to finish (walnut or gloss black). The idea is to offer something superior to budget floorstanders at an acceptable cost. It attempts to give a taste of the high end, with its three-way design, sizeable cabinet and distinctive styling complete with glass top.

This is a clear move away from Focal's previous designs, says the company's Home Audio Product Manager, Raphael Triomphe. He points out that the new Arias dispense with the 'techno' look of previous models, having lost 'many unnecessary touches'. In the flesh, the speaker looks clean and contemporary, and is refreshingly devoid of visual gimmickry.

It's the cabinet and the drive units that form most of the cost of a loudspeaker, and while the best way to do the former is widely agreed, there's still much debate about the latter. Manufacturers will often specify different drive unit cone materials even if most are after the same thing – low weight, rigidity and good damping.

For its new Aria series Focal has chosen flax, in marked contrast to rivals that use various combinations of Kevlar, polypropylene, aluminium, glass-fibre or paper. Flax is a rigid fibre that's about 80% cellulose, and in Focal drive units it is sandwiched between sheets of glass fibre, in different proportions depending upon whether bass or midrange drivers are being made. The 948 cones have a 0.4mm woven flax core between two similarly

thick fibreglass layers, fixed to injection-moulded Zamak baskets and Klippel-optimised motor systems. Partnering this is Focal's TNF tweeter made from an aluminium/magnesium alloy which is light but also rigid and well damped. (Focal says that it is three-and-a-half times more rigid than the titanium used in its older generation of tweeters.)

SEPARATE DRIVER ENCLOSURES

Interestingly, it is an inverted dome, a design that permits 'high efficiency, precision and energy', according to the designer, and the profile is used in all of the company's ranges, from Chorus to Utopia. This 25mm unit crosses over to the 165mm flax-coned midrange driver at 2.6kHz, and this in turn signs off at 280Hz where the twin 210mm flax woofers come in.

Effectively then, the Aria 948 is a three-way loudspeaker, and it's a pretty big one at that. It is certainly larger than many price rivals, but this does create its own problems: while it can move a lot of air, and the crossover is kept out of the critical presence region where the ear is most sensitive, the penalty that this product pays is a tall 1.15m cabinet that has to be kept under control.

To this end, differing thicknesses of controlled-density fibreboard are used, with 'non-parallel sides and careful bracing', Focal says. Midrange and treble sections have their own sealed enclosures also with non-parallel walls to minimise internal standing waves.

As is commonplace today, the bass drivers are loaded by a large front-mounted reflex port. The finish is impressive, with its faux leather front and glass top. Brushed

RIGHT: The 948 stands taller than many price rivals, but offers a fine finish with no sign of cost-cutting. It uses an Al/Mg inverted dome tweeter with flax and fibreglass sandwich coned midrange and (twin) bass drivers

'Those flax-coned drivers seem to give a sweeter, warmer sound'





FLAXING LYRICAL

Focal has traditionally used Polyglass for its lower end designs but the 900 Aria range introduces flax. Said to have been around since the fourth century BC, it was once used by the Egyptians as protective cloth for mummies! There is a lot of air inside it, which makes it lighter than many other materials yet it retains good self-damping properties and is easy to work with. A company insider says it suits the Aria range because cones can be stamped out quickly and consistently – making it relatively inexpensive. Another bonus is that, unlike plastic, this material isn't petrochemical-based thus keeping the price of oil out of the equation. Focal's flax comes from the Flanders, Picardy, Normandy and the Pas-de-Calais regions of France, said to be the best in Europe. The use of flax isn't mere marketing spin: Focal's new flax sandwich cone confers a smooth sound which is pleasingly sweeter than the Polyglass it replaces.

metal rings cover the drive unit screws and add a touch of sparkle, and the grille is magnetically secured so there are no unsightly holes in the front baffle.

As I've said, the Aria 948 does not sit inconspicuously in a modestly-proportioned listening room. Rather, this loudspeaker works best in medium to largish areas, and does like a fair degree of space between it and the boundary wall. I found 30cm was the absolute minimum to keep the bass under control.

One characteristic typically associated with large floorstanders is ease of drive, but the Aria 948 wasn't quite as generous as expected – it goes reasonably loud with modest powered amplifiers but demands something with a bit of grunt [see Lab Report, p61]. For most of the test period I used an Exposure 3010S2-D solid-state integrated amplifier where its claimed 110W/8ohm capacity proved more than enough in my medium-sized listening room.



WARM AND EASY-GOING

There is something reassuringly 'old school' about the sound of the Focal Aria 948. It is big and ballsy with a slightly warm tonal balance. In a world of modern small floorstanders with light and tight bass, super-detailed midband and bright top ends, this big box sounds distinctively different. It does its job in an enjoyable yet effortless way, lacking drama while exuding authority.

For those flax-coned drivers seem to encourage a sweeter, warmer sound compared with Focal's previous designs at this price-point. Factor in that large cabinet, three-way design and brace

of bass drivers and you do have a recipe for a smooth yet commanding sound. The Beach Boys' 'God Only Knows' [from *Pet Sounds*, Capitol CDP 7 48421 2] has a rather dated, rudimentary production, but the Aria 948 doesn't obsess over this, choosing instead to let the listener enjoy the melodies issuing forth from the singers.

There's less of a sense that you're hearing primitive four-track tape recorders and noisy, valve, mixing desks – you don't feel the speakers are shining too bright a light on the recording, showing it wants and all. Yet this doesn't mean the Aria 948 isn't detailed, for it digs pretty deep into the mix, conveying the timbre of the voices with a good degree of accuracy, and doesn't cloud the backing instrumentation. Best of all, it strings everything together in a musically coherent and enjoyable way.

Switch to a modern recording, such as the sublime soul/funk blend of 4hero's 'Give In' [from *Play With The Changes*, Raw Canvas RCRCD02] and the soundstage grows almost exponentially in size. The track is a superbly recorded, albeit slightly compressed, full-range affair with powerful bass synthesiser work. Most other speakers I have heard around the Aria 948's price are unable to convey the full weight and articulation of this, but not so the Focal.

Like a bodybuilder picking up a brick, there's no sense of strain: it seems a mere trifle. In fairness though, the Aria 948 isn't quite as tight at the bottom end as some similarly priced speakers. The speaker very gently smoothes the leading edge of low bass notes. This, allied to its barrel-chested nature, gives the Aria 948 its big, warm and easy-going nature.

Feed the Focal some powerful rock music with a repetitive beat, and you begin to notice this characteristic even more. REM's great cover of 'Crazy' [from *Dead Letter Office*, IRS Records 465 382 2] proved great fun, with the Aria 948

Super Size Sound

End user's experience with Maximum Supertweeters in his system.

For me the best placement was dead center top, in line with my tweeters, and at a level depth, flush with the front baffle of the main speakers.

With cables, connections and positioning all satisfied I spun my first critical tune and sat down for a listen..

..Wow.. The sound had changed, and not a tiny change either, quite a discernible change. The sound stage has grown, the whole sound has matured not just at the high frequency range but across the whole range! Vocals sound fuller and more correct, breaths on wind instruments were real, violin and strings in general sounds as real as I've heard on my system to date and atmosphere on live recordings were more perceptible. Without exception one of the best purchases I have made within Hi-Fi. If I could compare Hi-Fi to food it would be like adding a little bit of salt to the food, the flavour was always there, but the salt just makes the flavours stand out more and adds a further dimension to the complete flavour.

That's what the Maximum Supertweeters have done for my set up. Just as a well set up subwoofer adds to the fullness and roundness of the sound, the Supertweeter does the same also, just tailor the level to your preference and system matching and away you go.

Removing them after a few days has made the sound dull, flat and even two dimensional. Was that really what I was calling decent quality Hi-Fi a couple of weeks ago?! What I had thought was a pretty good sound was now without the Supertweeters only mediocre in terms of sound quality. The difference was a night and day one. So obviously they were welcomed with open arms and re-instated into the system once I had established there was a "gap" without them. On first play the smile returned to my face and I earnestly started to rummage through my

music collection to get another playlist together.

At which point I should also tell you that I found the effect was still there even at night time listening levels, but it does need a few decibels to be "magical".

My 15W per channel Leak valve amps had no problems with the load on top of my speakers and when using full range "horn" speakers, these Supertweeters are simply a must have item and being quite minimal in operation they don't seem to destroy the single driver sound of a good Lowther or Fostex, rather adding to it to give a fuller sound so long as you are careful with the volume level. Discretion is the key, and blending without over exuberance or understatement is a must and worth taking the time to tune in and get right because when you do, the sound is simply stunning...

...In conclusion, my humble opinion can only be used as a guide because we all hear differently and we all like a different sound. The Townsend Maximum Supertweeters are well executed, well made, capable, very discrete super tweeters. In my opinion in terms of user friendliness and sound they are the best passive super tweeters I have heard on the market today and the fact I have purchased a pair with my own hard earned money is testament to how good they are and the impact they have had on the sound of my system. I am not going to get into the "snake oil" debate because they work within my hearing range and with all of the formats I use. Lossless on the MacBook, DAB, Cd and analogue, vinyl and tape cassette all benefit from a fuller more emotional sound.



Science is great, and will one day crack cancer and HIV but it struggles to quantify certain things in life and one of those things is emotion. I'm sure my hearing doesn't extend much above 16kHz or so and yet the super tweeters work and work well for me.

I think transients, atmosphere, detail, attack and sustain all benefit as does timbre between instruments, sounds and especially vocals within the hearing range due to less distortion, less smearing and better definition at frequency extremes. Definitely not snake oil in my opinion..

..A worthwhile investment and I will not be returning them or selling them on.

*Many Thanks and keep the music musical..
Patrick Thomas.*



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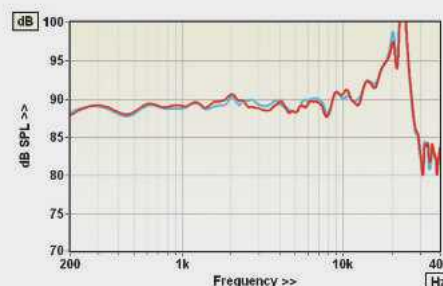
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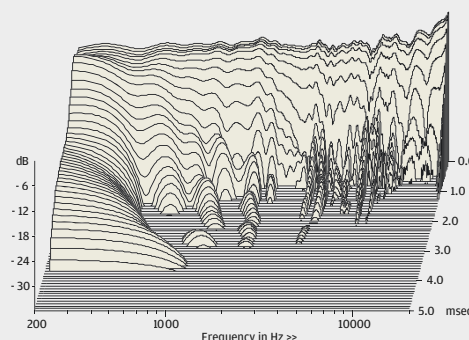
FOCAL ARIA 948

Focal claims 92.5dB sensitivity for the Aria 948 but our measured pink noise result of 89.9dB indicates that this figure is somewhat inflated, 90dB being more appropriate. Low impedance is an important part of the recipe used to achieve this above-average sensitivity. Focal's claimed 8ohm nominal is at odds with its specified minimum impedance of 2.5ohm but the latter figure is spot on: we measured 2.5ohm minimum modulus at 103Hz. Coupled with some very high impedance phase angles at low frequencies, this drops the EPDR (equivalent peak dissipation resistance, which takes into account impedance phase) to a scary 1.0ohm at 78Hz, making the Aria 948 an unusually intimidating amplifier load.

Forward frequency response, measured at 1m on the tweeter axis [Graph 1, below], is essentially flat in trend with only minor ripples up to around 10kHz, beyond which the Aria 948's output rises steeply as a result of the tweeter breakup resonance at an unusually low 23.3kHz. But for this rise through the highest audible octave the response errors would be significantly lower than the recorded ± 4.7 dB and ± 5.3 dB (200Hz-20kHz). Pair matching over the same frequency range was fine at ± 1.0 dB. Diffraction-corrected nearfield low frequency measurements showed the bass extension to be 43Hz (-6dB re. 200Hz) while at the other end of the spectrum the premature tweeter resonance causes the ultrasonic output to fall to -6dB by 30kHz (re. 10kHz). The cumulative spectral decay waterfall [Graph 2] is a good result with fast initial energy decay across the spectrum and only low-level resonance modes visible as ridges in the plot at frequencies above 1kHz. KH



ABOVE: Forward response is impressively flat until an early treble resonance boosts output above 10kHz



ABOVE: Cumulative decay waterfall reveals only minor resonant ridges above 1kHz. Cabinet is well damped

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	91.6dB/89.9dB/89.5dB
Impedance modulus min/max (20Hz–20kHz)	2.5ohm @ 103Hz 44.5ohm @ 21Hz
Impedance phase min/max (20Hz–20kHz)	-70° @ 66Hz 32° @ 1.0kHz
Pair matching (200Hz–20kHz)	± 1.0 dB
Frequency response error (200Hz–20kHz)	± 4.7 dB / ± 5.3 dB
LF/HF extension (-6dB ref 200Hz/10kHz)	43Hz / 29.2kHz/30.0kHz
Dimensions (HWD)	1150x371x420mm


LEFT: The metal baseplate does a good job of bearing the loudspeaker's not inconsiderable weight, making for stable floor contact. Unlike most price rivals, single-wire binding posts are fitted

out a large recorded acoustic, even though the stereo images were not located with the pin-point precision of some rivals. The Focal was also able to show off its crisp, vivid treble, one that gave a spacious and sonorous hi-hat sound.

AGREEABLE COLORATIONS

The same virtues can be heard on classical music. The opening movement of Beethoven's Pastoral Symphony [Philharmonia /Ashkenazy, Decca 410 003-2] was carried with a wonderful sense of phrasing and excellent dynamics. Again the speaker's gutsy nature was a pleasure, confident and poised.

This excellent 1982 Kingsway Hall recording didn't quite have the glassy clarity some similarly-priced speaker designs will give, and it's on top quality programme material that you experience the Focal's character at its most conspicuous.

There's a very subtle nasal coloration to the upper midband and, together with the generous upper bass, this makes the Aria 948 a less than totally transparent window onto the music. This in no way detracts from its enjoyable and engaging nature, it's just that it cannot quite convey the rawness of the cellos or the harmonic sheen of the violins in their full glory. All the same, few will dislike its assured, widescreen presentation with its good sense of atmosphere and air. 

HI-FI NEWS VERDICT

Focal's new Aria 948 is not exceptional in any single respect but sounds distinctively different from the crowd in an endearing and entertaining way. Despite the unconventional cone material, it is an easy and enjoyable speaker to live with, and offers plenty of good old-fashioned value for money. It is a consistent performer across a wide range of music and will slot into larger listening rooms with ease.

Sound Quality: 80%



showing its ability to work the room, as it were. It imposes its presence on your environment with a commanding sound that is a pleasure to sit before.

Again, you find yourself lapping up its gutsy bass, which stretches up to a sweet and smooth midband which has a good deal of detail and clarity. It is never hard or unforgiving, though – where many modern floorstanders seem to shine a bright white LED light on recordings the Focal maintains a slightly softer, more amber glow.

It's not strictly accurate but is a welcome trait given the 'unromantic' nature of some less accomplished digital sources. The REM song again allowed the Aria 948 to show off its scale, throwing

Melco N1A

Our review of Melco's flagship N1Z suggested its performance did not best a well-sorted NAS. Will the entry-level N1A fare any better now its USB outs are also enabled?

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

Less than entirely convinced – that's a pretty good way to sum up my reaction to the Melco N1Z [*HFN* Feb '15]. I could see what the company was trying to achieve – with its high-quality 'Audio Grade' SSD storage from Buffalo, designed for 'write once, read many times' operation, close attention paid to power supplies, and direct connection from server to network audio player... But I couldn't help feeling the price was very high for a unit with just 1TB of storage.

Melco's 'entry level' N1A music storage solution is still a not inconsiderable £1600, but it brings over much of the thinking behind the N1Z, albeit with simplified casework and power supply provision, and 4TB of conventional hard drive storage in place of the SSD drives in the £6000+ flagship model.

THE ART OF THE SERVER

As a long-term user of network storage for my own music collection, the quality of such storage has always been something I've rather taken for granted. I've chosen a reliable range of NAS housings – I'm now on my third QNAP, not because of failures but through escalating capacity requirements, and use WD's 'designed for 24/7 NAS' Red hard drives, of which there are currently ten humming away in various parts of my entertainment system.

Combining these with some sensible noise-reduction measures – linear power supplies in place of the nasty switch-modes supplied as standard with network switches and the like – plus some fibre-optic networking to isolate my network players from electrical interference, I've never been dissatisfied with what my music servers have brought to the party.

However, Melco claims to advance the art of the music server, and the concept here remains the same as with the N1Z:

RIGHT: Costs are saved over the N1Z by employing conventional (though more capacious) 2TB Seagate HDDs in the N1A. A single switch mode PSU feeds its Buffalo-branded mainboard with integral LAN/USB

rather than feeding a network music player via a conventional network and switch/router arrangement, the Melco N1A is designed to sit downstream of your router just before the network player. And it has a direct Ethernet output to feed that player, plus a loop-through Ethernet input to allow internet connectivity, and thus the likes of streaming radio and other online services to be accessed.

In common with some other network storage devices (and indeed the N1Z) it also has a USB socket to which a suitable DAC can be connected directly for music playback. This means that you could actually use the N1A to 'push' files into an outboard DAC and amplifier [see PM's Opinion, p103].

However, with this direct route you'll still need a connection to a Wi-Fi router – so you can use a tablet or smartphone on the same network to 'drive' the Melco via third party UPnP control point apps

including Audionet Music Manager, Kinsky or Lightning DS.

Melco provides a compatibility list of suitable DACs on its website, many of which support DSD, but some of which 'only' go up to hi-res PCM-based formats. For those more limited DACs, it's possible to perform 'on-the-fly' conversion of DSD to PCM within the Melco, which will also downsample other content should you have a DAC, for example, only able to handle 96kHz/24-bit. The Melco itself will handle content up to DSD128/5.6MHz.

EASY ACCESS

In addition to playing music stored on the N1A itself, this Melco+DAC set-up will also play other music in shared folders on the same network, with whichever app you choose seeing the combination as a media renderer as soon as it's set up. Depending on the app and mode chosen, you can also select whether playlists will be saved on





the N1A or the app, the former enabling music to keep playing even when the app is disconnected.

Apart from the change of drives, which give slower access in return for that greater data capacity, much of the N1A is the same as the N1Z. The idea was to create a music server much more like a hi-fi component than a piece of computer equipment, so the Melco has rapid power-up and shutdown from a front panel button, and protection against accidental power-off. Pre-installed media server software is the DSD-compatible Twonky Media Server 7.

The N1A uses a single switch mode supply, while the casework – still sturdy and impeccably finished – lacks the H-frame design. At the centre of the Melco is a NAS board from parent company Buffalo, controlled by what looks like a Marvell processor, and the drives: a pair of 3.5in 2TB 'Video 3.5 HDD' units from Seagate.

An additional front panel USB socket is fed from a riser on the mainboard and – for all the audiophile claims – the layout will come as something of a surprise to those more familiar with scrupulous cable layout inside high-end products. For example, this USB feed is bundled with the mains

connection from the IEC socket to the rear, and in general the wiring layout looks more designed for convenience than for ultimate performance [see inside shot].

What is retained is the ultra-low-jitter master clock, and optimised – and optically isolated – Ethernet ports, and it's even possible to switch off the indicator LEDs on the ports to exclude another potential source of noise.

No computer is needed to set the N1A up, and content can be copied to and from it using the USB ports to the rear, one of which is dedicated to expanding the amount of storage with the addition of an external USB drive. With 4TB on offer this last feature may be less of a pressing need than with the 1TB in the N1Z, but it's surprising how fast the space fills up when hi-res PCM and

DSD files are on the agenda. Talking of adding content, you can even input user credentials for the German-based www.highresaudio.com website, and have the server download purchases directly.



FEW DISCERNIBLE TRAITS

Listening to the N1A proved fascinating, but perhaps not quite in the way one might immediately expect. You see, while

ABOVE: OLED panel and navigation buttons allow the Melco to be set up and customised: the display can be switched off, and power on/ off executes quickly. Front port is USB 2.0

any differences I could discern between my well-sorted networking solution and the optimised Melco way were neither compelling nor repeatable. Things kind of slotted into place when the USB output of the N1A was used directly into a range of DACs, entirely flying in the face of the received wisdom that the source of data for a USB DAC is irrelevant, as the DAC will sort it all out anyway.

But yes, I was able to hear the benefits the N1A could bring, but only if I forced matters by hobbling my existing network. That involved dumping both my existing switches and fibre-optic cabling (which is only used in very short runs, and purely to provide isolation), and connecting both my QNAP NAS and Naim NDS network player into the ports on my Virgin Media SuperHub. (This usually runs in 'purely modem' mode, with Wi-Fi duties handled by an Apple AirPort Extreme).

All that done, and with the player thus much more exposed to noise created by other traffic on the home network, there was clearly a layer of softness overlaid on the music streaming from NAS to player. This impeded the tight definition of

'Yes, I was able to hear the benefits the N1A could bring'

THE MELCO EFFECT

One of the more striking observations at the recent Munich High End Show [p18] was that more than a dozen exhibitors chose Melco servers upstream of their network music equipment. And in some quarters the company's products have been receiving rather less equivocal reviews than you can read in *HFN* – oh, all right then, they've been getting raves! It's hard not to conclude that these two situations are linked, in that the Melco effect is most noticeable when its players are inserted into less than optimal networks. That's definitely the case in a show environment, where the old noise pollution problem is joined by Wi-Fi hash and clashes.

Clearly, connecting up a system with no more than a server delivering an optimised Ethernet link to a network player must be an advantage in such situations, as in a less-than-ideal home environment. After all, the same network might be carrying data covering documents, the feed to a printer, streaming video content and music all at the same time, not to mention having plenty of points at which electrical noise can be injected into the signal.



ABOVE: The Melco N1A's music library is accessible via numerous third-party apps

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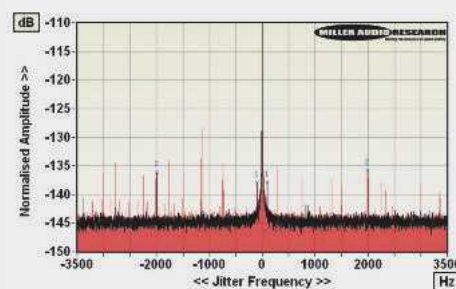
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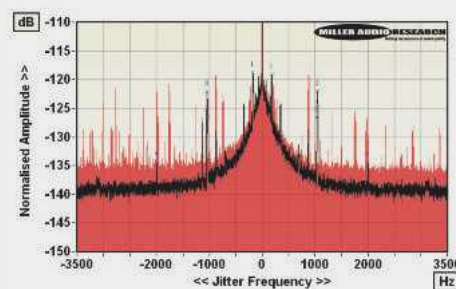
MELCO N1A

The lab tests accompanying our review of Melco's flagship N1Z 'audiophile NAS drive' [HFN Feb '15] pitched the performance of the Melco against a high quality PC/router solution using various network-attached DACs. Despite the N1Z's superior engineering there were no observable differences in distortion (versus level or frequency), response, output level, linearity or, indeed, A-wtd S/N ratio whether the test DAC was driven via the PC network (and Netgear switch) or directly via the same test files stored on the N1Z. This same 'lack of difference' was observed with Melco's N1A. Small differences in jitter were recorded between PC/Cyrus XP₂ Qx and Melco/Cyrus XP₂ Qx and, once again, the same was seen with the N1A *in situ*. I'm bound to conclude that subjective differences may well be experienced between noisy/shared NAS drives and the Melco(s) but as the quality of the network/NAS/router or switch improves, the advantage offered by the Melco(s) will shrink. But what of USB replay, now this is enabled on the N1A?

The same comparative test regime was organised – pitching a dedicated, USB-equipped PC against the N1A driving two hub/battery-powered USB DACs (such devices are more critical of USB power and noise). Here, at last, differences were significant and repeatable. Residual spurs observed on the noise floor of the excellent Chord Hugo (HD input) were all but eliminated by the N1A and jitter reduced from 18 to 7psec [see Graph 1]. The change is more readily observable via Oppo's HA-2 [Graph 2 and HFN Jun '15] where spurious noise (red infill) is erased and jitter reduced by 30% (black trace). Finally, and proving that a clean USB supply is critical, the differences in final A-wtd S/N ratio were astonishing – up from 96.6dB to 106.9dB for the Oppo and from a '15-bit' 91.5dB to a fully 'hi-res' 105.0dB for the Chord Hugo. Now this *will* be audible! PM



ABOVE: 48kHz/24-bit jitter spectra from battery-powered Chord Hugo over USB (red, via optimised PC) and direct (black, via Melco N1A, jitter marked)



ABOVE: 48kHz/24-bit jitter spectra from battery-powered Oppo HA-2 over USB (red, via optimised PC) and direct (black, via Melco N1A, jitter marked)

HI-FI NEWS SPECIFICATIONS

A-wtd S/N Ratio (Chord Hugo)	105.0psec (91.5psec via PC/USB)
A-wtd S/N Ratio (Oppo HA-2)	106.9psec (96.6psec via PC/USB)
Digital jitter (Chord Hugo)	7psec (18psec via PC/USB)
Digital jitter (Oppo HA-2)	60psec (97psec via PC/USB)
Power consumption	17W
Dimensions (WHD) / Weight	436x70x352 mm / 7kg



ABOVE: Rear panel plays it simple: network and direct player Ethernet connections, plus USB ports dedicated to expansion, back-up, loading of content and replay via an external DAC (this is a USB 3.0 compatible port)

bass-lines and drums, and brought a little more splash to the sound of cymbals while also diminishing the sense of air and ambience in atmospheric live recordings. The same effects were also apparent when substituting the Melco for my usual music NAS, negating its optimised Ethernet output by connecting it through the SuperHub.

However, with the Melco directly connected to the Naim player, the bass again firmed up and regained its rhythmic definition, while the spaciousness of recordings made in churches and concert-halls was once more revealed. Indeed, the overall sense of listening to real instruments in real spaces was returned to the system. Even with a mainstream release such as Blur's *The Magic Whip* [Parlophone 082564 6141692] in good old CD resolution, the dense layering of the recording opened up and revealed its strands much more effectively.

DIRECT ADVANTAGES

And with a high-quality DSD release, the San Francisco Symphony's recent 'own-label' Mahler Symphony No 5 [SFS Media], the *Scherzo* sounded rich but a little fuzzy when played using the 'hobbled' digital path, but regained its sparkle and vivid instrumental textures – especially in the brass – when things were done the Melco way.

However, the real revelation here was what the N1A can do when used as a source straight into a DAC connected to its USB output. With my 'personal listening' reference Marantz HD-DAC1 headphone amp [HFN Apr '15], the direct connection from Melco to DAC provided noticeably more focus and an overall sense of a cleaner sound when compared to using the DAC with my usual MacBook Air. The effect was especially striking when comparing the Melco as a digital source with the MacBook running on mains

power, and slightly less so when left running on its battery power.

Similar effects were noted when using the Melco into the Pioneer U-05 [see p54], especially when connecting this DAC/headphone amplifier to my main system rather than using it into headphones. The N1A makes a convincing case for this method of working: the differences aren't subtle, as I discovered when running it straight into the little Denon PMA-50 integrated amplifier.

It's not one of those 'night and day' changes when you switch from computer as source to the Melco, but switching back does lead to some thickening and defocusing of the sound, and a resultant lessening of musical involvement.

If you're going to use this server straight into a DAC then it's definitely an effective, if still rather expensive, improvement over a direct computer connection, but this jury is still out on how sensible a buy it would be for use with a network player. The player I use is highly revealing of, and susceptible to, network changes, and even here the Melco's contribution is at best marginal when compared to some more affordable network optimisation strategies. ☹

HI-FI NEWS VERDICT

A tricky one to score, this: the SQ rating reflects more what the N1A can do when used directly into a high-quality DAC via USB, as in my carefully networked streaming set-up it offered no clear sonic advantages. True, if you have a ropey home network set-up it will be beneficial when used directly upstream of a revealing network player, but there remain more cost-effective ways of achieving similar gains.

Sound Quality: 85%



traditional philosophy
modern design



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The Triode 25 offers a perfect combination of tradition and modernity.

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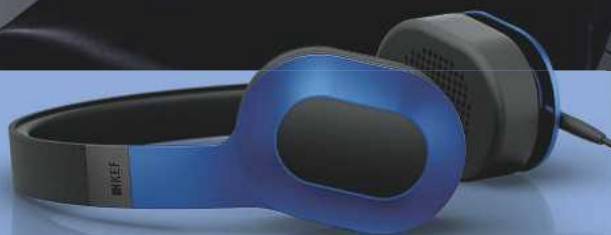


➤ Made from a cast aluminium frame, the KEF M400s boast a supra-aural capsule that follows the contour of the human ear. This not only makes for a comfortable fit but gives a tight acoustic seal for improved noise-isolation.

➤ The M400s employ KEF's ultra-light, full-range 40mm driver, powered by a neodymium magnet and tuned to deliver the brand's trademark sound – intricately detailed treble, fluid, natural mid and tight, clean bass.

➤ High-density memory foam ear pads assume the shape of the user's ear while in-line mic and volume controls are compatible with most iOS and Android devices for music on the move.

➤ The KEF M400s weigh a mere 175g and are part of the company's 2015 'Personal and Digital Audio Range'.



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Q: The M400's driver employs a magnet made from which material?

- A) Neptunium
- B) Neodymium
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HOW TO ENTER

Simply email your answer (either A, B or C) to letters@hifinews.com. Please use 'Competition' in the subject field.

You must include your name, address and contact telephone number.

Indicate whether you want to keep up-to-date with *KEF News* in your answer (*KEF News*: Yes/No).

The closing date for this competition is 24th July 2015. Please read the terms and conditions (below) before sending in your entry. *Colour may vary from those shown

TERMS AND CONDITIONS

1. The first five entries drawn at random will win the prizes.
2. Only one entry per person/household; multiple entries will be discarded.
3. Entrants must be over 18 years old and resident in the United Kingdom.
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5. Proof of posting will not be accepted by the magazine as proof of delivery.
6. No responsibility will be accepted for entries lost, damaged or delayed in the post.
7. No alternatives, cash or otherwise, will be offered to the winners as prizes.
8. The editor's decision is final.
9. The closing date for entries is 24th July 2015.

Musical Fidelity V90-BHA / MF-200B

If you're interested in balanced headphone drive then this new combination from MF provides a keenly priced means to try it. Only there's a fly in the ointment...

Review: **Keith Howard** Lab: **Paul Miller**

There's a serious question to be asked about the rush to offer headphones by brands we've previously known principally for their electronic products. Do they have the in-house expertise to design a good headphone? The answer generally is no, of course, so they buy in a design, or at the very least key components, from elsewhere. It's a strategy that can work perfectly well if a canny choice of supplier is made and the available options are carefully juggled to produce a creditable end result. But that outcome isn't guaranteed.

A BALANCED OPTION

Musical Fidelity – best known for its amplifiers, DACs, etc – introduced its first headphone (as opposed to earphone), the MF-100, over a year ago and it has been generally well received. With the later, costlier MF-200 Antony Michaelson, MF's MD, now offers two options: the £229 MF-200 itself which has conventional unbalanced connection via a connecting cable attached to the left capsule only, and the latest £249 MF-200B where the B stands for 'balanced' and the connecting cable divides to feed each capsule separately.

While balanced headphone connection – where each drive unit is 'suspended' between two amplifiers operating in anti-phase – is difficult to justify technically, Antony is convinced from his own listening that it brings significant benefits, so he has added the £249 V90-BHA balanced headphone amplifier to MF's range with which to drive it. In effect the two should be regarded as a dedicated pairing.

Although Musical Fidelity's website describes its headphones as 'ideal for those who travel...' the unavoidable reality is that the '200B is unsuited to use on the move. Its captive 3m connecting lead (not 1.3m as it says on MF's website) alone would ensure that – after all, who wants



to carry a trip hazard about with them? Nevertheless, the fact that the lead is terminated in a non-standard 4-pin mini-XLR means that the '200B is wedded to the V90-BHA, which although small enough to fit in a jacket or coat pocket is mains-powered (via a plug-top power supply) not battery-powered.

Perhaps MF has such an addition to its V90 Series in mind but for now it

LEFT: Polished chromed capsule pivots are arguably rather crude but form a visual feature. Coloured rings around the capsules, blue and red, are used to identify the two channels

is unrealistic to consider the '200B as anything other than a stay-at-home option.

DIY LEADS NECESSARY!

If it is ever to be viable for use on the hoof it will require a design update to allow for shorter leads to be fitted, and it will probably have to be changed to closed-back rather than open-back capsules to provide isolation from external sounds.

You'll gather from this that no adapter lead is provided to allow the '200B to be used with unbalanced outputs via standard jack or mini-jack sockets, nor are adapters available to provide compatibility with balanced headphone amplifiers using full-sized XLR connectors. This is a pity because it not only means that MF is twisting your arm into partnering the '200B with the V90-BHA, it also obviates any easy assessment of the subjective benefit of the '200B's balanced wiring.

Unless you can undertake the necessary soldering to make your own adapter, you have to take MF's word for it that balanced operation is worth the price premium and the limitations imposed by the '200B's connectivity. To perform our usual lab tests I had no option but to make a mini-XLR to ¼in jack adapter lead for the '200B, so I was at least able to try it unbalanced – albeit not from the V90-BHA itself whose unbalanced output is via a mini-jack socket.

Given that the '200B and V90-BHA are an item and were used together for much of the listening, some words on the latter are in order. As already noted it is small, measuring just 117mm deep (including the front-panel volume control knob and

ME, MYSELF, I

Why is it that some listeners love headphones that others hate? Personal taste comes into it, of course, as does familiarity (or lack of it) with what really good reproduced music sounds like. But those factors apply just as much to loudspeakers as they do to headphones, yet headphones vary much more in their tonal balance. How come? I've suggested in these pages before, perhaps rudely, that some listeners seem to lose their marbles when they don headphones, and I truly think that's a factor – the headphone listening experience is so alien that judgement can be affected. Tonal balance that would be decried in a loudspeaker is accepted from cans. But it's also true that anatomical differences result in widely varying frequency response(s) at the eardrum, and this must be a factor too. It's an issue that could be tackled by offering smart, adjustable equalisation realised in DSP but no manufacturer has yet had the nous – or the commercial balls – to offer such a thing. It's time someone did.

rear-panel phono sockets) by 170mm wide by 47mm high, including feet, and weighs only 600g.

Whether this compactness is an asset or not will depend on factors like available space in your equipment rack and whether the interconnect cables you use are so stiff as to tip or twist the V90-BHA on its perch (a not uncommon problem with smaller headphone amps which can require a weight on top of them to fix the problem).

Operationally the V90-BHA couldn't be simpler, being a purely analogue headphone amp with no onboard DAC. On the front panel the miniature toggle switch that controls power on-off is fashionably arranged, echoing pro audio practice such that 'on' is up, not down. This is to the left, the two output sockets – an unbalanced mini-jack and balanced 4-pin mini-XLR – are to the right, and in the middle is the volume control, which could usefully be larger and have a scale to assist repeatable setting.

Around the back unbalanced inputs are provided on gold-plated RCA's and balanced inputs via three-pin XLRs. Selecting between them is via a recessed sliding switch that requires a tool to access it. Apart from the 12V DC power input socket, that's it – there is no output that would allow the V90-BHA to operate as a simple preamp.

For the listening I used a second-generation Mac mini running Windows XP and JRiver Media Center v19, feeding a TC Electronic

Impact Twin audio interface via FireWire and thence a Chord Electronics QuteHD DAC via S/PDIF. Also to hand was my Teac HA-501 headphone amp [HFN Apr '14], which, via my homemade lead, allowed me to try the '200B unbalanced.

Regular readers of my headphone reviews will have seen me say many times before that today's headphone market encompasses a range of tonal balances that would be quite unsustainable if carried over to loudspeakers – we'd die laughing.

With the current trend to shelved-up low frequency output, this often manifests itself as varying degrees of bass excess, the muddying effect of which is sometimes exacerbated by a denuded output in the critical presence band. This is a doubly key area for headphones because this is where the frequency response at the eardrum must have a broad peak at 2-3kHz if it is to match that of natural external sounds.

THAT HOT TREBLE

Occasionally, though, a headphone surprises with a quite different type of tonal aberration. That was certainly the case here. As usual I had an initial listen to it before performing the running-in and the measurements. The track I chose was Bêla Fleck And The

'It was when a cymbal was struck that the surprise arrived'

Flecktones' 'Flight Of The Cosmic Hippo' [from Warner 9 26562-2], one of my favoured pieces for assessing bass quality, to see where the '200B stood regarding LF balance. Answer: its bass is generous but not overly so.

It was when a cymbal was struck that the surprise arrived, causing me to shout something unrepeatable and yank the '200B from my head. Turning the volume down and repeating the excerpt confirmed that the '200B has the hottest treble I ➔

BELOW: For mobile use the connecting cable is much too long and anyway the mini-XLR connector is non-standard. A spare pair of earpads is supplied, as is a draw-string pouch



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One key to the performance of the Vivace and Chiara loudspeakers is the unprecedented care taken to limit damage to the music signal from vibration and radio frequency interference (RFI).

Yes, it's not just electronics, speakers also suffer the effects as detail and timing information are destroyed by the interaction between the signal and vibration and RFI/EMI.

Loudspeakers vibrate air of course, but that vibration travels everywhere via cables.

Particular care is taken with the crossover in both speakers, using technology developed by UK company Vertex AQ. Vibration is dissipated into material with thousands of pathways, while Stealth shielding developed for military aircraft and ships protects against RFI/EMI.

A second key feature are cabinets built from Tankwood, a composite so dense that it blunts diamond tools in Kaiser Acoustics' hi-tech factory near Munich.

Formed from highly-compressed beech ply and resin, Tankwood has inherently excellent damping properties but also is perfect for musicality, natural tone richness and authentic timbral colour.

Rear view of the Vivace, showing the passive mid/bass driver (top) and the additional bass unit. Finish of this particular pair is high gloss white with an exotic wood veneer front baffle. Almost any wood or paint finish is possible.

Don't think of the Chiara as a stand-mount speaker.

Vivace and Chiara loudspeakers both produce a scale, power and depth of sound out of all proportion to their physical size. So think of the Chiara as a compact floor-stander.

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Chiara's invisible 'secret' is the substantial vibration absorption built into the integral stand, draining energy from drive units, crossover and the cabinet itself.

Those labyrinths are the major reason the speaker offers power and scale like a floor-stander. Absorbing the huge energy inside the cabinet during intense music passages allows it to control timing and phase accuracy, key to that stable imaging and sound stage.

The result is stop-you-in-your-tracks presence and realism, a jaw-dropping re-creation of the original performance. Even playing music that's not your usual choice the effect is riveting.

A third feature of both speakers is an extra drive unit on the back passively driven by the main mid-bass front driver – similar to the Vivace (below left).

The aim is to work with and control the room, rather than fighting it and setting up difficult modes. Humans need two milliseconds to separate a musical tone from a noise, after which the room's ambient sound intrudes.

Read much more under 'Loudspeakers' on our web site, including several major reviews, eg 'Best of the Best' in hifi+ magazine for the Vivace.

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Tuners: Magnum Dynalab. Amplifiers: Bel Canto, CAT, Gamut, Sonneteer, Storm Audio, VTL.

Loudspeakers: Avalon, Gamut, Kawero! – Vivace & Chiara, NEAT, Totem. Cables: Chord Co., DNM, Nordost, Siltech, Vertex AQ. Mains: Vertex AQ. Supports: Arcici, Black Ravioli, Hi-Fi Racks, LeadingEdge, Stands Unique, Vertex AQ. Room Acoustics: LeadingEdge.

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Finish of this Vivace is high gloss Burgundy red with a carbon fibre baffle.



Chiara in another finish option. There's a third, passive, drive unit on the back.

HEADPHONE/AMPLIFIER



have ever heard from a headphone. This was confirmed later in the lab test by the diffuse-field-corrected response (which should be flat or thereabouts for a perceived neutral tonal balance) exhibiting a 15dB hike between a broad midrange dip centred on 500Hz and a treble peak maxing out at 5kHz. Believe me, that affords cymbals the cutting edge of a diamond-tipped saw blade.

A METALLIC OVERLAY

This over-energetic treble – which remained even after five days of running-in – is the defining factor in how the '200B sounds. To some, this might be perceived as the '200B delivering extraordinary levels of detail, but the diagnosis should not be that it possesses unusual transparency, rather that it's guilty of blatant exaggeration.

A good example of its over-etching of detail came when I played 'Silence' from the 96kHz/24-bit download of Tony Overwater and Bert van den Brink's *Impromptu* [www.soundlison.com, also available in DSD64]. Recorded live, it contains background noises from the audience. They add to the general ambience of the recording but they should not be a distraction, which is what they became via the '200B.

It was the same with any chamber music recording in which the musicians could be heard moving – the rustle of clothes and the occasional dink of a music-stand took on an unnatural prominence.

And the '200B did some unwelcome things to instrumental timbres. Take, for example, Robin Ticciati's recording of the *Adagio* from Schumann's Symphony No 2 [Linn Records 192kHz/24-bit download] – wonderfully balanced and a rare amalgam of tonal warmth and intimately detailed string sound.

This makes it a very good test of tonal neutrality that many headphones fail, typically because they produce a stodgy outcome in which the airiness of the acoustic

ABOVE: The V90-BHA is an analogue-only headphone preamp and so offers single-ended (on RCA) and balanced (on XLR) inputs. These are switched via a small toggle on the rear panel

and marvellous string timbre are both underplayed. Not the '200B: it went in the reciprocal direction, so it sounded as if the expensive instruments of the orchestra had been swapped for cheap, scratchy learner items. A overlaying metallic sheen dissipated its special magic.

Buddy Holly's 'True Love Ways' [ripped from *Buddy Holly: The Original Master Tapes*, MCA Records MCAD-5540] still surprised with the freshness and vitality of its recorded sound, but it was a bit like listening to an amp with its treble turned up.

Unbalanced connection to the costlier Teac headphone amp didn't provide any useful insight into the benefits or otherwise of balanced connection but it did provide a more 'lyrical' sound against which the V90-BHA sounded rather matter-of-fact by comparison.

This exercise did reveal, though, that the V90-BHA generates a nasty power-on 'splat' on its output that, should you be wearing the '200Bs, comes as an unpleasant wake-up call even if the volume control is turned right down. ☹

HI-FI NEWS VERDICT

At least the MF-200B is distinctive in its looks and its sound, albeit 'love or loathe' in character. I don't understand how anyone could enjoy the 200B's excess treble but then neither do I comprehend how some crave excess bass in headphones either. The unbalanced MF-200 model has received some positive write-ups, so clearly some listeners do like this 'zing'. But it'll not be for every audiophile.

Sound Quality: 65%

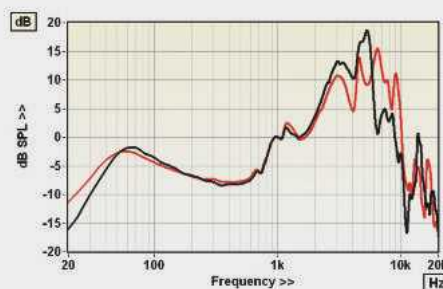


LAB REPORT

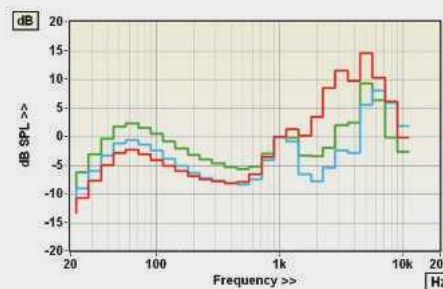
MUSICAL FIDELITY V90-BHA/200B

The first three lines of the test table [below] refer to MF's partnering V90-BHA headphone amplifier. Rated at >750mW/32ohm it achieves a (single-ended) 402mW/25ohm which is not too far off specification. Distortion is low at ~0.0004% through the midrange at 10mW/25ohm, only increasing at very low and high frequencies. The A-wtd S/N ratio is about 10dB below the very best at 88.5dB while the 11-12ohm source impedance is also a little high. In practice, its -1.1dB to -0.1dB response (20Hz-20kHz) will be subject to some 'real world' modification [see Graph 1, below]

Musical Fidelity's spec. for the '200B headphone is unusual in that it includes production sample limits for both sensitivity (99dB ±3dB) and impedance (64ohm ±10%). Assuming the sensitivity figure is for an input of 1mW, this corresponds to 110.9dB SPL/1V input across the specified impedance, ie, 113.9dB at the upper end of the quoted range. This corresponds quite well with our measured average for the two capsules of 114.6dB at 1kHz. MF's ±10% impedance range is 57.6-70.4ohm but, with the headphone worn, we measured a minimum of 68.3ohm and a maximum of 87.9ohm. With the V90's 11ohm source resistance the resulting response modification will be 0.28dB, and with a 30ohm source it will be 0.61dB. Uncorrected frequency responses for the two capsules show a bass peak at around 60Hz, a 'saddle' at about 500Hz and a very energetic treble output above the normal 2-3kHz peak [Graph 1, below]. When third-octave diffuse-field correction is applied [green trace, Graph 2] the first two features remain as does a peak in output at 5kHz that is almost 15dB above the 500Hz level. This indicates that the perceived tonal balance will be extremely bright if not harsh. PM/KH



ABOVE: Instead of the bass-heavy balance of many modern 'phones, the 200B has a mid/treble emphasis



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

HI-FI NEWS SPECIFICATIONS

Power output (into 25ohm) / Impedance	402mW / 11-12ohm
Distortion (20Hz-20kHz, re. 10mW)	0.00035-0.021%
Frequency. resp. (20Hz-100kHz, 25ohm)	-1.1 to -3.1dB
Sensitivity (SPL at 1kHz for 1Vrms input)	114.6dB
Impedance modulus min/max (20Hz-20kHz)	68.3ohm @ 544Hz 87.9ohm @ 62Hz
Capsule matching (40Hz-10kHz)	±12.2dB
LF extension (-6dB ref. 200Hz)	21Hz
Distortion 100Hz/1kHz (for 90dB SPL)	3.2% / <0.1%
Weight (inc cable)	292g



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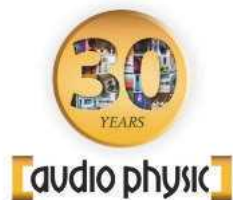
Impedance 8 Ohm
Frequency range 35 Hz - 20 kHz
Sensitivity 92 dB



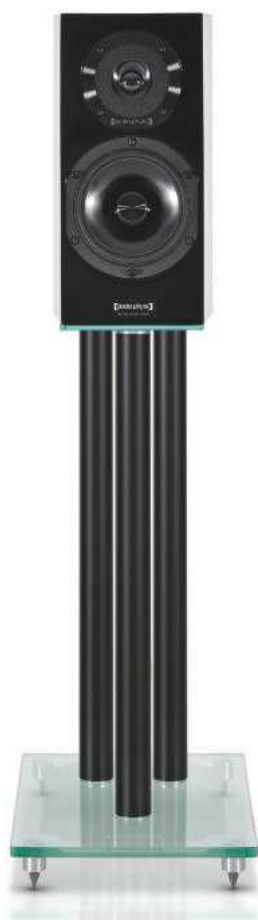
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Classical Companion

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

André Previn *Composer conductor*

He began recording Russian symphonies in the '70s for RCA and popularised classical music on television with the LSO. **Christopher Breunig** looks back to a golden era

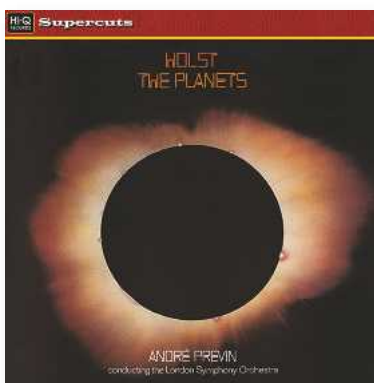
He was 'Mr Preview' so far as Eric Morecambe and Ernie Wise were concerned, in the BBC's 1971 Christmas Night sketch about Grieg's Piano Concerto – Eric playing 'all the right notes, but not necessarily in the right order'. The guest appearance won Previn belated acceptance in his local pub!

At the time, André Previn was partway through his decade-plus as chief conductor of the London Symphony Orchestra (1968-79), with whom he presented the popular 'Music Night' televised concert series – typified by the 1975 EMI LP programme now on Hi-Q 180g vinyl [HIQLP011].

As a child, living in Berlin, the son of a lawyer and amateur musician, André Previn was already listening to domestic concerts aged four (1933)

➔ Gustav Holst's *The Planets* suite is available on 180g vinyl from Hi-Q Records

⬅ Clive Barda's photograph of André Previn was taken at an EMI recording session



and being taken to see Furtwängler, *et al.* He was keen to play the piano and, at only six, went to the Berlin Hochschule where he also studied musical theory. His sight-reading skills were immediately the envy of other pupils, but three years later his father was told that, since the family was Jewish, he would have to leave.

In fact, the family all left, via Paris, to New York in 1939 – sponsored by Heifetz – and soon on to California. Speaking almost no English, Previn's father earned money by giving piano lessons, while André quickly found pocket-money jobs as a keyboard player, became keen on jazz and learned to orchestrate pieces.

He began composing at MGM studios with a freelance orchestrated piece for a José Iturbi film and in 1946 went there full-time. He also made a jazz LP for RCA which was a runaway success. Through the MGM Orchestra's lead cellist he met Joseph Szigeti and via regular trio evenings assimilated the classical repertoire.

He also began to conduct, not just for films, when members of the orchestra (some from Toscanini's

NBC) wanted to play symphonies, *etc.*, in their spare time. But Previn was conscripted in 1949. Moved to San Francisco as band concertmaster he had the good fortune to meet Pierre Monteux who took him on as a pupil there.

AFTER THE OSCARS

After he had left the services and returned (now married) to Los Angeles, Previn had his first big hit with the *My Fair Lady* jazz recording, much approved by Lerner and Loewe. *Gigi* won him an Oscar while still at MGM (he left in 1958), as did *Irma la Douce*, *My Fair Lady* and *Porgy and Bess* in a subsequent freelance period.

By then Previn was giving classical concerts as a trio member and appearing as concerto soloist with major orchestras. As to conducting, orchestras wanted to book him just for popular

'There was only one dissenting voice: "too Hollywood"'

programmes; instead he took classical engagements, arduously touring lesser venues.

His first orchestral record as a conductor, for Columbia Records, coupled Copland's *The Red Pony* and Britten's *Sinfonia da Requiem*, but with commitments to Bruno Walter, Bernstein, Ormandy, *et al.*, they weren't prepared to foster his ambitions as a 'serious' artist.

He had more luck switching to RCA in 1964, when he worked in London with the RPO and LSO. He made his mark with collectors firstly with Shostakovich's Symphony No 5 (for EMI there would be a terrific LSO Eighth in 1973) and then – even more remarkable, and much to the composer's liking – the 1966 Walton First Symphony [see boxout].



Previn and Walton got on famously: Previn and the LSO had accompanied Kung-Wha Chung, making her 1970 Sibelius/Tchaikovsky debut on Decca [SXL 6493; 475 7734] and in 1972 they did the Walton Violin Concerto together [SXL 6601]. Previn redid this with Nigel Kennedy and the RPO in 1987, coupling the Viola Concerto, then *Belshazzar's Feast* and the Second Symphony [all EMI].

While he enthused over the 'really wonderful' concert performance of *Belshazzar*, Walton wrote privately to Malcolm Arnold, complaining that much of the subsequent recording was 'a shambles'. But then, it had always been his hope to get Herbert von Karajan to do it!

Previn was the first non-British conductor to record all nine Vaughan Williams Symphonies: a fine cycle engineered at Kingsway



PHOTO: TELARC INTERNATIONAL

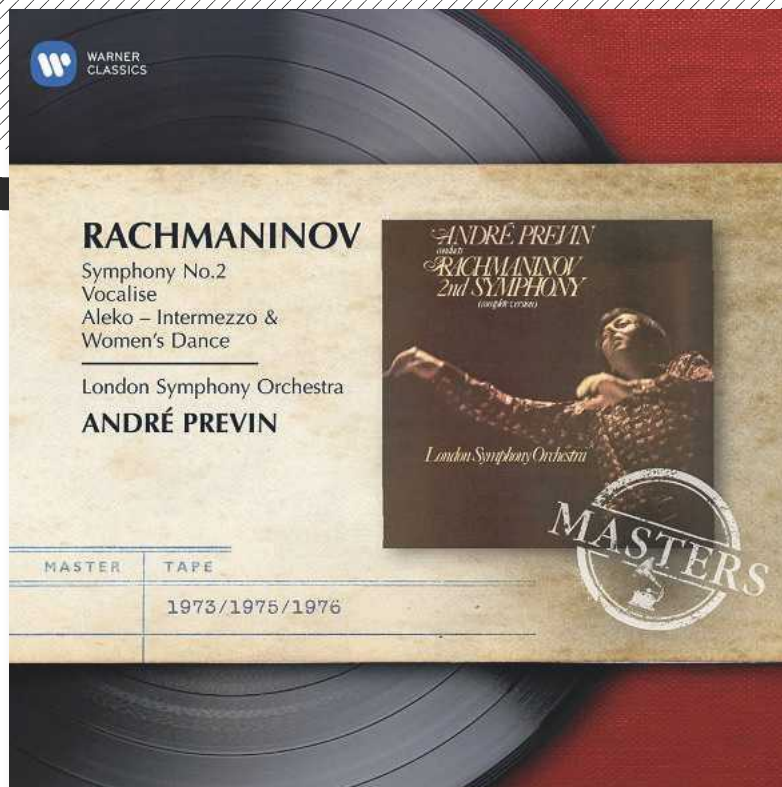
Hall by Kenneth Wilkinson. (Slatkin and Haitink would follow suit, and – amazingly – 1988-9 live Rozhdestvensky/USSR SO recordings were recently issued by Melodiya!)

THE EMI CORNUCOPIA

Previn's 'golden period' was with the LSO and EMI: Tchaikovsky ballets and *Manfred*; Prokofiev's *Romeo and Juliet* and *Alexander Nevsky*; the Rachmaninov orchestral works; Britten's *Sinfonia da Requiem* revisited (with the *Peter Grimes* 'Sea Interludes'); Gershwin's *Rhapsody in Blue* and Piano Concerto in F (conducting from the piano), plus *American in Paris* [Warner Classics 2435668912 – preserving the original EMI LP sleeve artwork]; Berlioz overtures, *Requiem* and *Symphonie Fantastique*. With producer Christopher Bishop and engineer Christopher Parker, they worked mainly in the fine acoustic

➔ Warner wasted no time in repackaging the LSO/Previn Rachmaninov Second Symphony, after taking over the EMI catalogue

➔ Previn in early 2012, recording his songs album *Change Of Heart* with Michael Feinstein [review HFN Aug '13]



of Kingsway Hall (now gone). EMI's first digital LP was of Ravel orchestral pieces with Previn.

But it's the Rachmaninov Second Symphony I'd select as my 'key' recording [Warner Classics 5099908528926 – it's a shame the Testament 180g pressings, ASD 2889, are no longer in production]. This was a work featured in the LSO's 1971 tour of Russia and the Far East, and given in its complete form (earlier, as in his 1966 RCA recording, Previn had made the then 'sanctioned' cuts in the score).

With memorable solos by leader John Georgiadis and clarinetist Jack Brymer in the great *Adagio*, superb general orchestral playing and fine engineering (Robert

Gooch this time) it's the 'definitive' Previn recording. I think it garnered only one dissenting voice: 'too Hollywood' wrote Ateş Orga...

You can find interesting, candid, interviews from 2008, both at *The Guardian* and *Classic FM* websites (he thought his LP with Ravi Shankar was 'absolute rubbish', didn't think Lang Lang 'would last' and cited recording Strauss with the Vienna Philharmonic [Telarc – midprice] as a career highlight).

His June 10th LSO/Barbican return was a complete sell-out, months in advance. At least you can purchase the two works programmed: the Rachmaninov symphony and his own Violin Concerto for (and with) Anne-Sophie Mutter. ☺

ESSENTIAL RECORDINGS

Holst 'The Planets'

Hi-Q HIQLP003 (180g vinyl)

It may have been Boult who caused them 'first to shine' but Previn's 1973 EMI (LSO) version outshines pretty well all competition.

Orff Carmina Burana

Hi-Q HIQLP008 (180g vinyl)

The Jochum/DG may have greater claim to authenticity but this enjoyable alternative (with Sheila Armstrong, Gerald English and Thomas Allen) sounds better than the earlier half-speed Mobile Fidelity pressings.

Rachmaninov Piano Concertos etc

Decca 0289 478 6443 13 (2CDs + Blu-ray)

Vladimir Ashkenazy's first Decca cycle (1970-

72) now comes with a Blu-ray audio disc: all four Concertos plus Paganini Rhapsody. The pianist enjoyed a fine collaboration with Previn, and they recorded duo works as well.

Previn Violin Concerto

DG E4745002 (44.1kHz/16-bit download only) Recorded in Boston with Anne-Sophie Mutter (for whom it was written) this is coupled with Bernstein's Serenade.

Walton Symphony No 1

RCA 74321925752 (two discs)

My second choice for the Sep '14 Classical Companion on this work, Previn's 1966 LSO version comes with classic concerto recordings by Heifetz, Piatigorsky, et al.

Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Mott The Hoople *All The Young Dudes*

Just a single song was needed to turn cult success into chart stardom overnight. **Steve Sutherland** listens again to Mott The Hoople's fifth studio LP, now on 180g vinyl

Overend was at his wit's end. The group he'd played bass in for over a decade was on a bum trip to nowhere, the latest stop *en route* to that dull destination someplace he'd already forgotten the name of in Switzerland. The audience was less than enthusiastic and his band kinda sucked. End of the line? It sure felt like it.

There were mutterings about splitting the group and Overend, with bills to pay, was on the lookout for his next move. So he phoned a bloke he vaguely knew to check out new opportunities.

SOMEWHAT ECCENTRIC

The bloke, a long-time chancer suddenly making good, was a Mod turned folkie turned Glam rocker called David Bowie who was stunned when Overend called. This Bowie bloke was a big fan of Overend's band and, rather than offering a spot in his Spiders From Mars, instead proposed he write Overend's mob a hit to put them back on the road to fame and fortune.

The song he offered was some concoction called 'Suffragette City'.

Overend's mob turned him down. For the record, Overend's full moniker was Peter 'Overend' Watts. His roots were in that not-really-legendary rock 'n' roll capital of Hereford in, er, Herefordshire and local bands like The Soulents, The Doc Thomas Group, The Shakedown Sound and, latterly, Silence. That's when a chap called Guy Stevens discovered them.

Guy was somewhat eccentric. He'd been a Mod DJ at The Scene in London, then an agent for Sue Records which led him to the job of Island's first in-house producer. 'There are only two Phil Spector's in the world,' he said at the time, 'and I'm one of them.'

Guy, who rocked the classic movie mad scientist look with an extravagant black candyfloss hair-do, liked to get his own way in the studio and smashed up a lot of stuff to get it. But there was no denying that he had great ears. Free were one of his discoveries. Spooky Tooth another.

'By '72 the band were running out of steam and that's when they met David Bowie...'

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...



Unfortunately Guy liked his refreshments too and was spending a spell in Wormwood Scrubs on a drug rap when he chanced to read this obscure book about a conman working in a circus by an American author called Willard Manus. The book was pretty good but the title was a doozy. Mott The Hoople. Guy loved it and when he rejoined Island and began auditioning bands again, he was determined that the name should not go to waste.

That's when Silence crossed his path. Guy saw potential. They were rough and

ready – which he liked – but somewhat lacking in charisma – which he didn't. So, after much wrangling, he got them to oust their singer, Stan Tippins, in favour of

a seasoned small band veteran called Ian Hunter. Then he changed their name.

Their eponymous debut LP, *Mott The Hoople*, came out in 1969 and set a kind of pattern for the band. Sporting Verden Allen on organ, Dave 'Buffin' Griffin on drums, Mick Ralphs on guitar, plus the aforementioned Overend and Hunter, they attracted an army of hardcore fans which included a teenage Mick Jones, later of The Clash, but generally they sold zilch copies of their first four albums.

HISTORY IN THE MAKING

By '72 they were running out of steam and that's when they met Bowie who, to his eternal credit, didn't storm off in a huff when they turned down 'Suffragette City'. What he did instead was history in the making. Summoning the band to his manager's office, he sat cross-legged on the floor, strummed an acoustic guitar, and played them a song he was in the throes of composing especially with them in mind. That song was 'All The Young Dudes'.

An exquisite anthem of teenage rebellion, a vivid statement for the budding Glam Rock movement, a line drawn in



The band in 1974 (l-r): drummer Dale Griffin, guitarist Ariel Bender (replaced Mick Ralphs in 1973), Morgan Fisher (keyboards, front), bass player Overend Watts and vocalist Ian Hunter



➔ Priced £20, the 180g vinyl reissue of Mott The Hoople's *All The Young Dudes* is available online at www.amazon.co.uk

the sands of time between the hippie generation and a new, less idealistic era, a cinematic scenario which claimed T-Rex as legitimate rivals to The Beatles and the Stones, a melodramatic *melange* of TVs, suicidal flirtations and late night taxi cabs, it was all wrapped up in an awesomely operatic and memorable showtune.

Mott found themselves with a monster on their hands. Swiftly hastening into the studio with Bowie at the helm, the song became the cornerstone track of their fifth LP, whisked them into the UK charts way up to the nosebleed heights of No 3, and went top 40 in the US, the Bowie association alone enough to get them booked on better, more lucrative tours Stateside.

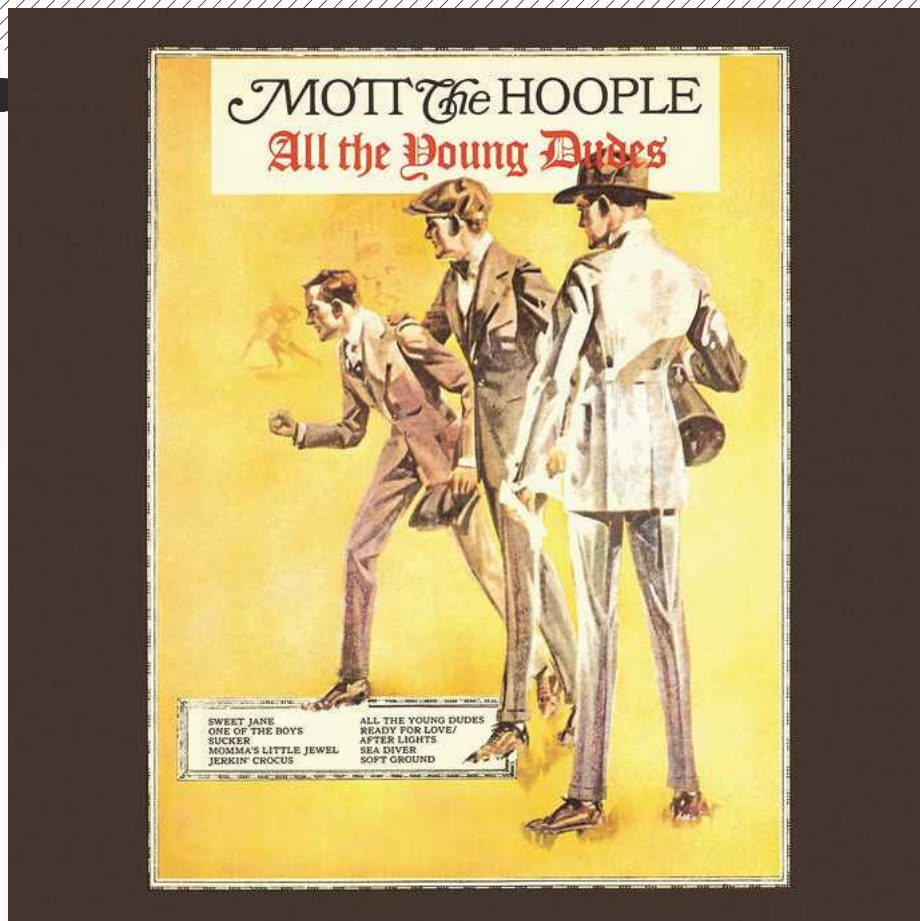
SHEER GENIUS

Amazingly snag-free considering the pairing had no previous musical relationship, the sole glitch in recording was how the song should end. That's when Hunter came up with the mock-live ending, addressing an imaginary audience, commanding them to drag to the front a bespectacled youth he'd spotted in the crowd.

The wonder of it is that it sounds for all the world like a homosexual come-on when, in fact, it was drawn from Hunter's fantasy of how he'd like to have dealt with all the hecklers over the years – have 'em marched to the stage where he could chuck beer in their faces. It sounded butch and it was utterly brilliant. Glam at its mixed-up, muddled-up, shook up best.

There was one other tiny little issue. Bowie's words called for some shoplifting from the English department store Marks & Sparks – a lyric which would surely never sneak past the vigilant censors at the BBC. Consequently, early versions featured clothes being nicked from 'unlocked cars', the criminality less specific but the adult-grooming intent still intact.

'Dudes...' was – still is – sheer genius, but the rest of the album's no slouch



either. Swapping labels to CBS to signal the freshest of starts, it opens with another Bowie suggestion, a typically raucous take on The Velvet Underground's 'Sweet Jane' from the 1970 album *Loaded*.

Bowie was a VU disciple and under his manicured hand, the transsexual Big Apple sleaze is magically applied by the trowel-load onto good old British bricklayer machismo to create the glitter template which would haul other rockin' honest-to-goodness non-entities like Slade and The Sweet and The Glitter Band from the sweat and beer of the working men's clubs into the eyeliner glare and screamybopper adulation of *Top Of The Pops*.

TESTOSTERONE GOODIES

Of the others, 'Momma's Little Jewel' is the sort of 'Good Morning Little Schoolgirl' update later copywritten by AC/DC, 'Sucker' and 'Jerkin' Crocus' are be-denimed crotch-strut testosterone goodies, and 'Ready For Love/After Lights' worked out so well that, when its author Mick Ralphs eventually quit the band to form the mega-selling Bad Company, together with Free's Paul Rodgers, he revamped it to the evident delight of his bank manager.

Bowie himself lends saxophone to the aforementioned 'Jerkin' Crocus' while his principal Spidery sidekick Mick Ronson writes the lush string arrangement for the album's big ballad, 'Sea Diver'. Later, when

Ralphs jumps ship to form Bad Company, Ronson will sign up as a full-time Mott.

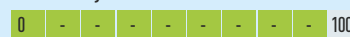
That pretty much just leaves the mighty wham-bam-thank-you-mam Thin Lizzy-esque alley gang swagger of 'One Of The Boys', one of the '70s great stompers which damn near holds its end up alongside Bowie's legendary anthem. Mott never matched 'Dude...' though. How could they? 'Roll Away The Stone' sneaked Top 10 but really it was all downhill again from 'Dude...' on in. Still, for the briefest of whiles, they did indeed sup with the rock 'n' roll gods. Few can boast the same. ☺

RE-RELEASE VERDICT

Released on the Music On Vinyl label, this 180g reissue comes in a 3mm cardboard sleeve with original LP artwork and, if ordered from Amazon, is accompanied by a voucher to download an MP3 version of the album under Amazon's AutoRip scheme.

This is a simple, attractively presented pressing that exhibited no playing issues and we could see no noticeable weaving or warping of the vinyl. The sound was strong and punchy while instruments were easy to follow in the mix. A great, gritty English rock band at their best. HFN

Sound Quality: 90%





Small Faces *Ogdens' Nut Gone Flake*

Determined to cast off their teen pin-up image, the band's third studio album took listeners to a place where psychedelic pop met pile-driving rock and the cosmic and the comical shared the grooves with a good old cockney knees-up. And then they split...

Words: **Mike Barnes**

The Small Faces' third studio album originally came packaged in a giant circular tin with artwork depicting an imaginary brand of tobacco. The branding was a play on Nut-brown Flake, produced by Liverpool firm, Ogdens'.

Designed by Nick Tweddell and Pete Brown, friends of the band's keyboard player Ian McLagan, inside the tin was a poster comprising five fold-out panels featuring psychedelic graphics and pictures of the band members – finally revealing a photograph of an open tobacco tin with rolling papers sitting on top.

The pun, though not immediately apparent, was actually a simple one. Smoke this apparently 'normal' tobacco mixture and soon your 'nut' – or head – would be 'gone'.

In fact, flake tobacco comes in chunks and is for smoking in pipes rather than rolling in cigarettes, but don't let that spoil the joke.

OUTSIDE THE BOX

In an era when censors were looking for drug references, here they were, hiding in plain sight. And they were apt: looking back in 1991, bass guitarist and vocalist Ronnie Lane noted that in the group's early days of stardom, 'We were out of our boxes most of the time.'

The album was released in May 1968, but sessions began in late '67. By then the ideas of creative liberation that had been ushered in by psychedelia were affecting all aspects of the music business. Even mainstream acts had hits with psychedelic themes – like Cilla Black's synaesthetic 'I Can Sing A Rainbow' – and weirder still were hit singles from a



↑ 'Lazy Sunday' was released as a 45 before the LP hit the shops. It went to No 2 in the UK charts

↗ The band (l-r): Steve Marriott, Ian McLagan, Ronnie Lane and Kenney Jones; (inset) parts of the five-panel LP poster

↓ Stanley Unwin, who narrates the second side of the LP in his unique 'Unwinese'

↙ The group on stage in the mid '60s



UNIVERSAL MUSIC

new breed of groups, such as Procol Harum's bafflingly baroque 'Whiter Shade Of Pale' and Traffic's eerie, childlike 'Hole In My Shoe'.

Around 1966, many of the British bands that had cut their teeth playing blues and soul were starting to experiment with new, more personal forms of expression. Where psychedelic

culture in the US was a tad more serious – they were in the middle of a war, after all – in the UK it prompted many young

musicians to explore their roots, which included the world of childhood. Pink Floyd's Syd Barrett sang about gnomes, scarecrows and strange playrooms, while Tomorrow became positively infantilised on their songs 'Three Jolly Little Dwarfs' and 'Auntie Mary's Dress Shop'.

By this time The Small Faces were Lane, Ian McLagan, Kenney Jones on drums and Steve Marriott on lead vocals and guitar. They had started out in 1965 as fresh-faced, sharply dressed teenage mods, purveying a mixture of soul, r'n'b and Brill Building pop music. By 1967, fellow mods The Who were purveying an image of aggressive

dandyism, both in the expanded range of their music and their onstage equipment smashing. But The Small Faces were still seen as teen pin-ups and locked into something akin to Beatlemania.

'There was a lot of screaming going on and musically the band just stopped developing,' said Lane. 'We were

quite a good little live band when we started out, but we didn't hear ourselves for about two years. It was like curtains open, wiggle your arse for half an hour, and screaming.'

"Live it was like curtains open, wiggle your ae for half an hour"**

SHOW US THE MONEY

While on Decca, The Small Faces were managed by the notorious Don Arden, but although they were one of the UK's top live bands they were not seeing the money from it. They signed to Immediate Records, the new set-up of a younger, hipper svengali, Rolling Stones manager Andrew Loog Oldham.

Now they effectively kept their stage show and their studio work as separate entities, so live they ↗



IAN PERSHON/CTS IMAGES



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VINYL ICONS

PRODUCTION NOTES

When The Small Faces signed to Immediate, Oldham was prepared to give them more time in the studio and, in Laine's words, they 'turned into a recording band'.

Live, the group were using a six-piece brass section. In the studio, Jones recalls tapes being run around chairs to achieve the phasing effect on the drums used for 'Itchycoo Park' and to generate a backwards soul-belter with touches of Hendrix.

The record was ostensibly produced by Laine and Marriott, but Oldham put in young engineer Glyn Johns to make sure all ran according to plan. Johns had engineered many of the band's Decca sessions and he also had production input.

Johns recognised that allowing the group both time and numerous takes to get the music right was



a necessary part of the recording and creative process. 'There were occasions when someone would write a song on the way in, or Steve said, "I wrote this on the loo last night". It wasn't all tied up with a pink bow, but if you had a session, invariably you'd come out with a completed track at the end of it,' recalled Johns in 2014.

It transpired that Stanley Unwin was initially as flummoxed by the album and its recording as some people were by his verse, but was soon enjoying himself, causing much hilarity in the control room.

Just before the album was released, the group invited Keith Altham of *NME* over to Oldham's office, plied him with champagne and played him the album just before the final mixes had been completed. Marriott's accurate assessment of the album was, 'We're chuffed with what we've done so far. It really is something new, isn't it?'



would play the soul music and their mod pop hits like 'Sha-La-La-Lee' – co-written with black British singer and comedian Kenny Lynch – and 'All Or Nothing', penned by Marriott and Lane. Even when they had a hit single with 'Itchycoo Park' in 1967, they rarely played it live.

BIT OF A LARK

According to the group, 'Itchycoo Park' started off as a bit of a lark, but it has become one of the quintessential English psychedelic singles, and effectively the launch pad for *Ogdens' Nut Gone Flake*.

Based partly on quotes that Ronnie Laine had read about Cambridge's 'dreaming spires' and the city's Bridge Of Sighs, it also referenced an East London park where they had played as children. But now, as young men, they were getting high and in that state were overwhelmed by its ineffable beauty, with Jones's phased, stereo-panned drum breaks

leaving sonic vapour trails across the summery soundscape. But while some Paisley might have crept into the band's collective wardrobe, The Small Faces were still more Cockney geezer than hippy dippy.

Like 'Itchycoo Park', the decision to release 'Lazy Sunday' as a single was made by the autocratic Oldham. Kenney Jones, noted in 2014 that the band were unhappy about this, suggesting that they saw the two songs as part of a 'Teenypop image that we were trying to shake off. We wanted to be known more for songs like [other 1967 hits] "Here Comes The Nice" and "Tin Soldier".'

But the position of 'Lazy Sunday' on *Ogdens' Nut Gone*

Flake is pivotal as the perfect juxtaposition of the old and the swinging London of the era. In his best cor-blimey comedy cockney voice, Marriott chronicles the problem he is having with his neighbours, who bang on his wall complaining about the noise, which he claims is 'doing his crust in'. His lament includes a sly two-bar *a cappella* quote from The Rolling Stones' '(I Can't Get No) Satisfaction'.

NO MIND TO WORRY

The song contrasts the dead English Sunday afternoons of the '60s with Marriott's own leisure activities. Self-absorbed while presumably under the influence of some intoxicants, he has 'no mind to worry', so closes his eyes and drifts away into an exploration of

inner space to the sound of electric piano and distant seas.

For the last verse and chorus, Marriott sings in his 'normal' voice, the song finally ending with the sounds of church bells and bucolic birdsong before a coda in a slower



↖ The band caught on camera in 1967

↗ In March 1969 the group split. Manager Oldham then released 'Afterglow Of Your Love' – an alternative version of the LP track 'Afterglow'

↖ Glyn Johns, engineer

↘ Parts of the fold-out sleeve

'The song contrasts dead '60s English Sunday afternoons with Marriott's own'



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Alternate Format Discography



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Steve Marriott on stage in the mid '60s with a Gretsch guitar

metre in the style of The Beatles' 'Strawberry Fields Forever'.

The LP opens with the instrumental title track, with Laine's booming bass, Marriott's wah-wah guitar, and sumptuous strings making their entrance towards the piece's climax.

'Afterglow' is an elegantly constructed song featuring Marriott's soulful singing over a big, powerful group sound, Jones' freewheeling drumming maintaining the energy levels. One couldn't imagine teenies screaming for this, nor 'Song For A Baker', with its proto-heavy rock guitar chording.

ODDER STILL...

The greatest and most ambitious break with the band's past was the sidelong, six-song suite, 'Happiness Stan'. Featuring orchestral and brass arrangements, it's a phantasmagorical fable about a boy called Stan who tries to find the missing half of the moon. What makes the song odder still is the narration – or between-song 'Loony Links' – of contemporary humorist 'Professor' Stanley Unwin, whose shtick was to speak in Unwinese – a gobbledegook language.

'Are you all sitty comfortybold two-square on your botty?' Unwin enquires at the start of the track. At the band's request his recitations were also charmingly peppered with the group's hipster speak, such as 'Oh blow your cool, man'.

Jones has said that if the band had played 'Happiness Stan' live, it might have prevented them splitting up in early 1969 and spurred them on to greater things. They would have had to find venues other than the dancehalls they frequented of yore in which to present it. And that would surely have been possible, for the LP went to No 1 in the UK charts, where it stayed for six weeks. ☺



ORIGINAL LP

Ogdens' Nut Gone Flake was released in May 1968 on the pink Immediate Label. The ambitious metal 'tobacco tin' packaging was soon superseded by a circular die-cut cardboard sleeve as this was less costly to produce and less likely to roll off a shelf when the record was stored.

The UK version was stereo [IMSP 012] as was the US release [Z12 52008], though on side two Stateside 'Happiness Stan' is one continuous track and some songs have slightly different mixes.

One of the first territories to change label and sleeve in 1968 was South Africa, which went from a round sleeve [Immediate SA 007] to a square sleeve on EMI Brotherhood [RTL(M)715].

The only mono version was released on Immediate in 1968 in the UK [IMLP 012]. This came in a circular sleeve.

TAPE RELEASES

In 1968 the album was also released on four-track 7½ips reel-to-reel tape [ZQ 1092], and on 4-track cartridge [Z14 52 008] though both editions were only available in the US.

VINYL REISSUES

The first vinyl re-issue appeared in the US in 1973 in a square sleeve on the Abkco label [AA-4225]. A round of reissues followed in 1975 on the Charly label in tandem with other labels, including Bellaphon in Germany [BBS 2511] and Immediate in the UK [CR 300 0150]. Then came a number of reissues in 1977 on Immediate in conjunction with other labels, including NEMS in Italy [ZNLIM 33050] and in the US with Virgin [ML-2001].

Of the myriad reissues from different outlets, two others

from this pre-CD era stand out. The first is a 1977 German release on Music For Pleasure, simply entitled *Small Faces*, which is *Ogdens' Nut Gone Flake* but with a different running order on side 1 and a band photo for the front cover.

The second is a German reissue on white vinyl [Impact, IMLP 4.00121].

A special UK reissue on came out in 1983 [Immediate, V 2159] housed in a circular gatefold cover while in 1986 Castle Classics issued an LP Version in the UK [CLALP 116] along with the only cassette version of the album [CLAMC 116].

CD RELEASE

The first CD of Ogdens' came out in France in 1985 on Castle Communications [MLCD 2001], with an extra track – a live version of 'Tin Soldier'. This was also a bonus on the label's UK version [CLACD 016], released in 1986.

In 1989 Castle released CLACT 016 – a CD in a special edition round tin with a full miniature multipage replica of the original cover, and table coasters. This also had the live version of 'Tin Soldier'.

A US CD with different artwork appeared on CD in 1991 on Sony Music Special Products. The cover depicted an open tobacco tin, with the original lid's design and the ingredients spilling out.

SHM (Super High Material) CD, also in a card sleeve, and released in 2009. It comprised the original 12 tracks in stereo and mono on one CD [VICP-70108].

SPECIAL VINYL EDITIONS

In 2008, Get Back Records reissued the album remastered and on 180g vinyl, in the 1968 circular fold-out sleeve. Included were two bonus tracks: 'Donkey Rides, A Penny, A Glass' and 'Every Little Bit Helps' [GET 550]. A picture disc version was also released [GET 550P].

In 2012 Kenney Jones supervised a remastered cutting from the original analogue master tape as a limited edition mono Collectors Edition LP [Charly 101L, Immediate IMLP 012] with restored artwork and sleeve notes.

A limited edition mono version was produced for Record Store Day 2015 with a circular insert and booklet housed in a PVC sleeve with a black backing card insert.



CD DOUBLE DISCS AND SETS

Castle released a remastered 3CD set in the UK in 2006 [CMKTD997]. Disc one was the mono album, disc two the stereo album each with the original 12 tracks, and disc three featured the Radio 1 *Classic Albums* documentary. It was released in a tin facsimile of the original artwork.

In 2012 Charly released a 2CD set of the original album in mono mix, with a second CD of 14 unreleased tracks. This was followed the same year by a numbered limited edition 3CD set on Charly/Immediate, which added the stereo album [914B, IMLP 012] to the above plus a wealth of extras. It was remastered under the supervision of Kenney Jones and Ian McLagan and released to celebrate the group's induction into the Rock 'n' Roll Hall Of Fame.

A deluxe edition of the same format was released simultaneously by Immediate [276 523-5].



Birdland, 1678 Broadway, NYC

Opened in 1949 below street level, this 500-seater New York jazz club went on to be immortalised in the titles of numerous songs and LPs and became a hang-out for celebrities and jazz greats. **Steve Sutherland** brings you the story of Birdland...

Grace Slick may have built her city on rock 'n' roll but Morris Levy built his Birdland on revenge.

As Mo used to tell it, he grew up poor and Jewish in Harlem and started out working the kitchens, then the cloakrooms, then the darkrooms of the New York nightclub scene.

Mo became so good at the quick turnaround processing of clientele photos that he was made manager and set loose to open club photo franchises all over the country.

Later, after a stint in the navy, he cottoned onto the availability of a restaurant called Topsy's Chicken Roost back on Broadway, alerted his old bosses, helped with the buy-out and got a small piece of the action for his efforts.

JOURNEY THROUGH JAZZ

Topsy's turnover was impressive – sometimes a thousand chicken dinners a night at \$1.25 – and to keep the customers satisfied Mo opened up a little club on the premises called the Cock Lounge where, in around 1948, he started hosting sold-out be-bop jazz gigs by the likes of Dexter Gordon and Miles Davis. The Lounge was so successful



➔ The venue at 315 West 44th St in Midtown Manhattan, where it moved in 1996

➔ British pianist George Shearing who wrote 'Lullaby Of Birdland' and Ella Fitzgerald who took the song into the charts

it got renamed the Royal Roost and when that was heaving to capacity, Mo's partners skedaddled and opened up Bop City, a bigger venue, leaving Mo out in the cold.

The Roost couldn't compete and folded but Mo fell in with another bunch of good fellers who helped him stake up the money to buy out Joe Catalano's Clique Club, a venue which seated about 500 patrons below street level at 1678 Broadway. After a problem with the liquor licence delayed the grand opening by three months, Birdland was born on the 15th of December 1949. It was

'Mo's association with the Mob went way back to his teens'

named after Charlie 'Yardbird' Parker, the incendiary, heroin-addicted bebop saxophonist, and advertised itself as the Jazz Corner Of The World.

The opening line-up announced 'A Journey Through Jazz' and featured Maxie Kaminsky, Lips

Page, Lester Young, Charlie Parker, Harry Belafonte, Stan Getz and Lennie Tristano who played to an appreciative crowd including those in the Peanut Gallery, a fenced-in enclosure where cool-cat teens could enjoy the show alongside a

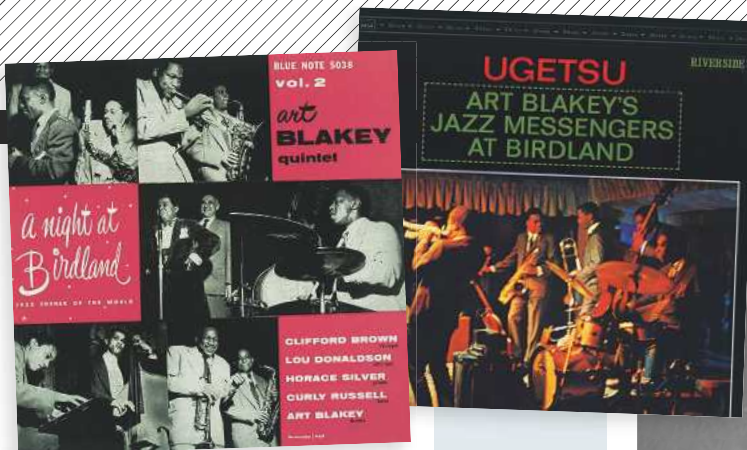
clutch of caged finches, safely away from the temptations of alcohol.

The club struggled at first. Mo's former pals at Bop City had struggled on talent so Mo got smart. He'd go to the big booking agents and attempt to hire stinkers which Bop City would immediately usurp. Before long the bigger club's reputation was in tatters while Birdland flew.

LIVE BROADCASTS

Its fame spread rapidly thanks to a DJ, called Symphony Sid, who broadcast live from the club on the WJZ station from 1952, and spread even further that same year by a song called 'Lullaby Of Birdland'. Mo commissioned George Shearing, a blind English pianist, to write the tune and the lyrics were added by





George Weiss (the bloke who co-wrote 'What A Wonderful World'), under the pseudonym B. Y. Forster to get around some union hassles.

Ella Fitzgerald took it into the charts in 1954 and the club's legendary status was greatly enhanced by memorable performances by Miles Davis, Thelonious Monk and Dizzy Gillespie attracting a regular in-crowd of schmoozers that included Frank Sinatra, Marilyn Monroe, Sugar Ray Robinson, Marlene Dietrich, Joe Louis and Judy Garland.

JAZZ GIANTS

The club's Master Of Ceremonies became a star in his own right. Standing a little over three-feet nine-inches tall, William Crayton 'Pee Wee' Marquette would expect to be tipped handsomely by the performers or else he would deliberately mispronounce their names, alerting the audience to the players' tight-fistedness.

Even so, many jazz giants chose to record live albums at the club, including drummer Art Blakey who put out several discs, the most famous being 1954's two volumes of *A Night At Birdland*, another two-volume collection, *At The Jazz Centre Of The World* (1959), and *Ugetsu* (1963).

John Coltrane also recorded his *Live From Birdland* in 1963, featuring the classic line-up of Coltrane on tenor sax, Eric Dolphy on alto sax, McCoy Tyner on piano, Jimmy Garrison on bass and Elvin Jones on drums. Released on Impulse! in '64, it also included studio tracks laid down in Alabama.

So much for the high life. Truth be told Mo was running with a rum lot and no-one was

Art Blakey's *A Night At Birdland* and *Ugetsu* LPs, both recorded at the venue

Charlie 'Bird' Parker, after whom Mo Levy named his club

In 1956 Levy set up the Roulette label while (far right) poster advertises the radio show on WJZ

Dizzy Gillespie



that surprised when his co-partner and brother Irving Levy got himself murdered at the club in 1959, stabbed to death by a hoodlum whose hooker girlfriend Irv was trying to bar from entry. There was a lot of moolah washing around and where there was money in New York, there was the Mafia.

Mo's association with the Mob went way back to his teens but the dealings got really intense once Mo discovered there was tons of cash in this new-fangled rock 'n' roll business. Again, the way he used to tell it, he kept getting hassled by characters who would come up to him at the club and claim he owed them money. Mo was sure

this was a shakedown until a lawyer friend wised him up to ASCAP (the American Society of Composers, Authors and Publishers), whose job was to collect the royalties associated with song publishing.

This was Mo's big lightbulb moment. He had no idea you had to pay to play a song so the very next thing he did was form his own publishing company, Patricia Music, named after his wife at the time.

From then on what he did was collect publishing rights on pretty much everything he touched, whether he'd had a hand in composing it or not. 'Lullaby Of Birdland', published by Mo. You get the picture. The next step was obvious. Form a record company, ☺



WILLIAM P. GOTTIEB



WILLIAM P. GOTTIEB

High precision azimuth adjustment

To set up a pickup perfectly it is required to compensate the possible misalignments of the cartridge tip and do a proper adjustment of the angle. Many tonearms do not have this adjustment. With the TA-1000 it can be achieved very easily and the solution is also very rigid and solid so we do not lose sound quality. At the end of armtube before the bearing there is an adjustment option. To adjust you simply open 3 small screws and the arm tube can swivel ± 5 degrees so the angle can be adjusted perfect for each cartridge. If these screws are again tightened the arm tube remains perfectly stiff and perfectly adjusted.

Dual carbon armtube

When it comes to arm tubes - two mutually exclusive conditions need to be combined - maximum stiffness and low resonance achieved by internal damping. Very stiff materials are hard and therefore very susceptible to resonances. On the other side low-resonance materials are not stiff enough. The solution is a dual carbon tube. The two pipes are joined by connecting elements. This creates a very light arm tube which still has high damping and very low resonance.

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End to end direct wire

When you consider that the signals of a pickup are very small, as you can imagine, any interruption and each solder joint makes the signal worse. To overcome this Acoustic Signature have opted for a Teflon insulated 6N copper cable which runs from the cartridge pins to the RCA plug without any interruption - in one piece. For customers who like to try different cables the TA-1000 is also available with a 5 pin connector in the arm shaft.

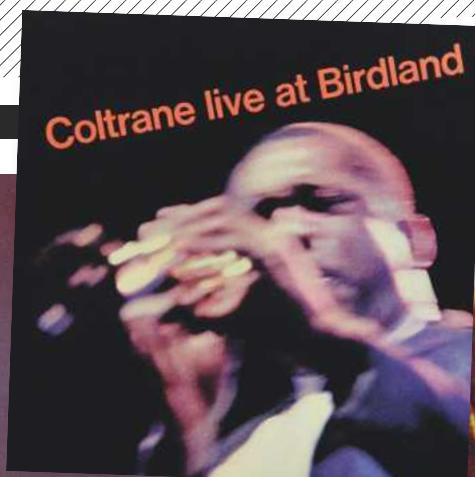
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CLASSIC VENUES



release some hits, collect on the publishing. Hence the formation of Roulette Records in 1956 in partnership with Gaetano 'Corky' Vastola, a member of the Genovese family, one of the Mob's big New York five into the counterfeiting, bootlegging, gambling, drug-running and prostitution rackets.

Another partner was a clued-in mover and shaker called George Goldner. George was the one who had a handle on how to get a hit. It was called payola. You slipped the programmer or DJ at a radio a station a few bucks or a gram of this or that and they played your record. No plays, no hits.

George even worked out that it would be too obvious to have too many records being played by one record company so, of course, he formed loads – Roost, Tico, Rama,

'Goldner had a gambling habit; soon everything belonged to Mo'

Gee, Gone and Jubilee among them. George had a good ear, especially for Latin and Doo-wop, but he also had a bad gambling habit and before long all that he owned belonged to Mo.

And, surprise surprise, Mo's name turned up on the credits of all the

hits. Not only that, he even started managing DJs, the most infamous of whom was Alan Freed, the man credited with inventing (or, if not inventing,

then popularising) the term rock 'n' roll. Freed was taking songwriting co-credits on songs he didn't write (like Chuck Berry's 'Maybelline') and then playing them on his shows: a conflict of interests if ever there was one. He got nailed in 1959, his career was destroyed and he drank himself to death. Mo carried on, business as usual, though Birdland wasn't part of it.

SUPPER-CLUBBY

The club went bankrupt in June 1964 and Mo flogged it off to a Mr Lloyd Price who turned it, briefly, into The Turntable. But the golden era of jazz was over – The Beatles and rock 'n' roll had seen to that.

Someone called John Valenti re-opened a Birdland in 1985 at 2785 Broadway and it moved again in 1996 to 315 West 44th Street, more supper-clubby now and a far cry from the venue

name-checked in Jack Kerouac's Beatnik classic *On The Road*, the one immortalised in Weather Report's 1977 tribute 'Birdland' and mentioned in Ray Charles' 'What I'd Say' and U2's 'Angel Of Harlem'.

FINALLY NAILED

And, talking of The Beatles, Mo had some fun with John Lennon whose *Abbey Road* song 'Come Together' just happened to filch a couple of licks from Chuck Berry's 'You Can't Catch Me'. Mo owned the copyright to Chuck's song and Mo sued. Lennon, in a corner, offered to include three of Mo's copyrights in *Rock & Roll*, the collection of oldies cover versions he was about to record as reparation.

Mo agreed but Lennon took his time so Mo 'borrowed' the tapes for listening purposes and released them as a TV-advertised mail order album called *Roots* which Lennon had to go to court to halt trading.

The Feds finally nailed Mo in 1986 on an extortion charge. They'd planted a mic behind a sign in his office to pick up any incriminating evidence. He was sentenced to ten years but died of cancer before they could haul him to jail. The sign in his office read: 'Oh Lord! Give me a B*****d with talent.' ☹

↑ Alan Freed in 1957, who Levy managed

← John Coltrane (left) released *Live At Birdland* in 1964, though only three tracks were recorded live at the venue

← R&B singer Lloyd Price, who bought Birdland in 1964

↓ Just 3000 copies of *Roots* were pressed, which Levy released after a spat with Lennon over his delayed *Rock & Roll LP*



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ALBUM REVIEWS: VINYL



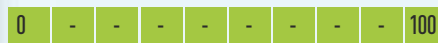
LED ZEPPELIN

Physical Graffiti

Swan Song R2-544660 (three LPs + three CDs)

This 1975 release is regarded by some as Led Zep's greatest. It is, however, an oddity, consisting of eight fresh tracks plus unreleased performances from earlier LPs. Bands usually do not mix outtakes with new recordings, but the primary eight ran longer than a single LP, so they chose to expand it with bonus material. Even so, Led Zep's leftovers are fascinating and worthy, with an outtake from *Led Zeppelin III*, three from *Led Zeppelin IV* and three from *Houses Of The Holy*. Part of their overkill repackaging series, this contains the album on double vinyl and double CD, with a bonus CD and LP containing studio outtakes, plus a 96-page hardback. (You can buy the CDs or LPs in a variety of combinations.) *KK*

Sound Quality: 91%



BOB DYLAN

Desire

Mobile Fidelity MFSL 2-416 (two 45rpm LPs)

Time has a way of upsetting or transforming our fondest memories: this album from 1975 has what is now the unfortunately-named track 'Isis', plus the controversial 'Joey', which glorified a gangster and caused a bit of a stink. Equally, it reminds us that every Dylan album (just about) contains diamonds. 'Hurricane' called attention to, and certainly helped free, the wrongly-convicted boxer, while 'One More Cup Of Coffee' and 'Sara' are pure Dylan gorgeousness. These 45rpm editions are lavish and expensive, but if you are a Dylan devotee, you really must hear them. Simply riveting and among the best-sounding LPs you'll own. *KK*

Sound Quality: 89%



CESARIA EVORA

Café Atlantico

Pure Pleasure PPAN54012 (two discs, 180g vinyl)

As world music no longer holds many surprises – is there a country not yet treated to a special on BBC4? – this Latin-flavoured double LP will find favour for those who hunger for something less accessible than the Buena Vista Social Club. On *Café Atlantico*, Ms Evora (known as the 'Queen of Morna': a traditional Portuguese genre) embraced Cuban and Brazilian material. She passed away in 2011, and was once described as 'the greatest living singer of our time'. That's stretching it – my vote has gone to Aretha Franklin for the last half-century – but the album is engaging even if the language is alien to you. The sound, though, is truly lush. *KK*

Sound Quality: 87%



VARIOUS ARTISTS

Texas Soul '64

History of Soul HOS3 (180g vinyl)

Complete with a nostalgic, vintage-feel sleeve, this delightful 14-track compilation is filled to the brim with obscurities that might even challenge a pub quiz team made up of Northern Soul anoraks: all are deeply obscure. When the most famous names are New Orleans legend Ernie K-Doe, with a gratuitous sequel to his smash, 'Mother-In-Law', and Clarence Carter as a member of the C&C Boys, you know it's not going to duplicate much of what's in your library. The album liner notes tell us that none of these tracks, taken from the Duke, Peacock and Sure Shot catalogues, have been reissued since their original appearances on 45s. Marvellous stuff. *KK*

Sound Quality: 85%



AUDIOPHILE: DIGITAL



COMPACT DISC



SUPRAAUDIO



DVD



BLU-RAY



VINYL



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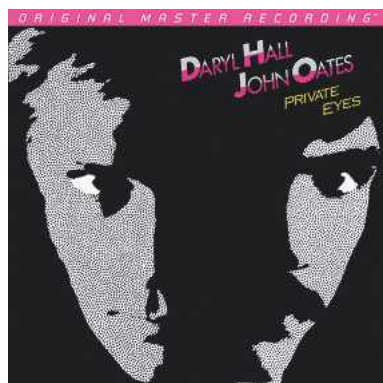
THE BEACH BOYS

Surfer Girl

Analogue Productions CAPP-060-SA

Like the normal CD, this contains both the mono and stereo mixes of the group's third studio album, and it's where the killers *really* started. OK, so half of the tracks are clunkers, but the harmonies were well-tuned by this stage, and the self-penned songs were classic surf epics: the smoochy title track, 'Catch A Wave' (which became Jan & Dean's 'Sidewalk Surfin'), the utterly majestic and introspective 'In My Room' and the irresistible 'Little Deuce Coupe' – quite simply the coolest song ever written about cars. The SACD is super-clean sounding and it's a great single-disc opportunity to compare mono and stereo. But, no, I won't tell you which I prefer. *KK*

Sound Quality: 86%



HALL & OATES

Private Eyes

Mobile Fidelity UDSACD 2115

Huge, huge, huge – this is like a killer app for the blue-eyed soul duo. It tied with *Big Bam Boom* as their second-highest chart placement, at No 5 in the US, while the album yielded three hits – the title track and 'I Can't Go for That (No Can Do)' were No 1s, while 'Did It In A Minute' made the Top 10. This was, after all, released in '81, when they were at their peak. The sound is typical of the era, with an overly-etched, over-engineered gloss, but it no longer seems to jar. Instead, it evokes nostalgia for the age of disco and big hair. As the two were (and remain) sublime singers, and their bands were always made up of virtuosos, this rocks with authority. *KK*

Sound Quality: 89%



JULIE LONDON

Sings Latin In A Satin Mood

Analogue Productions CAPP-7278-SA

Aaah, the delights of wide, deep, sumptuous 'period' stereo, in this case produced by the legendary 'Snuff' Garrett, mainstay of Liberty Records. That's where he recorded the likes of Bobby Vee and Johnny Burnette, and this sultry album by the sexiest chanteuse in the annals of popular song. From 1963, it shows that Ms London could add her own brand of smoky allure even to hoary and/or corny old chestnuts like 'Perfidia', 'Sway' and 'Besame Mucho'. One might prefer a genuine Mexican star performing them for sheer authenticity, but these interpretations truly live up to the title: the sound here is positively shimmering. *KK*

Sound Quality: 89%



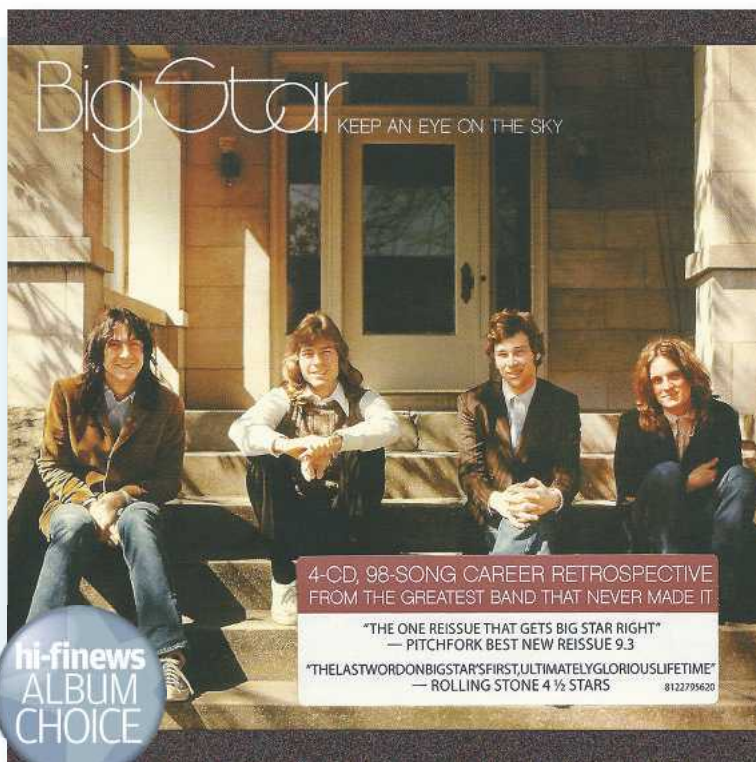
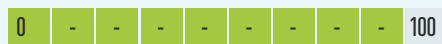
BIG STAR

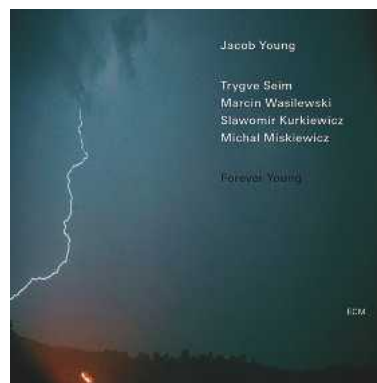
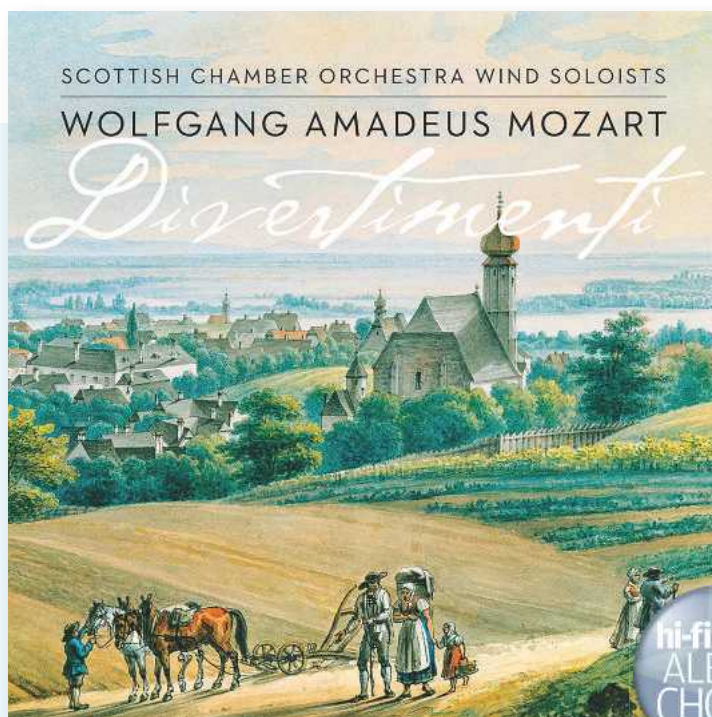
Keep An Eye On The Sky

Rhino 81227 95620 (four discs)

Good things come to those who wait: this is 2009's magnificent set repackaged in a CD-sized box, at a third of the price. It is a stunning testament to one the great 'lost' bands, a darling of the critics whose genius was never rewarded with massive popularity or chart hits. Big Star remain an icon for indie bands, power pop practitioners and others who appreciate catchy melodies with lyrics and attitude more in keeping with intellectual drudges like the offensively overrated Velvet Underground. Ninety-eight sublime tracks, many unissued and beautifully annotated: you just won't believe the sound quality of the demo, 'Motel Blues'. Tragically, like the equally cursed Badfinger, only one founding member survives. *KK*

Sound Quality: 90%





MOZART

Serenade in E flat, K375; Divertimenti K253, 270, 252/240a and 240; SCO Wind Soloists (192kHz/24-bit; ALAC/FLAC)

www.linnrecords.com; CKD 479

Most collectors will have discovered the Mozart Divertimenti and Serenades via Decca and its mono/stereo LP series with various Viennese ensembles, from the time of Willi Boskovsky. Linn's enjoyable programme with the SCO players – pairs of clarinets, horns and bassoons – has more of an 'outdoors' style, fresh and open. The works chosen are varied in form: K375 has two *menuetto e trio* movements (KH

has been mentioning one in recent reviews); the F major K253 has an opening set of variations; K252/240a includes a *Polonaise*. One oddity with Philips Hobbs' production, I thought, is that you hear the bassoons (and a certain amount of key clicking) on the left, answered by clarinets on the right. But it's easy to reverse channels if you think 'treble' ought – as with an orchestra – to be on the left. **CB**

Sound Quality: 90%



JACOB YOUNG et al

Forever Young (96kHz/24-bit; FLAC)

www.hiresaudio.com; ECM 2366 376 8896

See what they did with the album name? Hmm – but obvious title aside, this is a striking set, combining the talents of guitarist Young with the piano of Marcin Wasilewski (whose trio also contributes bass and drums) and saxophonist Trygve Seim, to form a quintet clearly locked together and understanding each other's every move. It works well, from the reflective opener, 'I Lost My Heart to You', through to the rather more upbeat 'Bounce', for which Young swaps acoustic for electric – and an electric with a lovely hollow-bodied tone – and the changing paces of 1970. The appeal is extended by a typically up close and personal ECM recording, though at times it does seem a little 'hot', with a bit too much sax breathiness and cymbal splash. However, it's always interesting and involving, and the musicianship on offer here is peerless. **AE**

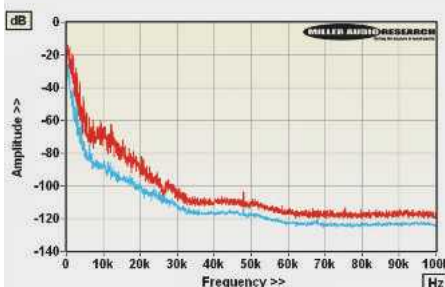
Sound Quality: 90%



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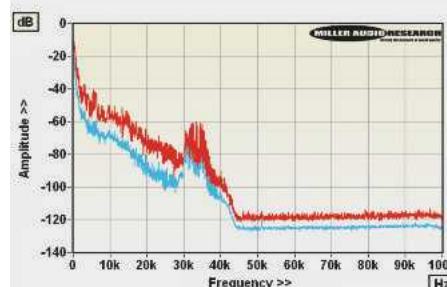
Following our Investigation feature [HFN, Jun '11] where we examined the claimed quality of high-resolution downloads, *Hi-Fi News & Record Review* is now measuring the true sample rate and bit-depth of the HD music downloads reviewed on these pages. These unique reviews will be a regular source of information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



Recorded by Philip Hobbs at the Stevenson Hall, this is a clean 192kHz rendering with an excess of bandwidth to capture the ~30kHz extension of the clarinet's upper harmonics. Dynamic range/headroom is also generous. **PM**

LAB REPORT



This is a 96kHz recording but not without its problems – the sax, guitar and piano are all accompanied by a level of spurs (between 30-40kHz) that varies according to the mix of each track. This is atypical of the ECM label in general. **PM**



COMPACT DISC



SUPRAAUDIO



DVD



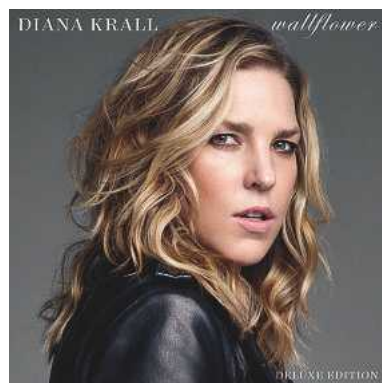
BLU-RAY



VINYL



DOWNLOAD



DIANA KRALL

Wallflower (48kHz/24-bit; FLAC)

www.hifiresaudio.com; Universal/Verve 4701861

I guess when you get to your 12th studio album you might be forgiven for running out of steam a bit, but this latest package from jazz diva Diana Krall has been received with somewhat mixed reviews, since its belated release due to the singer/pianist's illness. It's a bit of an oddity, comprising mainly of '70s ballads by the likes of Randy Newman, The Carpenters and Elton John, and with not much sign of the piano fireworks Krall has brought to bear on some of her previous outings. It may be the familiarity of so much of the material, or that these new recordings don't bring too much we didn't already know, but this does seem something of an exercise in treading water. Even a new song by Paul McCartney doesn't help much, a duet on Georgie Fame's 'Yeah Yeah' is only 50% successful(!) and, while the sound is workmanlike, even that doesn't really stand out. *AE*

Sound Quality: 75%



THE CHOPIN ALBUM

Works for cello and piano; Sol Gabetta/Bertrand Chamayou (96kHz/24-bit; FLAC)

www.hifiresaudio.com; Sony Classical 88843093012

You don't get a booklet PDF with this download so you'll need to see the web page for full track details. Obviously, there's the Chopin Cello Sonata and the *Grand Duo* he co-wrote with cellist and friend Auguste Franchomme. Track 9 is a *Nocturne* by him, track 8 his setting of Chopin's Op.15:1. The *Étude*, track 7, is Glazunov's transcription of Chopin's Op.25:7, and there's an early *Polonaise brillante*. Transfer level is unusually high for these recordings but pianist and cellist are well balanced – the latter never swamped by her French partner's *forte* playing. In *HFN* Mar '13 (*Duo* – p94) I admired Gabetta's 'imagination and sense of colour' and she's the more compelling artist here too. There is something faintly 'deferential' with Chamayou's playing, I felt, notwithstanding the matched phrasing throughout. *CB*

Sound Quality: 80%



SIBELIUS

Symphonies 2 and 7; BBC Nat Orch Wales/Thomas Söndergård (192kHz/24-bit; ALAC/FLAC)

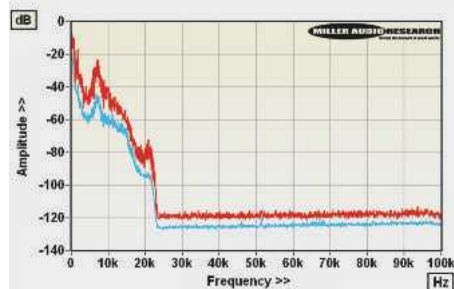
www.linnrecords.com; CKD 462

This first instalment in a new Sibelius cycle with the BBC's Welsh Orchestra has prompted a mixed response. Criticism of the sound from Cardiff's Hoddinott hall strikes me as spectacularly wrong (*Gramophone*) as – at 192kHz/24-bit at least – this is an extremely fine, natural orchestral presentation. OK, perhaps levels are slightly raised at the very end of Symphony No 2... In the Seventh, Thomas Söndergård seems to take his cues from the purity and abstraction of No 6 (due shortly from Linn with No 1) – it's a restrained view, with much inner detail and the big 'question mark' in the final bars finely resolved. The *Andante* of No 2 has rarely sounded so troubled and again (as one player's online blog suggests, the orchestra was worked hard over balances) the music's inner detail is compellingly resolved. *CB*

Sound Quality: 80%

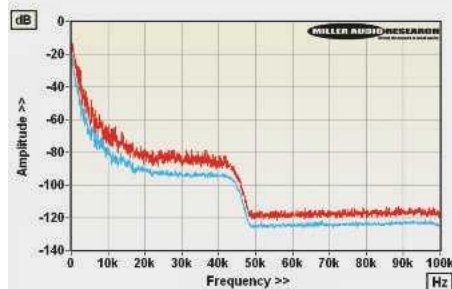


LAB REPORT



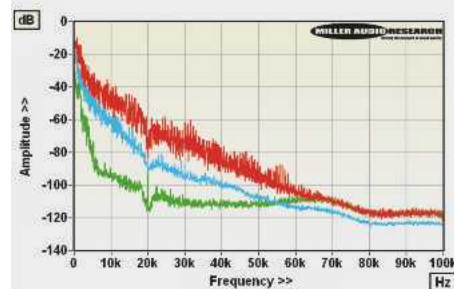
While the last two Krall releases have been at 96kHz [*HFN* Mar & Dec '13] this latest 48kHz rendering still shows the same slightly elevated (analogue) noise floor. Reduced bandwidth aside, at least the headroom is generous. *PM*

LAB REPORT



With no information forthcoming about the recording itself, spectral examination suggests this download is either taken from an analogue master (more likely) or is an asymmetric downsample of a DSD recording to 96kHz LPCM. *PM*

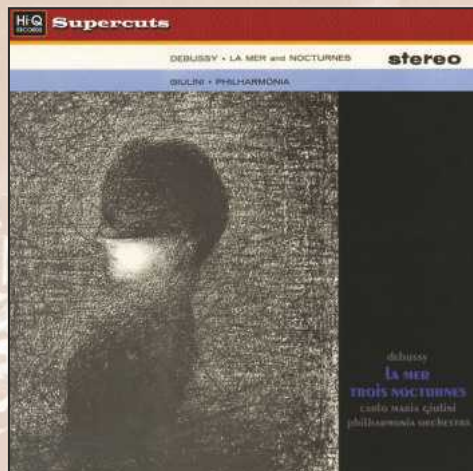
LAB REPORT



With the orchestra in full flight (*Allegro*, Sym. 2) its harmonic reach extends out to ~60kHz, utilising much of this 192kHz cycle's ~90kHz bandwidth. But quieter interludes reveal a notch filter and spurios tone at 20kHz [green trace]. *PM*

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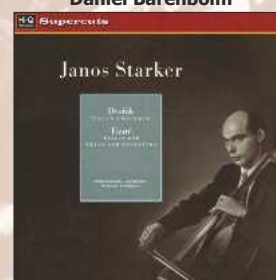
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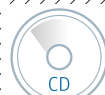
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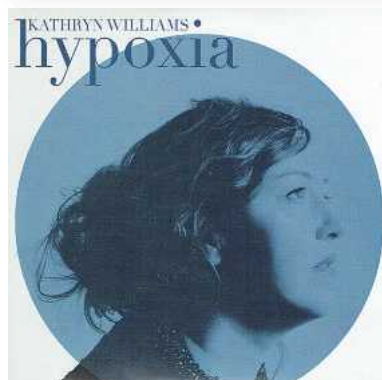
SOMEONE STILL LOVES YOU BORIS YELTSIN

The High Country

Polyvinyl Record Co PRC-295

Ten years into their prolific career, Missouri's indie rock heroes have thrived despite their unwieldy monicker. Purveying energetic, poppy alt-rock that fans of Weezer, Cake or even Vampire Week-end will find instantly appealing, they improve with every album and, even though it only runs to 26 minutes, *The High Country* is jammed with more memorably tight tunes than most albums of twice its length. The fuzz-rich 'What I Won' is a case in point, its layers of guitar distortion overlaid with a sweet vocal propelled by stone-solid drums and insistently thrumming bass. The punky thrash of 'Trevor Forever' and the chilled angst of 'Madeline' are two of 11 reasons why this is one album you'll play end-to-end over and over. **JBk**

Sound Quality: 93%



KATHRYN WILLIAMS

Hypoxia

One Little Indian TPLP1263CDP

Williams is a singer-songwriter who, regrettably, has been tagged as a folkie. Truth to tell, her gifts are not limited to any such narrow definition, and this compellingly atmospheric collection of nine songs based on Sylvia Plath's claustrophobic, fictionalised autobiography *The Bell Jar* should help free her of stylistic stereotyping. Williams brilliantly captures the suffocating ambience of the book, and never resorts to the clichés so common in traditional folk. From the spooky celestial electronics in 'Electric' to her forensic dissection of sexual relationships in 'Tango With Marco', *Hypoxia* delivers music which is as chilling as it is beautiful. **JBk**

Sound Quality: 91%



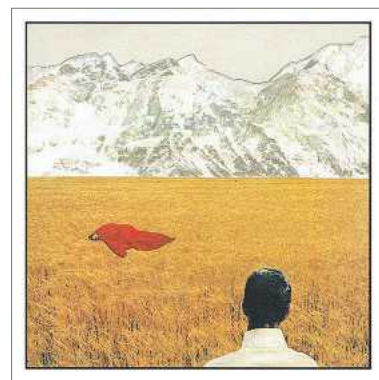
WOODY WOODGATE

In Your Mind

DW Records DWR002

Full marks must go to Madness drummer Woody for fashioning a solo album that doesn't sound even remotely like Suggs and his Nutty Boys. There's much to be admired in Woody's command of light, sparkly pop tropes, which results in fizzy, refreshing cuts like the title track 'In Your Mind', and optimistic, dreamy outings like 'Come To Me'. Aficionados will know that Woody has operated outside the Madness framework on several previous projects, including Voice Of The Beehive and The Magic Brothers, but much of the joy of this album derives from its being so infectiously spontaneous that it could have been made by a man half his age. **JBk**

Sound Quality: 92%



LADY LAMB

After

BB*Island BBI0192

Hailing from Brunswick, Maine, USA, Lady Lamb is actually guitarist/singer/songwriter Aly Spaltro, who established her rep with a half-dozen self-released albums between 2007 and 2012, before scoring a 'proper' recording deal. *After* is her second outing for a label, but she hasn't compromised her creativity one whit, and continues to write songs that seamlessly combine the intimacy of self-exploration with the raw energy of non-corporate rock. Her lyrics, as in the musical kaleidoscope of 'Violet Clementine' or the self-doubting rumination of 'Spat Out Spit', can be impenetrably enigmatic, but there's never any denying their passion, integrity or intelligence. **JBk**

Sound Quality: 88%



SERIES V~12

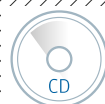
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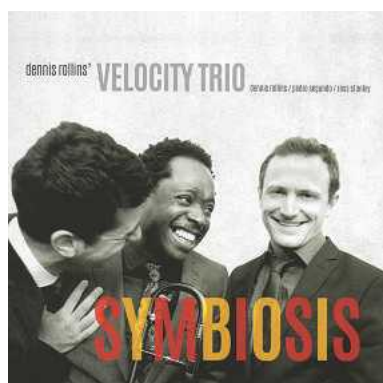
PARTIKEL

String Theory

Whirlwind Recordings WR4671

With the addition of a stellar string quartet (violinists Benet McLean and David Le Page, viola Carmen Flores and cellist Matthew Sharp), saxophonist Duncan Eagles' London-based trio's work takes on a new dimension. Eagles didn't want to use strings just as backing or padding and the two groups really do interact and improvise together. The effect is powerful from the start as the three-part 'Clash Of The Clans' kicks off dramatically with the strings making a sound like an orchestra played backwards. Bassist Max Luthert and drummer Eric Ford sound more dynamic and punchy than ever, and the music is absorbing, complex yet sure-footed and full of joy. *SH*

Sound Quality: 80%



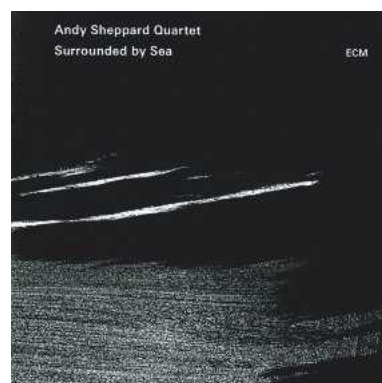
DENNIS ROLLINS VELOCITY TRIO

Symbiosis

Dogwithabone Music DRV0001

Here's a second album from a trio with the unique line-up of trombone, Hammond organ and drums. Dennis Rollins played with Courtney Pine and the Jazz Warriors in the 1980s, later leading his own jazz-funk band, Badbone & Co. He teamed up with British organist Ross Stanley and Portuguese-born drummer Pedro Segundo in 2011, and the trio's first album, *The 11th Gate*, came out on the Motéma label that year. Stanley, a player with resources far beyond the usual organ-trio effects and clichés, finds endless new ways to complement Rollins' agile inventions, while Segundo is masterful. All three play with such huge enjoyment that it's a delight to listen to them. *SH*

Sound Quality: 85%



ANDY SHEPPARD QUARTET

Surrounded By Sea

ECM 471 4273

Here the saxophonist's long-established Trio Libero, with bassist Michel Benita and drummer Seb Rochford, becomes a quartet with the inclusion of Norwegian guitarist Eivind Aarset, who played on Sheppard's first ECM record as leader, *Movements In Colour*. This time, between Sheppard's originals, a recurring theme is the Gaelic song 'Aoidh, Don't Sleep At All', which he'd learned from Hebridean singer Julie Fowlis. To some ears, Aarset's electric sounds, adding a subtle drone or shadowing Sheppard's melodic lines, might seem incongruous in the lovely natural acoustic of the Auditorio Stelio Molo, Lugano, where this was recorded. But it's sumptuous nonetheless. *SH*

Sound Quality: 80%



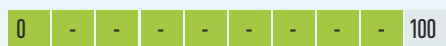
RAMÓN VALLE

Take Off

In+Out Records IOR CD 77121-9 (CD + DVD)

Now based in Holland, the Cuban-born pianist recorded for the Act label in the early 2000s. But this new release for another German company is the first fruit of his collaboration with American producer/manager Suzi Reynolds. Bassist Omar Rodriguez Calvo has worked with Valle since the '90s, and the all-Cuban trio here is completed by drummer Ernesto Simpson. They open with a chopped and sliced 'All The Things You Are' and almost pause majestically midway with Leonard Cohen's 'Hallelujah'. But Valle's originals range from the spiralling 'Levitando,' almost a signature tune, to 'Trance Dance In Blue' which convolves the blues with Latin idioms. Valle is exhilarating and he can be tender too. *SH*

Sound Quality: 90%



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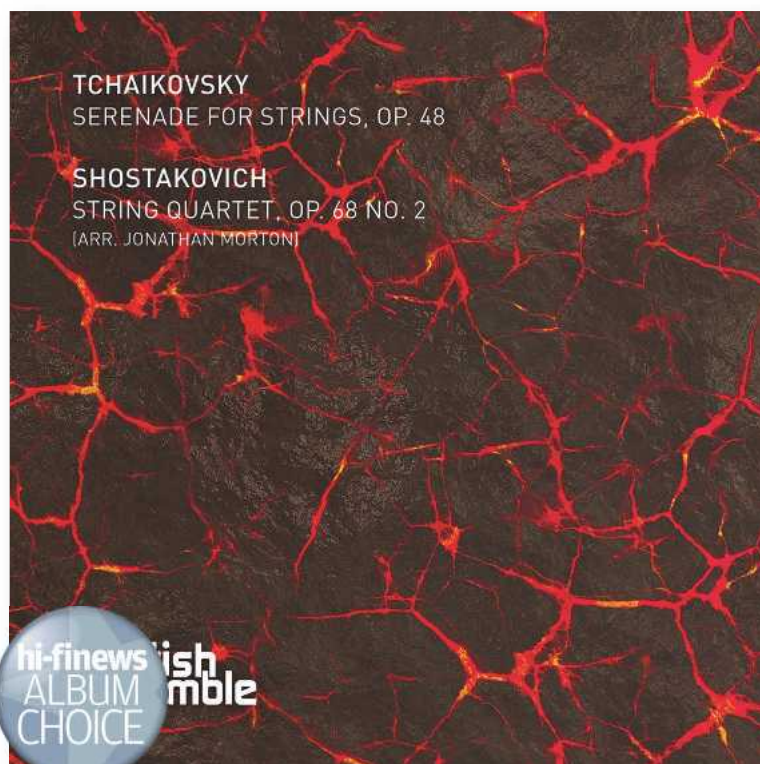
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TCHAIKOVSKY
SERENADE FOR STRINGS, OP. 48

SHOSTAKOVICH
STRING QUARTET, OP. 68 NO. 2
[ARR. JONATHAN MORTON]

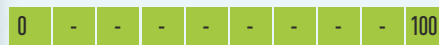
TCHAIKOVSKY/SHOSTAKOVICH

Serenade for Strings/String Quartet Op.68:2 (arranged)
Scottish Ensemble

Linn CKD 472 (SACD hybrid; downloads up to 192kHz/24-bit res)

This is a fresher, more imaginative Tchaikovsky *Serenade* than the recent LSO Live [HFN Feb '15], and although the upper strings can sound a little steely at high levels, the acoustic is cleaner, the Barbican one rather muddy in tone in places. The playing is especially lovely in the slow movement and the linking section into the finale. The coupling is leader Jonathan Morton's persuasive transcription of the 1944 string quartet, rather like those by Barshai of other chamber works. It certainly brings out the tics and themes heard in the wartime symphonies, Nos 7 and 8, and the solo recitatives in (ii) and (iv) are retained to telling effect. The finale has some quite thrilling string ensemble playing. **CB**

Sound Quality: 95%



HALLÉ
GUSTAV MAHLER
SYMPHONY NO.9
SIR MARK ELDER

MAHLER

Symphony 9
Hallé Orchestra/Sir Mark Elder

Hallé CD HLD 7541 (two discs)

So far, the Elder/Hallé discography has mainly been of English music. Recorded mostly live at Bridgewater Hall, this Mahler Ninth has a restraint that sets it apart from Barbiroli-era performances. Sir Mark seems to favour symphonic structure over overt emotionalism. And while it would be wrong to suggest the strings have the fullness to be found in Abbado's Berlin or Lucerne live alternatives, this Hallé Ninth at the very end has a poignant resolve that matches the later Abbado. It's an account that merits careful attention – maybe the *Rondo* would have had even more bite at a slightly slower tempo but that's a marginal quibble. **CB**

Sound Quality: 85%



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volume II
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Sonatinas nos. 1 & 2
CELLO SONATA

Peter Donohoe piano
Raphael Wallfisch cello

PROKOFIEV

Piano Sonatas 9 and 10; Cello Sonata; Sonatinas 1, 2
Peter Donohoe/Raphael Wallfisch

SOMM SOMMCD 256

You could hear the 1950 Moscow premiere of the Cello Sonata in a 13CD EMI set (1997) – Rostropovich making a meal of his part, poor old Richter a mile away in the background, playing with a more rewarding integrity. No such balance problems affect this excellent Southampton University production, a fine centrepiece to Vol.2 of Peter Donohoe's new sonata cycle (he's set slightly more forward for the solo works). He brings his customary strengths to the last completed sonata, No 9, the fragment of No 10, and two earlier Sonatinas. No 9 is an interesting piece albeit – to my mind – having a frankly irritating finale! **CB**

Sound Quality: 80%



RAVEL DAPHNIS ET CHLOÉ PAVANE
complete ballet
ROTTERDAM PHILHARMONIC ORCHESTRA
YANNICK NÉZET-SÉGUIN

RAVEL

Daphnis et Chloé (complete); Pavane pour une infante défunte

Rotterdam Philharmonic Orch/Yannick Nézet-Séguin

BIS BIS-1850 (SACD hybrid; downloads up to 96kHz/24-bit res)

Nézet-Séguin has moved to pastures new – Philadelphia, DG – since making this 2012/14 BIS coupling. Most of us come to the complete *Daphnis* ballet via the Suite No 2, but the score never lacks for drama, and was, anyway, considered 'symphonic' by the composer. Beautifully balanced, this version matches the NY/Boulez benchmark on Sony and has a musically superior wordless chorus. In the *Pavane* the unique Rotterdam horn timbres and sensitive dynamics make for compelling repeat listening. And the principal flautist's playing in both scores is quite wonderful. **CB**

Sound Quality: 90%



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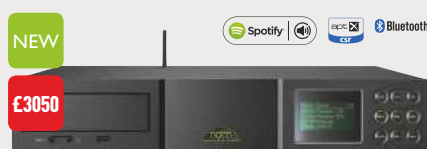
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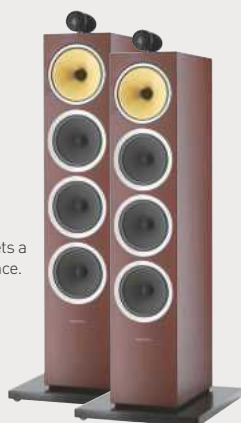
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Paul Miller Editor

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

Adventures with USB

Last month **Paul Miller** alerted the audiophile world to a range of optical USB extender cables made by glass specialists Corning. But is this solution as 'universal' as we'd hoped for?

A month is a long time in hi-fi, or at least in computer-based audio where there's always a new technology, service or product announced that's going to enhance our lives. Or make it slightly more frustrating, as was the case with Corning's 'USB 3.0 Optical Cable' that I previewed in my last column.

On the face of it, Corning's USB extender cable (it has male and female USB Type A connectors at either end) promises to be the audiophile's friend, even if this was never its intended market. It offers USB 3.0 connectivity up to 50m – ten times the range of a conventional wired USB cable. Plus, the optical transmission of USB's differential data lines means source and destination are electrically isolated. So you can understand why I was excited to finally receive a 10m sample for review...

The cable comes with a candid caveat, '...designed to be compatible with USB 2.0 and 3.0 devices, however the USB-IF has not yet developed a specification for optical fibre transmission'. Fair enough, but there's more small print '...only for use with self-powered USB devices'. This makes sense

'Few USB-B ports on audio DACs are designed to power devices'

because the optical transceivers in both USB plugs need external power to function. I variously hooked my 10m lead between a PC, laptop and MacBook, and a powered external USB HDD, a printer and externally powered CD/DVD drive/burner. In every case the peripherals were recognised and performed normally, except I could now operate all of them at a greater distance.

CRUNCH TIME

Next, I connected the same PC, laptop and MacBook Pro to a variety of USB-equipped DACs (using a passive USB A/B gender-

bender). And that's where the problems started. Obviously the optical cable was never going to work with a hub-powered DAC/headphone amp like the AudioQuest DragonFly or Light Harmonic Geek Out but neither could I make connection to battery-powered USB devices including the Chord Hugo, the Oppo HA-2 or In-Akustik No.1.

The real kicker was the Windows message, 'the [USB] hub does not have enough power available to operate the [insert name of DAC here]' – and this was with mains-powered DACs as diverse as the Devialet Le 800, Metronome C8+ and Pioneer N-70A. I only successfully pushed hi-res audio files over optical USB with the MacBook/Pioneer N-70A combo. I even

tried a 'third way' by lacing the optical USB between Melco's N1A music library/player and these same DACs. The Melco uses a Buffalo A-NAS mainboard [see p62] running a Linux OS on a Marvell processor and with fully-powered USB 2.0 and 3.0 ports. The result – silence!

It seems the USB-B solutions included on the vast majority of audio DACs are not designed to power an external USB device. The USB-A sockets marked for iDevice connection do have sufficient oomph for power/charging, however.

PERFECT PARTNERS

For now I've put remote optical USB connections on hold, the idea sidelined by another digital development. Readers will note my excitement over the significant measurable improvements obtained when pushing files over USB from the standalone Melco N1A. Bearing in mind my resident Devialet Le 800 monoblocks are driven via USB, the N1A was whisked from lab to listening room – a short length of Chord's 'Outstanding' SilverPlus USB cable in hand [see p88] – and hooked up in mere minutes.

A free Kinsky app running on my MacBook identified both the N1A's music library and 'Devialet USB Audio 2.0' on my home network. From there I simply had to select and play. The result? Bliss, as the Devialets sounded better than ever – minuscule details revealed from vanishingly quiet backgrounds while the music's macro dynamics enjoyed a seemingly thunderous determination. Melco/Devialet – it's as elegant and musically potent as hi-res audio gets. ☺



ABOVE: Melco's N1A digital-only music player – musical manna for Devialet's USB-equipped amps?



ABOVE: Devialet's Le 800 monoblocks – top of the 'Expert' ADH amplifier range and with the flexibility of a direct USB connection

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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

The forbidden word

The Blu-ray Disc Association recently announced it had completed the spec for Ultra HD Blu-ray and unveiled a new logo. **Barry Fox** reckons the logo alone shows streaming is seen as the future

Surely the most interesting thing about the new and much-delayed standard for an enhanced Blu-ray disc, with higher picture resolution and 'next generation immersive, object-based sound formats', is the logo.

There is no mention of the word 'disc'. As one industry insider explained it to me: 'The labels in the US see anything disc-based as being from the Ark.'

It's the same warped thinking that rejects broadcasting as old hat, and foresees a future where everything is streamed online – until the systems break because too many people are streaming at the same time.

ALIVE AND WELL

So it was good to see that physical media are still alive and well in France. I was in the historic old city of Lille during Victory in Europe celebrations recently so took the opportunity to visit the local Fnac store and compare it with the Fnac I visited in Nice two years ago.

Fnac (originally *Fédération Nationale d'Achats des Cadres*, the National Shopping Federation for Managers) was founded in 1954 by André Essel and Max Théret. Fnac's stylish stores now dominate the home entertainment mass market in France, much like HMV in the UK.

Fnac's branch in Lille extends through two large modern stores, one for music, books and Kobo e-books, along with Dyson cleaners and brightly coloured stationery, and one for consumer electronics including much Apple stuff and a little genuine hi-fi.

Exactly as was the case in Fnac Nice in 2013, selected CDs in Fnac Lille cost 7 Euros or four for 20 Euros, with the



ABOVE: Inside the section of the Fnac store in Lille, northern France, that houses music and books

option of a digital copy to download. Perhaps because Lille has its own Opera House, we found a wide selection of classical and opera, often little known and hard to find titles. The jazz selection was less adventurous than in Nice.

Headphone stations offer the chance to listen to a few pre-selected CDs, eg, the usual Diana Krall. The price of BDs ranges between 15 and 25 Euros. There were several racks of new vinyl discs, priced at between 20 and 25 Euros each while long queues at the checkout tills proved that people were not just browsing

through discs but buying them.

France has always been held up as the glowing example of success for the Ultra Violet 'digital locker' system, which lets people who buy discs automatically store a digital copy in an online cloud store or 'digital locker'. It therefore struck me as surprising when the US team that is backing UV held a conference in the UK last September to celebrate its success yet banned all press from attending except a magazine that had paid to help sponsor

the conference. The rest of the press pack were promised a 'data pack', but it was never forthcoming.

Sure enough, there were next to no BDs bearing the UV label in Fnac. The world is turning to streaming for instant entertainment gratification. Pride of ownership and easy future access has become an Ark concept.

SHINING EXAMPLE

France has also been held up as the shining example of success for Pure Audio High Fidelity BD. But in Lille there was just one small rack of a few Pure Audio discs. Apart from standard fare, such as Nina Simone for 20 Euros, many of the titles were by French or Belgian artists such as Carla Bruni (wife of former French president Nicolas Sarkozy), with prices around 25 Euros. A boxed Pure Audio set of Georg Solti's complete *Ring Cycle* was priced at 90.26 Euros. No-one, except me, was showing any interest.

The new BD logo, with no mention of the dirty word 'disc', makes it clear that the music industry sees high quality streaming as the future. This is all very well as long as your broadband service is reliable and not capped with severe cash penalties for exceeding data limits. ☹

'Long queues at the checkout tills proved people were not just browsing but buying'

"Frankly I was not expecting much... but – Ouch! – there was a difference and it was not small..."

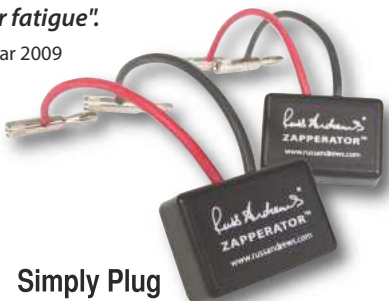
When Martin Colloms reviewed Russ Andrews Speaker Zapperators in Hi-Fi CRITIC magazine, he admitted that his expectations weren't high. But when he heard them...

"... A reduction in noise floor, treble grain and sibilance, increased fine detail resolution and texture, and imaging was more natural with better distant perspectives. The sound was calmer, flowed better and with slightly better subjective timing and lower fatigue".

Martin Colloms, Hi-Fi Critic, Jan-Mar 2009

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Barry Willis

Journalist for top American audio-video publications

While his main interest is high-end audio, Barry Willis also writes about the culinary industry, visual art and theatre for a huge variety of US newspapers and magazines

The case for active EQ

Would you consider using a graphic equalizer in your system? **Barry Willis** says it may be time to think again, if only because it can be used to throw light on where your set-up may need attention

There's no such thing as an acoustically perfect room, sonically perfect playback system, or perfect recording. All need help to sound as good as they possibly can. From the late 1960s through the 1980s, the shortcut to improving the sound of rooms, systems, and recordings was the active equalizer and it's still a standard item in both recording and mastering studios.

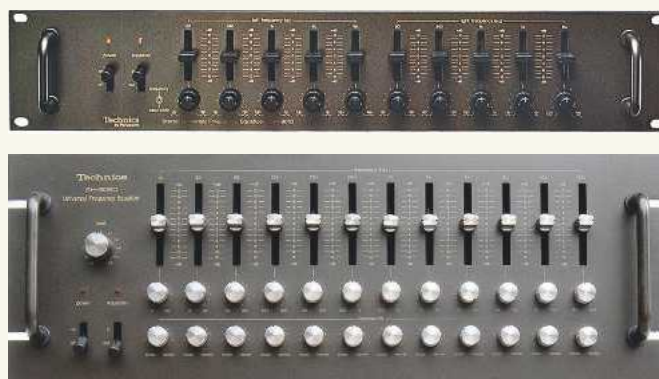
Every mixing console has EQ adjustments, both for the voices and instruments going into it, and for the output being fed to a recording device. Except for rare purist recordings made with no pre- or post-production tweaking, everything we listen to gets a heavy EQ treatment.

BOOST AND CUT

A basic multi-band equalizer – such as the Monarch SAE-1000 – can do more to correct egregious frequency anomalies than almost any room treatment. Even more versatile are so-called parametric equalizers, such as the stereo five-band Technics SH-9010 or the mono 12-band SH-9090 (both from the late '70s), which offer boost and cut at each audio band, and extra controls to vary the center frequency of each band and its 'Q' or bandwidth. With one, you can quickly dial in a room/system.

The equalizer is one of the most versatile audio tools ever invented, but somewhere in the 1980s it became unfashionable among serious listeners. High-performance playback products began moving upscale price-wise while shedding functions that throughout most of the 20th century had been considered essential. This development accompanied a growing myth in the

RIGHT: An active equalizer was a standard item in most respectable hi-fi rigs from the late '60s through the '80s. Pictured here are the stereo five-band Technics SH-9010 (top) and mono 12-band Technics SH-9090, both parametric and from the 1970s



audiophile community, that tone controls induced phase shift, besmirching the purity of recordings and therefore to be avoided.

This myth persists, in denial of the fact that huge amounts of equalization are applied in production to almost all recordings. It also ignores the fact that listeners in a concert hall hear the same music, but each hears a different set of phase relations. There's no phase-perfect spot in the hall. Each listener's individual ears receive different phase relations too. None of this phase-shifting effects our enjoyment of music.

Audiophilic obsessions about the evils of phase

shift [Investigation, *HFN* Jul '15] meant that high-end preamps began appearing without tone controls, and ultimately without the balance control – a dreadful development – so that functionality now is limited to input selection and volume control. Compared to music lovers 30 years ago, it seems we now pay more for less.

But we still need to adjust frequency balance. With home theatre systems, this happens automatically during set-up calibration. Some audiophiles have sophisticated computer-based room-correction systems which do this too, but

their numbers are few compared to the many heavily invested in functionally limited but otherwise excellent-sounding audio gear. Cables are de facto tone controls for this majority.

Every audible difference ascribed to a cable is the result of its frequency balance – its departure from linearity. Passive components can't add anything to the signals that they carry; they can only detract. An interconnect cable that presents less capacitive reactance favours low frequency transmission, and therefore delivers better bass. One that sounds open on the upper end presents less inductive reactance to high frequencies, and therefore delivers more air. It's really that simple.

DIAGNOSTIC TOOL

Cable-swapping is an absurdly expensive and technically backwards way to deal with sonic shortcomings, but it seems to be the standard approach. Most hi-fi fans wouldn't feel embarrassed about how much they've spent on cables trying to extract better performance, but they would be loath to introduce equalizers into their systems.

Uncool it may be, but a good equalizer is still a straight shot to better sound. At the very least, it's an excellent diagnostic tool to discover what in your system needs a little more attention. ☺

'Uncool it may be,
but a good equalizer
is still a straight
shot to better sound'



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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

Magnetic myths

This month **Jim Lesurf** looks at one particular hi-fi belief – that MC cartridges are inherently superior to their MM counterparts because they offer a wider dynamic range. It just ain't so...

As an engineer I tend to sigh when I come across myths presented as fact. I'm quite happy with the idea that people prefer what suits them. But it's a problem when people present myths as if they have a scientific basis in order to promote their own preferences. It can mislead others or lead them to mistrust their own conclusions. Worse, it can have others believing that their own preferences are the result of ignorance.

One particular myth I've seen repeated recently across various online forums is that moving-coil cartridges are better than moving-magnet designs because their lower output resistance means they have 'lower thermal noise'.

The conclusion drawn from this is that MC cartridges are able to deliver a wider dynamic range and are therefore inherently 'better'. Alas, ask almost any learned academic physicist or engineer about this idea and you'll be told, perhaps in politer terms, it's twaddle!

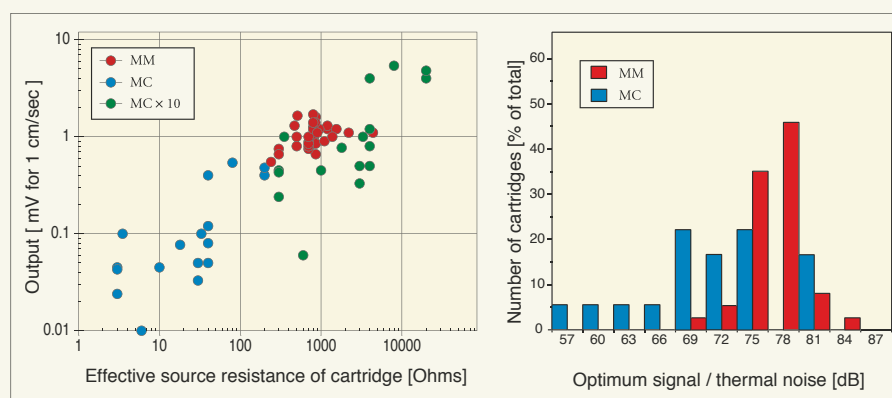
TEMPERATURE MATTERS

The main point is that thermal noise power measures the same for all values of resistance that are the same temperature. That's a fundamental part of reality. What does vary is the noise voltage. But, of course, so do the output signal voltages you get from different models of cartridge.

Look in a textbook and you can see that thermal noise voltage scales in proportion with the resistance. And in practice, what really matters is the signal-to-noise (S/N) ratio you can get, *ie*, how the signal levels compare with the amount of noise.

Experience shows that, yes, in general it's true that MC designs have a lower

'The key thing is that thermal noise voltage rises with source resistance'



ABOVE: In practice, the impedance and S/N of MM and MC (inc. transformer) pick-ups is similar

output resistance, and so lower output noise voltage. But it's important to note they also output a lower *signal* voltage.

To illustrate this point I went through dozens of old cartridge reviews. The results are summarised in the diagrams shown above. The graph on the left plots each cartridge's properties.

IDEAL TRANSFORMER

The key bit of physics here is that thermal noise voltage rises with the source

resistance. So the real signal-to-noise ratio depends on the ratio of the signal to this resistance. Since it is common to use an MC design with a step-up transformer I've also plotted the results when using

a 'perfect' transformer that gives a step up ratio of x10. This increases the signal from the MC. But it also increases the output resistance presented to a following amplifier! That means it also steps up the noise voltage. The powers haven't changed, but the voltages have. And this is what we'd get using an ideal transformer.

Real-world transformers tend to lose some signal and add some noise. Looking

at the result we can see that both the MM and MC designs end up occupying the same area of the graph. Although in practice the MC designs have a far larger variation from one model to another, in essence, the fundamentals of physics allow both types to reach much the same sort of signal-to-noise behaviour when made and used with care.

Assuming the same audio bandwidths, I then proceeded to work out the optimum signal-to-noise of each cartridge, and these results are shown on the right. This illustrates how many examples give a result at various levels. If noise is your concern, the higher the signal/noise ratio value, the better.

THE PLAIN TRUTH

Looking at these results it's quite clear that typical MM designs tend to perform just as well as the good MC ones. But poor MC designs tend to lag behind and give worse signal-to-noise performance.

So the plain truth is that the end result isn't determined by a simplistic any 'MC good, MM bad' belief. Rather, it's a matter of choosing a good example that suits your preferences. Don't be taken in by the magnetic attraction of myths. Trust your ears and choose the flavour of cartridge you prefer. ☺

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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

The Great Divide

Do you prefer classical music on vinyl or CD? And why is it that manufacturers at hi-fi shows tend to favour rock music when demonstrating their systems? Steve Harris looks for some answers...

On the morning of the 17th of April this year, Radio 3 listeners heard breakfast presenter Petroc Trelawney explaining that he'd just walked into the studio and discovered an unexpected new piece of equipment. It was a vinyl record player. He didn't actually say 'how quaint!' but that was clearly what he thought, as he chortled and condescended over this piece of outmoded, antiquated technology.

The turntable was there, of course, for Record Store Day, and was duly put to use on Saturday morning, when a special edition of Radio 3's 'CD Review' ignored its usual boundaries and played some classical vinyl releases.

A LITTLE WOW

You might think that classical music doesn't feature very strongly in the activities of Record Store Day, but the event did at least provide a starting-point for a discussion. Among the studio guests was a classically-inclined record store owner who told listeners that jazz sold well on vinyl.

Did he ever listen to vinyl himself? No. But this wasn't surprising. Back in the 1980s, the compact disc conquered the hearts and minds of classical listeners quickly and almost completely, and for good reason. CD really did abolish the failings of the vinyl LP at a stroke.

No surface noise, above all no maddening clicks and pops in the quiet bits, no wow and flutter to offend the musical ear, no need to turn the disc over halfway through a symphony. No horrible 'end of side distortion' on the loudest of finales.

I wouldn't be the first to describe vinyl clicks and pops as a plague, to which

only CD offered a real cure. No wonder that the classical world converted, *en masse* and almost immediately. But if your favourite music was Led Zeppelin, would a few clicks and pops really matter? And would you really notice a little wow?

So now there came the Great Divide. It's a divide that persists to this day, despite the fact that a good modern turntable, arm and cartridge will do so much better than the lightweight pick-ups of the 1970s, minimising surface noise rather than emphasising it.

Paradoxically, perhaps, relatively few of those newly-happy classical CD listeners would have called themselves audiophiles. And you could say that vinyl was kept alive by rock listeners. Indeed, you could say the same for the audiophile hobby itself. Today, at a hi-fi show, a manufacturer who demonstrates only classical music finds himself catering to a very small minority.

REFRESHING SOUNDS

Urs Wagner of the Swiss company Ensemble is a classical music lover through and through, so when he demonstrated his

new Ondiva speaker system to some of the UK press a few months back, this subject came up in discussion. Urs played some wonderful, and distinctly non-rock, music on CD.

He played Bach and

Schubert and introduced us, for example, to *Mi Alma Mexicana: My Mexican Soul* with Alondra de la Parra conducting the Philharmonic Orchestra of the Americas [Sony 88697704412] in music by relatively obscure Mexican composers.

Would he do this at a show, we asked him? Wouldn't the younger, well-heeled potential buyers of today just want to listen to contemporary sounds? Maybe so. But I came away from Urs's demonstration not only happy but refreshed, even though



ABOVE: Urs Wagner of Ensemble with his latest speaker, launched at Munich High End

I wasn't myself in the market for a pair of £15,000 speakers.

It so happened, a couple of weeks later, that I spent an extremely happy day making a return visit to Michael, whose extraordinary room and system was described in a feature last year [see 'Room for Improvement', *HFN* Sep '14].

Michael's main source these days is Blu-ray. And I sat spellbound. A subscription to the Berliner Philharmoniker Digital Concert Hall [www.digitalconcerthall.com] allows you to stream and view concerts in both high-quality video and not-so-high-quality AAC sound. You can then buy a Blu-ray disc of, for example, the 2014 New Year's Eve concert with Simon Rattle and Menahem Pressler.

We still talk about 'the closest approach' and 'concert hall sound in the home.' Material like this, I think, is about as close as I have come. And it proves to me, Philistine as I am, that classical music really has moved on from the CD era. ☺

'You could say rock listeners kept vinyl, and the audiophile hobby, alive'

YOUR VIEWS

Sound Off!

Correspondents express their own opinions, not those of *Hi-Fi News*. We reserve the right to edit letters for publication. Correspondents using e-mail are asked to give their full postal address (which won't be published). Letters seeking advice will be answered in print on our Sound Off pages, but due to time constraints we regret we're unable to answer questions on buying items of hi-fi or any other hi-fi queries by telephone, post or via e-mail.

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VINYL SNOBBERY? CHEAP TURNTABLES ARE NOT 'JUNK'!

I am happy to see the resurgence of interest in vinyl and agree with most of the points raised by Barry Willis in his June Opinion piece on vinyl's persistence as a format. But I do take issue with his comments on the Record Man and Crosley turntables, which he dismisses scornfully as 'cheap junk'.

Hi-fi is a means to listen to music. I prefer my music on vinyl and on a reasonably good turntable – in my case a Rega P9. But I could still enjoy my LPs if played on one of those cheap turntables. In short, Barry's comment reeks of snobbery.

Rega has taken the positive step of becoming a partner in Record Store Day. This is the way to go. Otherwise people will see hi-fi journalism as redundant.

Ross Hunter, via email

Barry Willis replies: Mr. Hunter's Rega P9 turntable is a good one. Rega tables have always been laudable performers and good value. No-one need spend four or five figures to get satisfying results from vinyl, but no-one

should waste money on junk products. There are many good affordable new turntables on the market, and a great many from the 1970s and '80s still in excellent condition – most needing no more than a bit of lubrication, a new drive belt, and a new cartridge.

Part of the mission of hi-fi journalism is to educate enthusiasts about how their money might best be spent – and that's definitely not on the flimsy players often displayed for sale with new and reissued vinyl. These players – really nothing more than impulse offerings – violate every principle of good sound reproduction developed over more than a century, with poor tonearm design, poor speed control, and poor isolation from external or self-generated vibration.

The fact that they have onboard speakers is reason enough to reject them. The ludicrous fact that they're priced similarly to some of the records they're shown with should be fair warning. It's not elitism to reject what's inappropriate or a waste of money. Enthusiasm for vinyl shouldn't lead us to endorse products that are clearly an insult to every intelligent music lover.



ABOVE: Rega P9 turntable with los phono stage and P9 PSU [see *HFN* Aug '08]

The 'Stradivarius of cartridges'

READER JOINS RALLYING CALL FOR REVIVAL OF SHURE V15

Let me second Jim Lesurf's call for the return of the Shure V15 V-MR cartridge [see *HFN* Jun '15]. I've used this pick-up for decades with excellent results. And a friend of mine – an analogue expert with an extensive collection of second generation master tapes and access to many of the most lauded pick-ups, says the V15 V-MR (not the V15VxMR) is the most accurate pick-up he knows. In this case, the definition of accuracy is one where the cartridge renders the sound of the LP most like that of the master tape.

Allen Edelstein, via email

Jim Lesurf replies: Over the decades Shure's key workers became very highly skilled craftsmen. And manufacturing the V15 series required special-purpose equipment as well as the ability to make materials that were ideal for the tasks. Alas, all that was probably lost when Shure decided that the market for LPs was dead and abandoned the V15. The V15 may now be the 'Strad' of cartridges. Yes, there are good, newer, alternatives but I fear no other maker will ever match the V15 for low mass, compliance, trackability, etc.

WhitWorld

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"YOU DON'T SELL MOBILE PHONES, CELEBRITY BIOGRAPHIES, OR COFFEE? WHAT KIND OF RECORD SHOP ARE YOU?"

Lanes On Your Entertainment Superhighway

Record shops and ripping

FAVOURITE STORES, AND THE MOVE FROM HIGH STREET TO HARD DISK

Jim Lesurf's Opinion column in the May issue reminded me of many happy years buying records from 'proper' dealers. I, too, knew Steve and Sarah at Bath Compact Discs and had been a customer for about 20 years. So its demise came as a shock. One could always rely upon Steve and Sarah to chat and advise, and their well-picked junior staff were likewise knowledgeable and amiable.

Back in the days of LP I used a shop in Birmingham called Vincent's, which was on Needless Alley. It was below ground level and one descended by a ramp! One could always rely upon someone, whether it be a staff member or customer, to begin a discussion as to which recording of a piece was the best, sometimes quite heatedly. I have many fond memories of my weekly visits to that shop and being served by John or Brian.

I also used the HMV shop on Birmingham's New Street, which had a dedicated classical department run by Dave Lloyd, who later ran the classical CD department in the big HMV on High Street, Birmingham.

It is a great tragedy that such shops have gone, only to be replaced by bland online suppliers. But even the shops that have survived seem more like supermarkets these days. They all appear to advertise the same new releases, all in stock and readily available. But back catalogue stuff is sometimes 'out of stock at the

distributor and may take six weeks or more to deliver'!

Maybe we now have too many recordings available? How many Beethoven 5ths are out there? How many *Scheherazades*? Of course, hi-fi enthusiasts can be partly blamed for the loss of the record shop because of their seemingly ceaseless fascination with new and ever more complex technology. I read and hear of people spending vast sums of money on this and that new product, only to have it replaced 12 months or so later. The thought of storing my collection of music on a hard drive fills me with horror. I often wonder which comes first in the minds of hi-fi fans, the music or the technology?

Having read *Hi-Fi News* since 1965 I have seen a lot of change, but the current complexity of things is enough to put any music lover off investing in quality equipment!

Cliff Millward, via email

Jim Lesurf replies: A number of people have suggested alternative classical music shops to me. Examples have included Presto Classical and Crotchet. However, I've initially started by trying Europadisc and the staff seem happy to talk to me. I'll update readers in a few months as to how I get on.

Like Cliff, I do miss having a physical shop to walk into, discs to browse, and a retailer to chat with. But I guess email or telephone is as close as many of us can get nowadays. Not all change is progress!

I'm ambivalent about putting music into computer files. I haven't bothered to 'rip' all my CDs to computer files because I find it easy enough to put a disc into a CD player and then sit back and read the booklet if I wish. However, I do make copies of my old LPs, tapes, etc, as computer files. It lets me remove clicks in some cases, and prevents any risk of further wear or damage when I listen.

I'm all too aware that a time will come when I can't use my Shure V15 cartridge any longer! So I'm trying to preserve the sound I prefer. To avoid the risk of loss I keep copies on three hard disks of different kinds in different places. Ripping CDs is simple enough, but can take a while if you have many discs. Particularly if you also want to scan the leaflets, etc.



RJ/E Forest



RJ/E Cinnamon



RJ/E Vodka



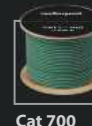
RJ/E Diamond



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.

What does this all mean? Simple ... better sound!

audioquest



ABOVE: A look at the HFN-sponsored film about UK record shops in HFN Sept '12

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B&W 803 Diamond	£3,850	Pathos InPower	£4,990	Krell 400e Evolution Monoblocks	£10,990	Theta Data Basic	£390
McIntosh MC402	£3,850	Mark Levinson 380s	£1,999	MIT MH 750 Plus 10ft pair	£450	Sonus Faber Minuetto & Ironwood stands	£890
DaVinciAudio Labs Reference Gandeza Cartridge	£2,790	Marantz SA 8003 CD/SACD	£345	Yamaha NS1000M	£990	Audio Research LS2	£950
Nordost Thor	£890	Naim Audio Nait 3	£320	VPI HW19 Mk3	£600	McIntosh MCD550 CD/SACD player	£5,000
Naim Audio Prefix Phono	£175	Tektron Pre and Power	£1,750	Bryston 3-way speaker switch box	£495	Transparent Audio Music Link Psu	£135
Karan Acoustics S180 Stereo power	£1,890	Audio Note DAC Zero	£300	Transparent Audio Reference XL 1.25m XLR	£1,200	Cardas Audio Golden cross tone arm cable	£350
Naim Audio Frain Base + 1	£590	Accuphase E 560	£3,500	Transparent Audio Reference XL SS 12ft spades	£1,990	Kondo KSL vc tone arm cable	£450
Townshend Audio SEISMIC SINK RACK - 4 SHELF	£800	McIntosh MC205	£4,000	Goldmund Telos 150	£1,690	Transparent Audio Reference digital balanced	£420
CD Players and DACs		B&W DM 70 Continentals	£1,800	BMC Audio M2 Monoblocks	£10,990	Luxman C800f	£8,990
Accuphase DP500	£2,490	B&W htm 2D	£2,600	Boulder 2060	£14,990	Mark Levinson 380s	£1,999
Arcam rDAC + Squeeze	£250	B&W Matrix 800	£5,990	Chord Electronics 1200c	£1,690	Mark Levinson No 326s Reference	
Audio Aero Capitole Signature	£3,300	Beaumont B2.2 Revelation	£1,800	Conrad Johnson Prem 8A monoblocks	£4,950	Dual Mono Pre	£8,170
Audio Aero La Source	£29,500	Dali 300 MK2 in Rosewood	£1,650	Crimson Electronics 640 E3 Monoblocks	£3,399	Mark Levinson No 380	£1,790
Audio Aero La Fontaine	£17,500	Edgy TD512, AS02 + Stands	£2,000	Edge NL Reference Monoblocks	£34,990	McIntosh C2200	£3,750
Audio Note DAC Zero	£300	Eggleston Works SAVOY	£15,000	Goldmund Telos 150	£1,690	McIntosh C2500	£4,500
Audiolab 8200CD	£600	Elac FS 207.2	£450	Gryphon Antileon	£5,990	Musical Fidelity Kw Phono	£1,450
Audiomeca/ Pierre Lurine Mephisto CD Transport	£790	Focal JM Lab Grande Utopia III EM	£121,999	Halcro DM 88 Monoblocks	£24,950	Sony TAE 900	£2,990
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Bel Canto USB Link 24/96	£349	Focal JM Lab Stella Utopia III EM	£47,990	Jeff Rowland Model 3 Monoblocks	£2,500	VTL TL 6.5 Signature Line Pre	£9,990
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BMC Audio PureDAC	£1,550	Genesis Technologies 5.3	£7,500	Krell 400e Evolution Monoblocks	£10,990	Turntables/Arms/Cartridges & Phonostages	
Cambridge Audio dacmagic plus	£165	Guru QM60	£2,750	Krell EVO 302	£5,500	Aesthetix IO Eclipse	£15,590
Copland CDA822	£550	Hansen Audio The Knight	£9,900	Lamm Lamm M1.1	£8,990	Audio Research PH8 black	£3,890
Esoteric P05 D05	£5,500	Hansen Audio Emperor	£32,500	Leema Acoustics Corvus	£999	BMC Audio MCCI Phono MC	£2,590
Krell EVO 505 (110v)	£3,395	Hansen Audio Prince V2	£18,000	Linn Kilmax Solos	£8,995	Boulder MM/MC Phono stage & psu	£1,795
Krell Evolution 525	£5,990	Heco celan 500	£550	Luxman M800A stereo power	£8,990	Cello Cartridge	£4,000
Krell KPS25sc 24/96	£4,990	Infinity Kappa 9	£1,990	Mark Levinson No 33H	£9,900	Clear Audio da Vinci V2	£2,890
Marantz UD 9004	£2,690	JBL 250 Ti	£2,890	Mark Levinson No 532	£17,362	Clear Audio Insider Gold	£500
Marantz SA 8003 CD/SACD	£345	KEF Moun	£85,000	Mark Levinson No 532H Reference		DaVinciAudio Labs Reference Gandeza Cartridge	£2,790
Mark Levinson No 31 & 30.5 Transp/Dac	£7,450	Krell resolution 3	£2,700	High current Dual Mono Power Amp	£7,500	Dr. Feickert Analogue NG High-Precision Cartridge Alignment Tool	£149
Mark Levinson No 31.5 Reference CD Transport	£3,590	Living Voice Auditorium	£1,350	Mark Levinson No 532H stereo power amp	£4,995	Dynavector DV-XX2MKII	£700
Mark Levinson No 512 CD/SACD	£12,255	Loewe Reference stand speaker	£1,400	McIntosh MC275 (2 Available)	£4,250	EMT 950 Broadcast Turntable	£6,500
Mark Levinson No 512 CD/SACD	£7,995	Martin Logan Summit	£5,500	McIntosh MC402	£3,850	Wide body	£6,500
McIntosh MCD550 CD/SACD player	£5,000	Martin Logan Logos Centre	£890	Musical Fidelity 308 K Mono-blocks	£650	Gale GT2101 Turntable	£7,990
McIntosh MCD1100	£7,490	Meridian Audio DSP 5200	£7,500	Naim Audio Nap 180	£600	Jan Allaerts MC1B mk1	£1,495
Meridian Audio 508	£600	Meridian Audio DSP 7200	£16,500	Naim Audio Nait 3	£320	Klyne Audio Arts 6PE mm/mc	£1,950
Micro Seiki CDM2	£1,290	Merlin VSM MXR	£6,495	Pathos InPower	£4,990	Kuzma Stabi (wood) & Ref psu	£1,990
MICROMEGA Microdac	£295	Quad ESL 2905	£3,490	Plinius SA 250mkIV	£3,495	LFD MCT SE Phono mc	£3,500
Moon 300D	£850	Revel Ultima Studio 2 NEW	£8,490	Rotel RB-1510	£295	Manticore Mantra	£300
Moon Electronic Supernova CD	£1,990	Ruark Rapsody	£200	Sony TAN R1 monoblocks	£8,990	Naim Audio Prefix Phono	£175
Musical Fidelity M6 CD	£899	Sonus Faber Amati Homage	£7,990	Soulution Audio 711 upgraded from 710	£29,990	Nottingham Analogue Wave Mechanic	£250
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Naim Audio CDX2	£1,490	Sonus Faber Amati Anniversario GR	£11,990	Tom Evans Linear A	£4,750	Pink Triangle Export/ Zeta	£1,495
Opera Consonance Droplet CDP 5.0	£1,295	Sonus Faber Cremona	£2,000	Tube Technology Genesis Monoblocks	£1,390	SME 312s	£4,490
Perreux DP32	£1,475	Sonus Faber Guarneri Homage Palladio	£6,750	VTL MB 450-III Signature Monoblocks	£14,500	SME Model 10A turntable	£8,790
Plinius CD-1	£2,400	Reference LE	£600	Welborne Labs DRD45	£1,490	SME Model 30/2A	£2,050
Plinius CD Player101	£2,400	Spendor A3	£1,500	YBA Passion 1000 monoblocks	£6,890	SME Series V Gold plated arm	£2,395
Plinius CD101	£1,890	Spendor s100	£1,295			SME Model 20/12A	£11,567
Primare BD32	£3,500	Titan 3Way	£1,750			SME Model 20/3A	£8,990
Procead CDP CD/HDCD player	£995	Transmission Audio M11	£6,990			SME Model 30/12A	£23,950
Theta Data Basic	£390	wharfedale 1950's Corner Horns	£7,490			SME Series V (gold print)	£2,490
Theta Complii	£1,595	Wilson Audio Watt Puppy 7	£7,490			SME Series V-12	£3,668
Wadia 381i	£3,490	Wilson Audio WATT Puppy 7	£6,750			Sonic frontiers SFP-1 Phono	£750
		Wilson Audio WP8	£10,995			Sumiko Pearwood Celebration II	£1,150
		Wilson Audio Maxx 3	£49,500			Thorens TD 126 mkIV	£590
Loudspeakers						Tri-Planar MK Ull	£2,890
Acoustic Energy AELITE THREE	£350	Power Amplifiers				Voyd Reference+ Ref psu + Cyalene+	£1,995
Adam Audio Compact Active Version	£1,295	Aesthetix Atlas Mono Blocks	£9,990			AN IO LTD & AN7c	£20,990
Alon Phalanx	£4,990	Astin Trew At 5000	£400			VPI TNT 4 Flywheel RB1000	£4,500
ATC SCM300 ASL Monitors	£17,500	ATC S1A2-150	£2,200			VPI Classic 2/JMW 10.5i & SDS psu	£2,490
ATC SCM300AT based custom model	£8,550	Audio Note Kegen	£35,000			VPI HW19 Mk3	£600
Audio Acoustics FUNDAMENTAL K2	£5,995	Audio Research DS450 (New-sealed box)	£4,995			Wheaton Tri-Planar MK IV	£1,795
Audio Physic Tempo 3i	£675	B.A.T. VK-255 SE	£3,700				
Aurosai A1 MK	£445	Bel Canto Ref 1000 M (Mk2) Mono blocks NEW	£4,300				
Avalon Arcus	£3,450	Bel Canto Ref 1000 monos	£1,990				
Avalon Indra	£9,990	BMC Audio CS2 Integrated/ Power Amplifier	£5,495				
Avalon Time	£42,500						
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Sonic stealth tactics

REFLEX LOADING, ROLL-OFF POINTS AND THE SONUS FABER LILIUM...

I'd like to differ from Keith Howard's explanation of the interaction of a port and woofer in the Stealth Reflex box, which formed a part of his review of the Sonus Faber Liliium loudspeaker [see *HFN* Jun '15].

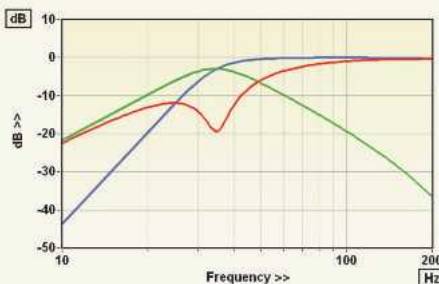
A reflex port is in phase with the driver at the port-tuning point but it rolls off at, and goes out of phase with, the driver both below the tuning point as is stated, but also above the tuning point. The roll-off of the woofer and the roll-off of the port combined with going out of phase causes the typical 24dB-per-octave roll-off of a reflex speaker in the bass region as the driver and port roll-off and phase change add together.

Above the tuning frequency, the designer must design the woofer and box roll-off and port roll-off to look like a sonic crossover, so the bass response is roughly a straight line until full system roll-off.

Allen Edelstein, via email



ABOVE: Sonus faber's three-and-a-half way Liliium speaker, here with gold-leaf finish



ABOVE: Graph showing simulated port, driver and combined output responses

Keith Howard replies: The graph above shows simulated port, driver and combined outputs (green, red and blue traces respectively) for a reflex speaker with a B4 maximally flat alignment and a port tuning frequency of 35Hz.

Simulation is used rather than measured responses because the traces are much cleaner. Representative enclosure losses are included. (For interested readers, these results were generated by a Spice simulation using the method described in W Marshall Leach's *Introduction To Electroacoustics And Audio Amplifier Design*, p155.)

At the port tuning frequency the port output peaks and the driver output has a null. Above and below the tuning frequency, the phase relationship between port output and driver output is manifestly different.

Below the tuning frequency, the combined output (blue trace) is always less than that of the port, and less than that of the driver, too, when it recovers sufficiently from the null, because the port and driver outputs are subtractive – they are out-of-phase and interfere destructively. Note that at 10Hz the combined output of driver and port is over 20dB lower than that of either the driver or port individually.

Above the tuning frequency, by contrast, the combined output of driver and port exceeds that of either the port or the driver alone because their two outputs are now additive – they are in-phase and interfere constructively.

Where the driver and port outputs are equal at just below 48Hz their combined output is 6dB higher, just as you would expect of two in-phase sound sources of equal intensity. This accords with what I wrote in the box-out to the Liliium review.

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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Is hi-res surround the new hi-fi?

TO REGARD ONLY STEREO AS HI-FI IS NOT TO MOVE WITH THE TIMES, ARGUES READER

Why is it that the majority of UK audio magazines and audio manufacturers' advertising departments seem to regard only stereo as hi-fi? My equipment fitted that picture until recently, with SACDs and vinyl being played via my midrange Cyrus 7 amplifier and bi-wired Acoustic Energy Aelite 3 speakers, while my entry level cinema/surround music system comprised a Denon AVR-1909 7.1 channel receiver powering seven AE Aelite 1 loudspeakers plus a B&W sub.

However, the SACD of *Kuniko Plays Reich* and the decision to combine my stereo and surround systems changed all that. That SACD was amazing to listen to on my stereo system, but while the surround system reproduced the simple parts beautifully, the complicated sections were reduced to a muddled jumble of noise. The receiver had to go.

Having decided on a price point of around £2k, one particular receiver topped a number of magazine reviews, so I set off to audition it alongside some 'also ran' receivers. I took the Kuniko SACD plus a mix of different SACDs and Blu-ray audio discs to audition.

I rejected that 'first choice' receiver in seconds. It may have had great facilities, but given some difficult music to reproduce it failed abysmally. Luckily, the 'also ran' for this first audition was the Arcam FMJ AVR450. While perhaps not quite matching my home stereo, it was so close in performance that, after playing the other tracks I had planned to use, I bought it there and then.

My AE Aelite 3s have ended up as bi-amped fronts, the Cyrus 7 now driving just their treble ends, while the AVR450 drives their bass ends plus a new bi-wired Acoustic Energy Radiance



ABOVE: Cyrus 7 drives bi-amp 'treble' only

Centre, a pair of bi-wired Radiance 2s as surround speakers, and a retained pair of Aelite 1s still on their Atacama Nexus 7i stands as rears.

While my vinyl (played via an LP12 turntable, Ittok arm, Grado Prestige Gold1 cartridge, and Trichord Dino phono stage) sounds better than I ever expected by the bi-amping, I am afraid that it just cannot compete with the surround hi-fi from the whole system.

Sitting here writing this while being alternately bombarded and caressed by seven high-res channels of sound from the Blu-ray audio version of Los Angeles Percussion Quartet's *Rupa-khandha*, I am immersed in a whole new level sonic experience. Two channels of stereo hi-fi confined to a soundstage in front of me simply cannot compete.

Many years ago I was sceptical about the move from mono vinyl to stereo but was soon won over. Later, CDs reproduced none of the high treble which is so much of music for me, so I stayed with vinyl until first SACDs and more recently Blu-ray audio discs with their high-res, vinyl-matching digitally recorded sound arrived on the scene.

With surround, however, I knew from the stereo mixes that the quality would be there. What I had not expected was to be blown away to such an extent. For me, hi-res surround is the new hi-fi, while stereo is the new old mono.



ABOVE: Reader John's 'test' SACD is on the Linn label – *Kuniko Plays Reich* [CKD385]

When will you and the manufacturers' advertising departments catch up on the fact that surround hi-fi is a whole new experience and something very, very special to lovers of music?

John Lee, via email

Paul Miller replies: Regular readers will know that I'm not unsympathetic to your revelation, John, as I've employed a multichannel audio system for around 15 years [see www.hifinews.co.uk/news/article/meet-the-team-paul-miller/9952]. The second generation of SACD players all supported the format's six-channel option and the inaugural listening experience was, indeed, typically jaw-dropping.

However, because DSD data does not readily lend itself to post-processing – in consumer audio equipment at least – in purest SACD systems the array of loudspeakers should be equidistant from the listening position. In LPCM-based BD/home theatre set-ups there's far greater latitude in setting different front/centre/surround speaker distances and bass management.

Nowadays, with all DSD-based audio inevitably downsampled to LPCM at some point, it's easier to combine multichannel SACD with home cinema set-ups. And many cineastes do just this. The reverse, however, is very rare indeed because the vast majority of audiophiles with big two-channel systems cannot easily migrate to something three times the size. Better to optimise the listening space and budget for a very fine stereo system than stretch resources on a somewhat less satisfying multichannel set-up. There's also rather more high quality music available in stereo guise than 5.1 – yet another very good reason to stick with high-end two-channel audio!



ABOVE: The 7.1 channel Arcam FMJ AVR450 amp has seven HDMI inputs and two HDMI outputs

Perky pick-ups

IS A RISING TREBLE RESPONSE ALWAYS AUDIBLE?

I am looking at buying a new phono cartridge and was amazed to find so many high-end models – sacred cows of the audio world when it comes to reviews in the hi-fi press – flagged as 'Failed' in the *Hi-Fi News* online lab tests [see clickable red 'download' button at www.hifinews.co.uk].

Koetsu cartridges aside, almost all the cartridges I was interested in showed the same rising top end. Examples are the Audio-Technica AT-OC9/III, Ortofon Cadenza Blue, Sumiko Palo Santos Presentation and Ortofon MC A90 (all moving-coil designs). Even the Clearaudio Maestro V2, a moving-magnet design, displayed this rising top end, as did a number of other models from the company's line-up.

Would you be kind enough to guide me to a phono cartridge that is really flat neutral/linear, especially at the top end? Of course, neither do I want one that starts rolling off early, as does the Maestro V2. This appears to dip early and then display the rising top end.

Frank Christopher, via email

Paul Miller replies: While I'm glad to see our readers comparing and contrasting the vast pool of test data on my milleraudioresearch.com site, I would also guard against discounting any product because of a 'Failed' flag. These are based on statistical limits and so a single 'Fail' for trackability



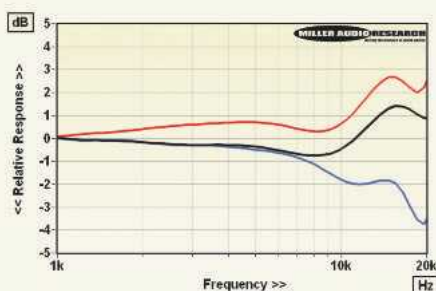
ABOVE: Ortofon's alloy-bodied Cadenza Blue MC with ruby cantilever [*HFN* Mar '10]



ABOVE: Latest, mkIII, addition to Audio-Technica's AT-OC9 series [*HFN* Jan '11]

at +18dB, for example, doesn't mean the pick-up will sound inferior to a high compliance MM that'll track through a ploughed field without complaint. Readers should also check the Y-axis scaling of all graphs before making comparisons. In this case the rising top-end betrayed by certain MCs is not especially significant.

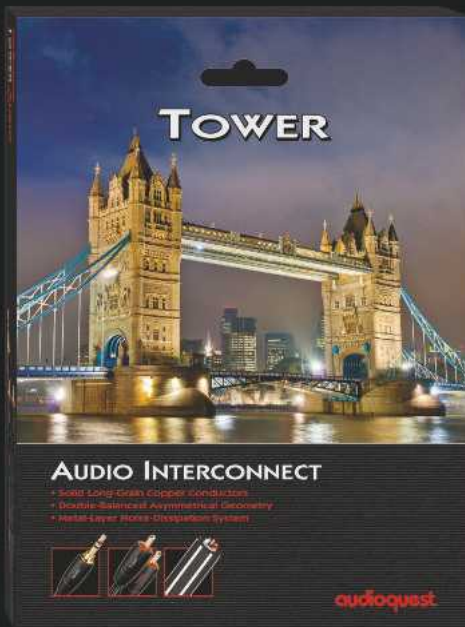
The Sumiko Palo Santos Presentation [red trace, below] sounds slightly forward because of its upper midrange/presence lift, missing with the Ortofon Cadenza Blue [black trace]. Both have a slight



ABOVE: HF responses for Sumiko Palo Santos Presentation (red); Ortofon Cadenza Blue (black) and Benz Micro SL (blue) MCs

peak at ~15kHz but this is unlikely to be audible unless you have very youthful ears or are playing virgin-fresh LPs. It's pick-ups with a peak at ~10kHz that can sound slightly fierce and/or emphasise disc surface noise. Either way, these mild lifts in high treble response can easily be tamed by tweaking the VTA.

If you've auditioned these MCs and have determined that they're still just *too* bright-sounding, then I'd recommend the Benz Micro ACE SL [*HFN* Jul '12] – a medium-output MC (540μV at 1kHz/5cm/sec) with a very smooth sound.



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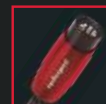
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Cambridge Audio P50

Superior sound in compact, attractive casework achieved by the use of progressive circuit topology. That was the aim, but how does this '70s amplifier perform today?

Review: **Tim Jarman** Lab: **Paul Miller**

The Cambridge Audio P50 integrated reviewed here was part of the company's 'P Series' range of amplifiers. First appearing in 1970, it replaced the original P40 model and would soon be joined by others, such as the P60 and P110. Although conventional in appearance, the P50 used novel electronic design techniques which were intended to give a higher level of performance than the amp's mid-price category competitors. The similarity in appearance between the P50 and the A&R A60 [see *HFN* Jul '15] is striking but superficial: under the skin the two amplifiers could hardly be more different.

To understand why the design of the Cambridge Audio P50 was so unusual it is first useful to remind ourselves of the layout of a conventional amplifier of this period (and today). Line level signals, eg, those from a tuner, tape recorder or other similar analogue sources, arrive first at the source selector. This passes the chosen signal on to the volume control, which restricts how much of it is able to enter the active parts of the amplifier. The amp itself is then made up of blocks of circuitry that are built to give a known (fixed) gain across



ABOVE: Promotional literature for both the Cambridge Audio P50 and P110 amplifiers. The main difference between the two was power output, the other facilities on offer were much the same

the band of audio frequencies, the exact figures being scaled to give the design's full output from standard level sources.

In designs that include an input for a turntable, the signal from the cartridge (which is much smaller than those from the other sources) is first boosted and equalised by an extra stage of amplification before being presented at the source selector. Most amplifiers, no matter how outwardly complex they may appear to be, work in this same basic way.

VARIABLE GAIN

The Cambridge Audio P50 circuit differs from this concept in a number of areas. As above, the radio and auxiliary inputs arrive first at the source selector but then they enter an amplifier stage whose gain is variable from close to zero to a factor of around 13. This stage is used to regulate the volume. The control works by altering the amount of negative feedback which is applied. More feedback tends to reduce the gain of any amplifier, so when you increase the volume setting in the case

of the P50 what you are actually doing is reducing the amount of negative feedback applied in the unit's first stage.

A subsequent stage is used for the balance control, which works in a similar way. There then follows the RIAA equaliser, which is necessary to give correct reproduction of LP records when played with a magnetic cartridge. Obviously this function is not needed for the radio and auxiliary inputs, but since the RIAA characteristic is programmed into this stage's feedback loop it can be removed and replaced with one of flat response, the switching being performed by an extra set of contacts on the source selector.

The positioning of the RIAA equaliser at this point in the amplifier partly does away with the need for a conventional phono stage, but there remains the requirement to boost the cartridge signal level. The P50 does have a stage of amplification that is interposed between the turntable input and the source selector but its gain is unity; its only function is to match the output impedance of the cartridge to the input



LEFT: Staged shot of early P Series amps under development, with a Lenco turntable and a huge Tektronix oscilloscope in the background



impedance of the rest of the amplifier. Extra gain is achieved by adapting the feedback arrangements around the volume control, giving extra amplification when the turntable input is used. In a similar manner, the gain is also reduced a little when the tuner input is selected. This compensates for the slightly high output of the matching T55 tuner.

PROTECTION RELAY

The remainder of the circuit is largely conventional, although the P50 would have been regarded as progressive for having a DC-coupled power stage whose output reached the loudspeakers without having to pass through transformers or capacitors first. The P50 is also unusual, among British designs of the early 1970s at least, for having a relay-based loudspeaker protection system which disconnects the load should a fault occur.

While unusual in domestic audio, the P50's circuit techniques were well known in other fields. Variable-gain amplifiers controlled by feedback were one of the basic building blocks of analogue computers, which enjoyed a brief period of popularity before low cost digital techniques were introduced to this field.

Indeed, some promotional material even went as far as to state that the P50 contained two computers, one for the gain control and one to operate the protection relay – a rather fanciful claim even by the standards of the day.

Being able to adapt an amplifier's gain to the listeners' requirements does have some theoretical advantages, most especially in terms of noise and headroom. However, there are also

disadvantages, most notably in terms of stability. As it is, the P50 is obliged to have a function which disengages the protection relay for a few seconds whenever the

ABOVE: Neat and timeless looking, the P50's most enduring aspect is probably its styling. Aluminium and dark stained wood was favoured by continental manufacturers at the time

source selector switch is turned to give the variable gain circuit time to settle.

The P50 was a well specified unit: the claimed power output was 25W per channel into 8ohm while two turntables (one with an MM cartridge and one with a ceramic one, such as the Decca Deram) could be connected, along with a tuner, an auxiliary source and a tape recorder.

Meanwhile, the tape loop has its own rear-mounted gain control since the tape input does not pass through the volume control stage. However, this limits its usefulness as few tape recorders have a suitable output level control. Indeed, the arrangement is awkward to use even with a compatible machine.

Furthermore, the level of the output signal to the recorder is affected by the P50's volume and tone control, meaning that the volume through the loudspeakers cannot be adjusted during recordings.

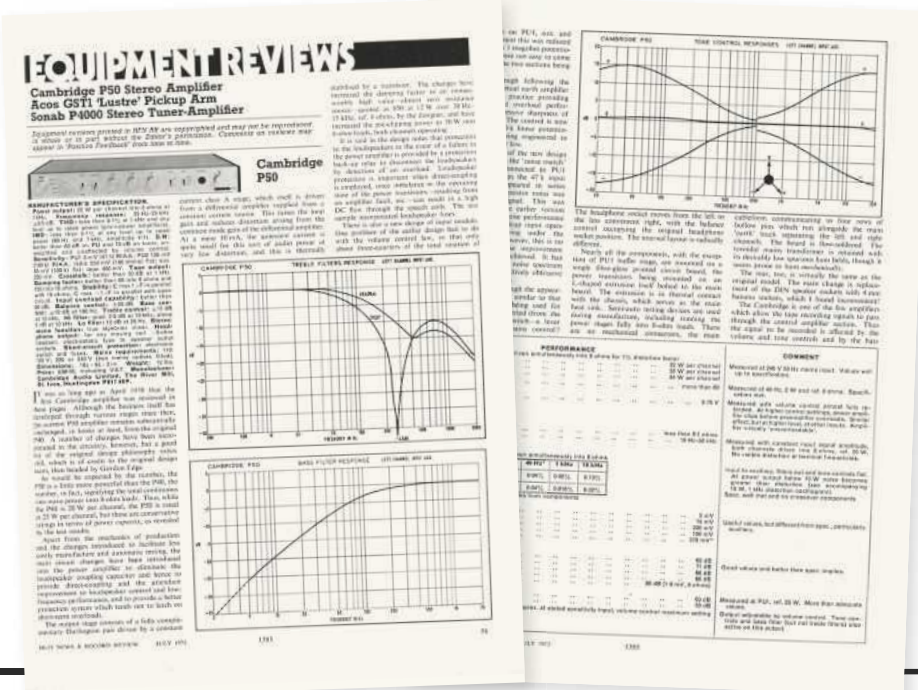
The monitor switch does include a 'mute' position to compensate for this, but it is a poor substitute for the normal arrangement. One can only speculate as to why the designers chose to implement the circuit in this way.

TWO FORMS

The RCA tape loop sockets are duplicated with two DIN connectors. These are fitted since some machines had separate DIN sockets for line-in and line-out. Inside the P50 these two connectors are wired in parallel and so have an identical function.

To round off the functions, switchable filters set at 50Hz and 10kHz (the latter offering a choice of two gradients) are fitted. Oddly, the former affects the recording output but the latter does not. →

LEFT: Review from *HFN* Jul '73 with graphs showing measured performance. Despite its quirks the P50 was well received at the time



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RIGHT: Our interior view shows this is a later P50: note that the complete amplifier circuit is assembled on one printed board. Earlier models used two, though the circuit was little changed

The P50 was produced in two distinct forms. The MkI had its preamplifier and its power amplifier mounted on two separate printed circuit boards, with the output transistors being located on a remote heatsink connected by flying leads.

The MkII, meanwhile, used a simplified arrangement where everything was mounted on a single board, with the power devices located at one end. Later MkII models have a revised protection circuit, a change made in the interests of durability rather than sound quality.

PROFESSIONAL JOB

Unusual circuitry aside, it cannot be denied that the Cambridge Audio P50 is a pretty looking thing. It is slightly smaller than one would expect had one only seen it in pictures but to me this only adds to the appeal. In stark contrast to much British equipment of the period it gives the impression that the external design has been undertaken with a great deal of care.

The unit is styled and properly finished on all faces, even the underside. The colour scheme too is attractive; the use of natural aluminium set against dark wood followed the Continental trends of the time and is still appealing now, as are the delicate bespoke

'The orchestra was rendered with no voids or pooling of sound'

controls and the tiny but immaculately neat lettering on the fascia. Recessed sockets at the rear complete what gives the impression of being a thoroughly professional job.

Connecting the P50 to modern equipment is fairly straightforward since standard 4mm sockets are used for the loudspeaker outputs. The inputs are RCA types, but since they follow the British rather than the international standard not all types of modern cable will fit them properly. My Chord Calypso cables with the early metal

plugs fitted in just fine, but I doubt that things would be so straightforward with the later plastic ones.

The auxiliary input could be useful for a CD player or a DAC, but its sensitivity is high, giving an abrupt volume control action if the source component has a high output level. This is most easily dealt with by using external attenuators.

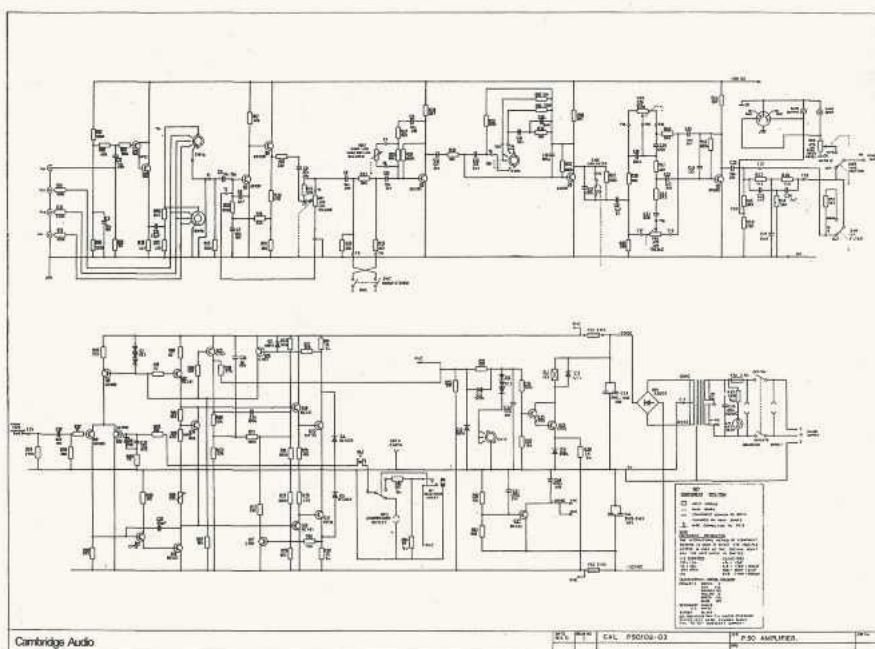
TIM LISTENS

Using my Cyrus CD8 SE2 as a source and the P50 driving a pair of Monitor Audio PL100s loudspeakers I was treated to a pleasingly warm sound with a fulsome bass. In the absence of a signal there was noticeable background hum, which surprised me. Its level was well below that which is to be expected from vintage valve designs but a transistor amplifier really should be silent in this respect.

At moderate volume control settings there were no other noises but the background hiss increased as the knob was advanced. This normally does not occur with conventional amplifiers where a passive volume control precedes fixed gain electronics when using the line level inputs.

Treble was just a touch diffuse, top end softness was not an issue, but this model does not offer the pin-sharp focus of the A&R A60 [HFN Jul '15]. In contrast to the A60, the midband is, if anything, recessed rather than prominent. This gives a more luxurious tonal balance, which is more in line with my own preferences. Playing Paul Simon's 'The Rhythm Of The Saints' album

LEFT: The complete circuit of the P50 (one channel only). The availability of information like this makes this model a fine vintage buy since it greatly simplifies repair and maintenance





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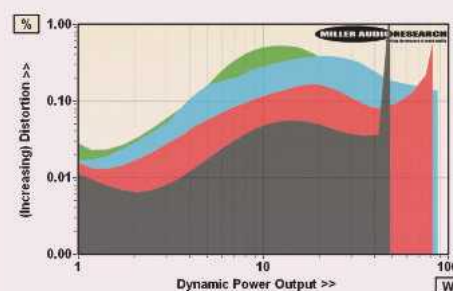
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LAB REPORT

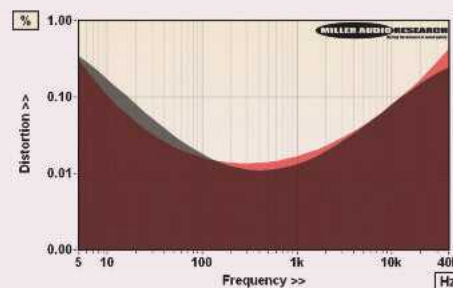
CAMBRIDGE AUDIO P50 (Vintage)

Originally rated at 2x25W/8ohm, our beautifully preserved sample of the Cambridge P50 managed a full 2x33W/8ohm and 2x45W/4ohm with 48W and 83W available under dynamic conditions into 8/4ohm loads. The P50 includes a 'switch' (relay) fired protection circuit that limits its output to 88W and 37W into 2/1ohm loads – equivalent to a maximum current of 6.6A for 10msec/1% THD [see Graph 1]. So the amp is best partnered with 6/8ohm speakers of good sensitivity. The low-ish 0.07ohm source impedance should keep amp/speaker system response variations to a minimum although the frequency response of our sample already showed a treble roll-off of -2.5dB/20kHz (left) and -1.0dB/20kHz (right), both outside of Cambridge's original ± 0.25 dB specification. The 'Scratch' or treble filter brings a -5.4dB cut at 10kHz (the deep notch hits -33dB/34kHz) or a softer -3dB/10kHz in 'Gradual' mode. These figures are close to the P50's original spec.

Regards noise, our sample was a little poor, offering an A-wtd figure of just 74dB (re. 0dBW) which is about 10dB shy of 'average' since the mid-1980s. Hum was high too (-53dBV), channel balance out by 0.5dB and the DC offset(s) mildly alarming at -75mV. This is sufficient to bias the bass cone of a sensitive loudspeaker. Distortion, on the other hand, was well within target at <0.02% at 1kHz over the full 25W range, although this clearly increases at both low (0.12%/20Hz) and high (0.15%/20kHz) frequency extremes. Readers may view a full QC Suite test report for the Cambridge Audio P50 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)	33W / 45W
Dynamic power (<1-2% THD, 8/4/2/1ohm)	48W / 83W / 88W / 37W
Output impedance (20Hz-20kHz)	0.026-0.078ohm
Frequency resp. (20Hz-100kHz, 0dBW)	-0.75dB to -2.5dB
Input sensitivity (for 0dBW/25W)	70mV / 350mV (Radio input)
A-wtd S/N ratio (re. 0dBW/25W)	73.9dB / 87.9dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.011-0.148%
Power consumption (Idle/rated output)	10W / 97W
Dimensions (WHD)	419x51x238mm



ABOVE: A neat rear panel with recessed sockets, finished to the same standards as the front. Despite copious tape loop connections, the function was ill conceived

[WB 7599-26098-2] I found the P50 to be a pleasurable companion. The deep percussion found on tracks such as 'Can't Run But' did push the edges of the P50's envelope however, sounding slightly fuzzy around the edges when the volume control was advanced.

I'd have appreciated a little more top end sparkle, but this was only the most minor of issues. This is an album which I have listened to many, many times and as it drew to a close, this time with its title track, I had come to the conclusion that the P50 was, in sound quality terms at least, an amplifier that I'd be happy to live with – at least when listening at moderate volume levels.

For a change of mood, I also tried The 1992 Vienna Philharmonic's *New Year's Concert*, conducted by Carlos Kleiber [Sony SK 48 376]. Here I found that the P50 was impressively able to convey the scale of the music if perhaps not its absolute pace. The orchestra was rendered across a large and expansive soundstage in my listening room with no obvious voids or pooling of the sound around the loudspeakers. If there was a niggle it was that notes could, on occasion,

smear into one another, taking away some of the impact of pieces like Josef Strauss's *Village Swallows From Austria* (Op. 164).

Not everyone wants beautiful music like this to be a dramatic experience, however, and for these listeners the Cambridge Audio P50 would be absolutely ideal.

BUYING SECONDHAND

The Cambridge Audio P Series of amplifiers comprises a number of models that all look pretty similar, so if it is a P50 that you want, do take the time to ensure that it is a P50 that is being offered for sale – especially if buying online.

The quality of components available to British manufacturers at this time wasn't perhaps as good as it could have been, so test any prospective purchase carefully. DC-coupled amplifiers of all types from this period may be fragile and can easily be damaged by overloads.

The user manual contains a circuit diagram, so all is not lost if there are repairs to do. Not all the transistor types used are currently available (most notably in the Mk1 version) but the circuit design lends itself readily to substitutions. Prices are currently very reasonable, so there is no need to settle for anything but the best examples. ⚡

HI-FI NEWS VERDICT

The Cambridge Audio P50 may have some quirky circuitry and some aspects to its design which with hindsight now appear misguided (the unusable tape loop being one example), but at heart it is a fine-sounding amp that would be well suited to a small system based around just a few simple sources. Top marks are earned for styling and finish, also. With secondhand prices highly affordable, it's a fine vintage buy.

Sound Quality: 77%



ABOVE: Every amplifier needs a matching tuner, in this case the T55

Magnificent Illusions

Musicality and fidelity – a psychological assessment by Cyril Cunningham



*Hi-Fi
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The quest for perfection in hi-fi has been pursued largely in terms of the physics of sound. It is perhaps natural that audio engineers should adopt this approach, and there can be no denying that it has produced some outstanding achievements. Nevertheless, audio engineering aims to exploit physics to create a psychological illusion, which puts it firmly in the category of a psycho-physical science.

As a psychologist I would argue that the way hi-fi has developed in the past decade clearly indicates a nearly total neglect of some of the rudiments of perception in general, and auditory perception in particular – areas of psychology that have been intensively studied by my profession for almost as long as physicists have been studying the characteristics of light and sound. There is therefore very little excuse for audio engineers continuing to treat hi-fi as if it were merely physics.

It may surprise many engineers to learn that modern psychology



developed as a science out of the failure of physicists to explain many common phenomena of visual and auditory perception. Furthermore, the scientific models and methods of the physical sciences were transferred into the psycho-physical investigations of scientists who were working upon the problems of human and animal perception at the turn of the century.

The historical origins of modern psychology and the immense amount of research into perception that took place in the first three decades of this century seem to me to be unknown to audio engineers. Only thus can one explain their ignorance of the psychological

implications of many of the matters now sprouting in the hi-fi press, matters that are very common knowledge to psychologists.

MIND AND MATTER

A very good example is the subject of 'musicality' which has aroused a great deal of controversy and which one retailer charmingly described in his advertisement as 'a load of old rubbish'. The fact that the subject has arisen at all is proof in itself firstly of the gap that exists between mind and matter, and secondly of the fact that the former cannot be explained away in terms of the latter. In due course, I will offer an explanation of 'musicality'.

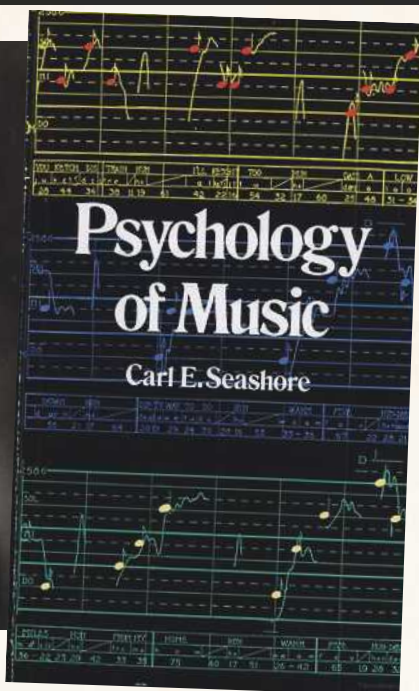


Another issue that is receiving much attention in the hi-fi press is 'subjective' assessments of various bits of equipment and how such assessments should be carried out; also whether or not they are valid.

I hope I will be forgiven for laughing at the naive nature of the arguments and the evidence that has so far appeared in print, because they are dwarfed by the thoroughly planned experiments conducted in the years preceding and following 1910 by a number of famous psychophysicists.

Of special interest to audio engineers is the work of Carl E. Seashore at his psychophysical studio in Iowa State University. His book on *The Psychology Of Music*, first published in 1938, should be made compulsory reading for audio engineers. Apart from its own value, it indicates the enormous amount of research that our Victorian forefathers conducted into the perception of music.

Yet another issue which is receiving increasing attention is that underlying the whole subject of hi-fi, namely 'fidelity to what?'. Here again psychology has much to offer which, although it will not solve the problem, will at least go a long way to clarifying it. In a previous article I attempted to clarify the foregoing points by drawing direct



LEFT: Carl E. Seashore's *Psychology Of Music* [ISBN-10 0486218511] was published in 1968 and sought to explore the relationship between the physical phenomena of sounds and our perception of them. It is available from amazon.co.uk, priced £14.99

comparisons between visual and auditory perception, and attention to such common principles as figure and ground, spatial relations, closure and colour.

The reason I included visual colour perception was that I thought that it helped to explain by analogy some of the mysteries of 'musicality'.

I am now even more convinced that this may be the case. Experimental psychologists long ago established certain facts about colour vision. The first

was that it cannot be explained in either physical or physiological terms. The second was that it possesses three measurable dimensions, *ie* hue, saturation and brightness. The third fact was

"Whenever we talk of "musicality" we are referring to the "chroma" of sound"

BELOW: In music, the word 'tone' can mean a step on the Western musical scale, the purity of a note or refer to timbre, meaning the characteristic quality of notes emitted by a musical instrument. This can be the source of much confusion



that a distinction has to be made between the physical, physiological and psychological properties of these three dimensions. The physical properties were not those sensed by the sense organs and the properties thus sensed were not the same as those perceived by the mind.

Hearing, like colour-vision, cannot be explained completely in terms of physics or physiology, leaving once again a psychological residue. There are many other important similarities. Although it may seem odd to physicists to talk about sound-colour, musicians frequently use the prefix 'chroma' in much the same context as physicists use it with reference to colour-vision. But whereas visual colour possesses three measurable dimensions, there are only two dimensions of sound upon which scientists are agreed, *ie*, frequency and intensity.

ADDITIONAL DIMENSIONS

However, an important fact which seems to have escaped the notice of audio engineers is that while there are only two dimensions of sound upon which scientists are agreed, they all agree that sound possesses more than two dimensions.

The additional dimensions have been the subject of much controversy and various names for them have been suggested, *eg*, brightness, form, tonality, timbre and duration. Most of these have referred to overtones and their harmonic structures.

In music, unfortunately, the word 'tone' possesses several meanings. It can mean a step on the Western musical scale, where all music is represented in full or halftones. It can also refer to the purity of the note reproduced, that is to say, to the purity of its pitch. But it can also refer to timbre, meaning the characteristic quality of the notes emitted by a particular instrument.

These three different definitions have led to endless confusion in the literature on music and remain a source of much misunderstanding wherever physicists, musicians and psychologists converse. Whenever we talk of 'musicality' in hi-fi, we are, I believe referring to the soundcolour or the 'chroma' of the sound that is perceived by the listener. This 'chroma' possesses three principal ingredients, namely

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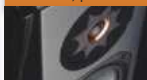
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the physical, the psychological and the environmental (eg, resonance and ambience).

One of the reasons why scientists have not been able to agree on the identity of the 'missing' dimensions of sound is the awkward fact of the existence of so-called 'subjective' sounds. These simply do not exist in either physical or physiological terms but their psychological existence can be demonstrated and even measured.

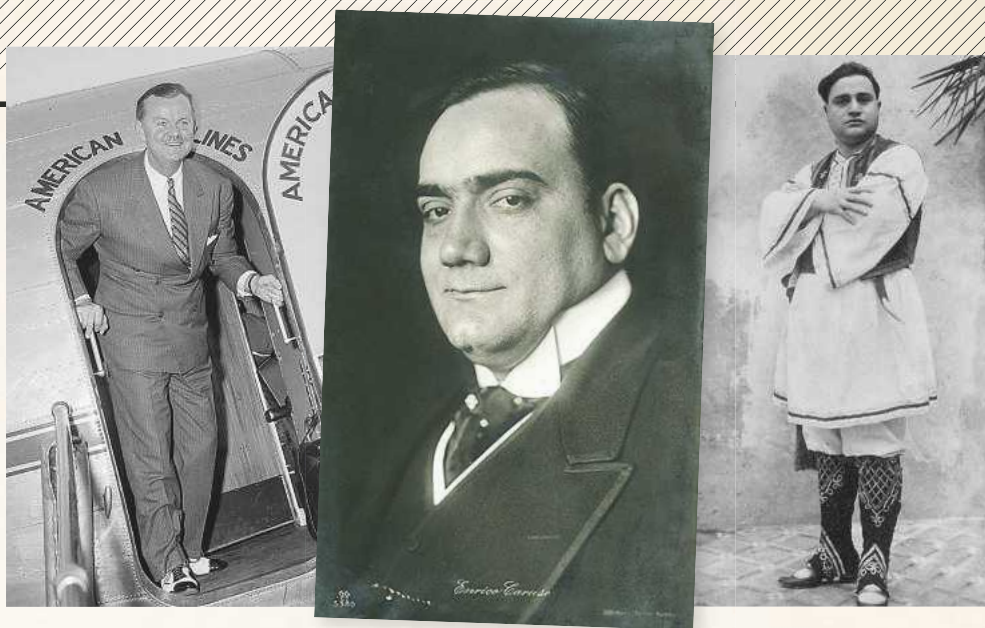
As sensory-perceptual phenomena, they correspond to such illusions in the visual mode as simultaneous colour contrast, colour constancy and flicker fusion, and play a similar role when it comes to enriching perception.

NON-EXISTENT TONES

The most conspicuous example of a 'subjective' sound is the first difference tone, which is a physically non-existent tone that is triggered by simultaneously sounding two pure tones. Thus tones of 200Hz and 800Hz will trigger a first difference tone of 600Hz that will be heard, and which is purely subjective. Another example of a subjective sound is where a fundamental tone and one or more of its principal harmonics are filtered out before being presented to the listener who, nevertheless, always 'hears' the missing fundamental.

Those who wish to know more about 'subjective' sounds and their measurement would do well to study the work published by psycho-physicists during the first three decades of this century.

According to Seashore, 'a very large number of tones which play leading roles in music are purely subjective'. This statement is of



ABOVE: In his research Seashore measured the pitch vibrato of 29 singers, including Tibbett (left), Caruso (centre) and Gigli (right). From this he concluded that there were four main factors in 'musicality' – 'the tonal, the dynamic, the temporal and the qualitative'

BELOW: The degree of precision with which principal performers are located spatially upon the soundstage depends upon the type of material being performed

immense significance to audio engineers, whose efforts to create fidelity by fiddling with the physical properties of sound may never be adequate to achieve their aims.

Seashore gives few clues in his book as to the identity of all the subjective tones that play leading roles, or to the exact nature of these roles. He merely gives evidence that they are to be found below 5000Hz. By inference they relate to the perception of harmonic structures.

We are thus again led back to an examination of overtones and their composition in our search for the identity of the missing dimensions of sound that give it 'colour', chroma, timbre or whatever term one might wish to use.

Since music rarely takes place in a (metaphorical) vacuum, the environment in which it is played must contribute to what is actually perceived. Audio engineers have, of course, long since accepted this in principle and have extensively investigated the physical effects of various environments upon the physical properties of sound.

But there is increasing evidence of their neglect of, and sometimes deliberate elimination of, the effects of environmental modifications of original sound sources. A very obvious example is where ambience is deliberately dampened in a recording studio.

This brings me neatly to the question of 'fidelity to what?'. I think most people would agree that the most prominent first criterion of

high fidelity is the life-likeness of the reproduced sound in comparison with the original, a simple enough statement that conceals some extremely complex problems.

Some of these are associated with trying to reproduce fidelity throughout the frequency spectrum, some with the environment of the original sound source, and some with the environment in which it is being reproduced.

FOUR MAIN FACTORS

On top of this there is the intrusion of the psychological factors which differ from one listener to the next,

factors not only arising from psycho-physics, but those of both taste and preference.

Here again Seashore made some tantalising

'After measuring, Seashore made some tantalising suggestions'

suggestions, having carried out measurements on a number of outstanding musicians, singers and composers of his day; for instance, he took measurements of pitch vibrato from 29 outstanding singers, including Gigli, Caruso and Tibbett. He concluded that there seemed to be four main factors in musicality (his word, not mine). These were 'the tonal, the dynamic, the temporal and the qualitative'.

He argued that people vary in the extent to which they possessed these attributes or some combination of them. The tonal types, he said 'are particularly sensitive to pitch and timbre' and dwell upon tonal forms such as melody, harmony and all forms



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of pitch variants and compounds. The dynamic, meanwhile, have fine acuity of hearing for loudness and stress and all forms of modification of loudness. The temporal are sensitive to timing, tempo and rhythm, while the qualitative are sensitive to timbre and the harmonic constitution of tones.

It would, I think, be hard to justify all four of these categories today, but they serve to make the point that people are sensitive to different characteristics of sound. I have a theory that one of the reasons why many women seem to dislike hi-fi is that as a species they belong to the group that Seashore described as dynamic, *ie*, sensitive to loudness!

There are, I believe, three further criteria of fidelity that must be met in answer to the question 'fidelity to what?'. These are the principles of spatial relations, figure and ground, and environmental context. But their application to hi-fi requires some explanation and qualification.

CREATING ILLUSIONS

Obvious though it may seem, there is no point in stereophonic or quadraphonic sound unless it creates illusions, illusions of breadth and depth to the soundstage, illusions of spatial location of the principal artists, and definite auditory imagery.

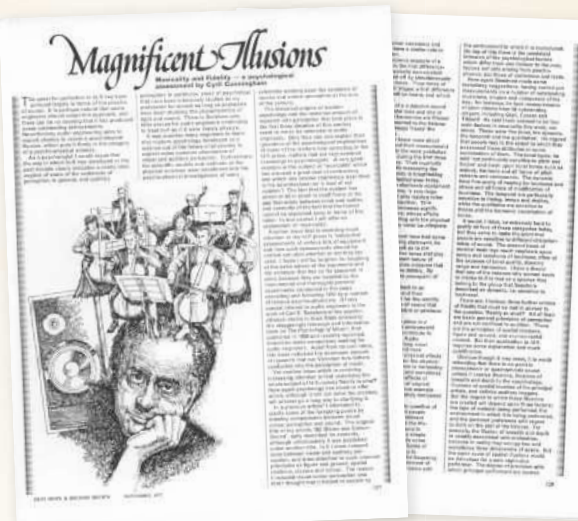
But the degree to which these illusions are created will depend upon three factors:

the type of material performed, the environment it is performed in, and the preference with regard to both on the part of the listener.

For example, the illusion of breadth and depth is usually associated with orchestras, because in reality they occupy two and sometimes three dimensions of space. But the same scale of spatial illusions would be ridiculous for a solo night-club performer. The degree of precision with which principal performers are located spatially upon the soundstage also clearly depends upon the type of material being performed.

A point that has not been adequately appreciated by audio engineers and physicists is that

'In perception there are conflicts of interest between sensory modes'



in perception there are frequent conflicts of interest between the various sensory modes, and between them and the mind, which is often 'set' by different expectations. For instance, the visual space occupied by an orchestra may not be consistent with the sounds it makes.

It should never be forgotten that hi-fi seeks to create an illusion, even if the quest for 'fidelity' has proved to be disillusion in strictly physical terms. I cannot help thinking that herein lies an auditory parallel with the Hollywood dream factories of a bygone era. There was a time

when the public's visual tastes were conditioned by the dream merchants, until shattered by the hammer of raw reality. But

reality proved to be too raw; visually – and storywise – the material needed to be tarted-up a little to make it palatable.

SPATIAL EXPECTATIONS

Similarly, in the auditory mode, material needs to be modified to make it acceptable, so that just as we can come to expect some bass and treble lift to make quiet passages more audible, so we shall come to expect more precise spatial location and more distinctive sound imagery of principal performers.

Added to this is, of course, the lifelikeness of the sounds reproduced by the equipment. These, then, are the more obvious criteria of 'fidelity'. ☺

ABOVE: Pages from the Nov 1977 issue of *Hi-Fi News* in which psychologist Cyril Cunningham looked at some of the finer points of aural perception, and their bearing on 'musicality'



Also in HFN this month in 1977

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Clearaudio Innovation Compact, good condition dem
Clearaudio Unify Tonearm excellent boxed used
Clearaudio Basic Symmetry Phono Stage boxed used
Conrad Johnson Premier Six phono preamplifier used
Garrard 401, Jelco 750 12" arm, new plinth and lid used
Graham Phantom Supreme 12", SME cut dem
Hadam Slee Fanfare Gramamp 3 used
Haddock 242 Export, boxed dem
Inspire Full on Technics 1210/Plinth/PSU/SME M2 arm used
Linn Sondek, Heed PSU, vgc boxed used
Linn Sondek, Ittok, Troika, boxed new lid used
Linn Sondek, Ittok, boxed new lid used
Linn Sondek LP12, Khan, Rubicon, Ittok, excellent used
Linn Sondek LP12, Khan, Rubicon, no arm excellent used
Linn Sondek, Grace 707, basic psu, VGC+ used
Linn Sondek, Naim Aro, Staff build Armageddon used
Linn Basic Plus, vgc+ used
Logic DM101 c/w Alphason HR100s and MC15 super used
Lyra Erosion Step up used
Lyra Skala, excellent boxed used
Michell Gyro Export, SME 309, QC PSU, boxed used
Michell Gyro Export, Rega arm, Gyropower, boxed used
Michell Tecnoarm A in black as new mint boxed used
Michell Synco/RB25/Eroica, great condition used
Michell Hydraulic Ref c/w Fluid arm, superb Moth phono stage dem
Musical Fidelity XLP/SV8 phono stage dem
Musical Fidelity XLP-S phono stage, due in used
Naim Aro, excellent boxed used
Naim Stageline N, vgc used
Oracle Delphi, Zeta, due in used
Project Phono box phono stage, great entry level MM/MC box used
Project Phono box SE phono stage, excellent value dem
Project RPM 10 turntable with arm and platform dem
Project Tube Box DS, excellent boxed, used
Project Xpression mk2, arm and cart used
Project RPM 4 Turntable/Arm with cover, great! used
Project Perspective, Speedbox SE, Shure V15mx Project Phono box S, excellent used
Rega RP1, excellent boxed used
Rega RP3/Elys 2, excellent boxed dem
Roksan TMS 2 with Reference PSU, boxed as new used
Rothwell Riato Phono MM/MC stage c/w PSU boxed used
SME 3009 improved, vgc+ used
SME 3009/3, excellent boxed used
SME V, excellent, boxed, due in used
SME V12, nr mint boxed dem
Technics SL110 with SME 3008 used
Thorens TD170 Audio excellent boxed dem
Thorens TD150, SME3009 good condition new
Thorens TD160 HD turntable new
Thorens TD160, Audio Technica arm, boxed used
Thorens TD160, Rega arm, replinthed, lovely! used
Thorens TD209 turntable package used
Thorens TD2030 Blue turntable new
Thorens TD125 c/w SME3009, excellent used
Tom Evans Grove, 0.85mV/100 ohm, excellent used
Toshend Elite Rock c/w Excalibur/Merlin/Cover Transfiguration Orpheus L, good condition used
VDH Colibri M/C cartridge dem
VDH Connoir M/C cartridge dem
Voyd, Voyd, split phase psu and RB900 used
VPI Scout, JMW arm excellent used
Wilson Benesch Act 1 Tonearm, nr mint superb used
Zeta Tonearm, excellent used

Radio/Recorders

Arcam Alpha 10DAB tuner, excellent used
Arcam T61, vgc+ used
Denon TU1800DAB, excellent boxed used
Musical Fidelity ASDAB, sealed box used
Naim NAT03, excellent used
Naim NAT01 and NAPST chrome, serviced, vgc+ used
Naim NAT101 & SNAPS, excellent £500 Naim service used
Nakamichi DR10, excellent used
Nakamichi CR7e, excellent used
Nakamichi CR7e, B&W service 2013 excellent used
Nakamichi Dragon, B&W service June 2015, vgc+ used
Nakamichi BX2, excellent used
Nakamichi S80, near mint boxed used
Pioneer CT91a reference used
Pure 701ES DAB Tuner used
Revox PR99, dated used
Tandberg TCD440a, superb! used
TEAC VB800s, superb used
TEAC X1000, serviced, superb used
TEAC X10R, serviced, superb used
Technics RS1500 in flightcase near mint used
Rotel RT1080, excellent used
Yamaha KX1200 excellent used

Amplifiers

Albany AP11 and M608 monos, excellent! used
AMR 777 Integrated dem
Arthem Integrated 2 Valve Integrated used
Arcam A85, vgc+ used
Arcam Alpha 8P, vgc+ boxed used
Arcam Alpha 7, vgc+ boxed used
Arcam Alpha 10 Integrated, boxed remote, vgc used
ArtAudio Jota 520b, excellent used
Audio Flight Pre and Flight 50 Class A power used
Audio Analogue Bellini VB and Donizetti Cento, superb dem
Audio Analogue Puccini SE amp. Black dem
Audio Analogue Class A Integrated - HUGE! dem
Audio Project ap60 integrated dem
Audio Research Ref 610 Monoblocks, vgc boxed used
Audio Research SP9 Preamplifier, VGC+, MM phono used
Audiolab 8000Q/MS, silver, excellent boxed used
Audiolab 8000MS, UK versions, vgc used
Audiolab 8000P vgc boxed used
Audiolab 8200A vgc boxed dem
Audion Sterling Plus KT88 Integrated boxed dem
Auralic Taurus Preamplifier, excellent boxed used
AVI Lab Series PrePower, excellent remote used
BAT VK50se preamplifier, vgc+ used
Bryston B100st excellent boxed used
Cambridge Audio 840a, excellent used
Chaper MT 34L Valve Integrated, excellent boxed used
Cayin Audio Couplet Power Amplifier used
Chord Electronics CPM2650 Integrated, ex boxed used
Chord Electronics CPA3200/SPM1200E used
Consonance Cyber 10 Integrated dem
Consonance Ref 8.8 integrated valve amp dem
Consonance Cyber 211 monos c/w Pavane valves dem
Creek OBH21, excellent used
Cyrus Smartpower, excellent boxed used
Cyrus Power, vgc+ used
Cyrus XPower, excellent boxed used
Dartzeel NHB108B, excellent £20+k new used
Decware Mini Tori Amplifier used
Denon PMA1500AE, excellent used
Graaf GM50B Mk11 Integrated used
Graaf GM100 valve power amp used
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Lavardin C62/AP150 pre/power and interconnects used
Leema Hydra 2, vgc+ boxed dem
Leema Elements Amplifier, excellent dem
Leema Tucana 2, excellent dem
LFD LS1 linestage, reasonable shape used
Linn Majik integrated, excellent bargain used
Marantz PM4 Class A Integrated, in superb condition used
Marantz SM7, great retro power used
McIntosh C22 & MC275 Commemoratives, boxed dem
Meridian 501 preamplifier, excellent used
Meridian 501V preamp, excellent used
Micromega IA100, great integrated, boxed used
Moon W7RS, excellent used
Musical Fidelity M3i, excellent boxed, REDUCED used
Musical Fidelity A1000 Two box monster Integrated! dem
Musical Fidelity X-T100 Integrated dem
Musical Fidelity Pre 8 and 2 x M66s chrome fronted dem
Musical Fidelity F15 Power with recent MF Upgrade new
Naim NAC82, excellent boxed new
Naim NAP250, olive excellent boxed used
Naim NAP250, very late olive excellent used
Naim NAP250, excellent late boxed olive used
Naim NAP150, excellent boxed used
Naim NAP180, excellent boxed used
Naim NAIT 5, excellent remote boxed used
Naim NAC152/NAP155XS, excellent boxed used
Naim NAC90/NAP92, vgc dem
Naim NAP250, chrome bumper dem
Neutonia Salis Integrated, classy Restek built dem
Onix OA32 Integrated, excellent used
Onix OA25 Integrated, excellent used
Pathos Logos Integrated dem
Pioneer Spec 3 Preamplifier, vgc used
Placetate Audio Passive Linestage dem
Prima Luna Prologue 3 Preamplifier vgc+ dem
Prima Luna Prologue 3 Preamplifier, REDUCED dem
Puresound L300 valve preamp dem
Quad 99 Power, excellent used
Quad 405, from used
Quad 33/303, vgc, serviced used
Quicksilver 8417 Monos with spare valves used
Resolution Audio Opus 21 S80 Integrated dem
Renaissance RA02 Monos, vgc and excellent value used
Roksan Kandy K2 Power, nr mint boxed dem
Sansui AU-999 Integrated - fab! used
Sugden A21a line Integrated used
Sugden Masterclass Pre/Monos in Graphite used
Sugden Masterclass Pre/Monos in Titanium used
Sugden Masterclass Integrated in Titanium used
Tadpole McLaren 60iRV, excellent boxed used
Talk Electronics Hurricane/Tomado PrePower used
Tannoy TA1400, excellent boxed used
TEAC Distinction A1000 Integrated, ex demo used
Trio L07C good condition used
Union Research Prelude Integrated, excellent boxed used
Union Research Simply Italy Integrated dem
Union Research S2K Integrated, excellent dem
Yamaha A-S3000, nr mint boxed dem

Digital

Arcam Alpha 8, excellent used
Arcam Alpha 8se, excellent boxed dem
Arcam Alpha 9, vgc remote, recent laser used
Arcam CD17, excellent used
Arcam CD73, vgc+, remote used
Atoll 100SE DAC, excellent boxed new
Ayon CD 07 excellent boxed new
Audio Analogue Crescendo, end of line dem
Audio Analogue Paganini (later model) dem
Audio Synthesis Transcend CDT (Modded SONY) dem
Ayre Evolution DVD dem
Bryston BDA1 DAC, excellent boxed dem
Burmester 061 CD player, excellent boxed used
Cambridge Audio Stream Magic used
Cary Audio CD306 Pro, near mint boxed used
Cayin CD50-T HD CD player, excellent used
Chapter Audio Sonnet CD & Nevo remote dem
Chord 'One' CD player dem
Chord Qute EX DAC, excellent boxed dem
Chord DAC 64 mk2, excellent boxed used
Consonance CD22, new sealed new
Creek Destiny Integrated CD player, boxed dem
Cyrus Discmaster/Dacmaster, vgc+ used
Cyrus CD7Q chip, vgc+ used
Cyrus DAD3, remote, vgc+ used
Cyrus CD6 se2 boxed with remote used
Denon DN720AE, near mint boxed used
EAR Acute 3, mint boxed dem
Esoteric X03Se, near mint boxed used
Goldenote Koala, near mint boxed dem
Kelvin Labs DAC, rare used
Leema Elements CD player sealed box new
Linn Majik CD, just factory serviced, excellent! used
Linn Kark 3, excellent boxed remote used
Linn Sneaky Music, unopened used
Marantz CD6003, excellent boxed used
Marantz CD17, remote, excellent used
Marantz CD63K1, remote, boxed excellent used
Meridian 506/20 with MSR used
Meridian G08, remote boxed used
Meridian 563 DAC reasonable condition used
Meridian 500 Transport, excellent boxed used
Meridian 602/606 combo with remote used
Meridian 500/563 with MSR excellent used
Micromega CD30, excellent boxed used
Micromega MyDAC, excellent boxed used
Micromega Lateral, remote used
Musical Fidelity 3.5 CD dem
Musical Fidelity KW SACD, new laser, upgraded ps used
Musical Fidelity M1 DAC, excellent boxed used
Musical Fidelity M1 CDTB dem
Musical Fidelity M3 black boxed dem
Musical Fidelity M1Clic new
Musical Fidelity XDac, excellent used
Mynyrd Z20DAC, excellent boxed used
Naim DAC, nr mint boxed dem
Naim CD53, excellent boxed, remote used
Naim CDI, excellent boxed dem
Naim CD3.5, vgc used
Naim CD5, recent new laser, upgradeable used
Naim CDX2, 2009, excellent boxed dem
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Rega Apollo R, excellent used
Rega Apollo 35th Anniversary, excellent used
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Sugden Masterclass CD original version used
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Tube Technology Fulcrum CD transport dem
Tube Technology Fulcrum DAC (inc DAC64 chip) dem
Yamaha CD-S3000 near mint dem

Loudspeakers

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Acoustic Energy AE1 Mk11 in Gloss black dem
Apogee Duetta Signature (Reality rebuilt) Superb used
Art Audio Stiletto in Maple dem
Aspara Acoustics HL6 in Oak new
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Aurum Cantus Music Goddess in Gloss black dem
Avalon Ascendant Mk2, mint crated, £10k new used
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B&W CDM1se in cherry, excellent used
B&W CDM1nt boxed, excellent used
B&W DM601s3, vgc+ used
B&W DM602s3, vgc+ used
B&W 803 Matrix Series 2, vgc boxed used
Davone Ray, vgc in walnut, great! used
Dynaudio Audience 52, vgc used
Edwards Audio Apprentice, excellent boxed used
Eminent Technology LF78, some marks used
Ferguson Hill FH007&8 'desktop' audio set boxed used
Final 400 Electrostatics with ES400 Sub dem
Focal Electra 1008, mint boxed dem
Focal Electra 1028, mint boxed dem
Gallo Nucleus Reference 2, rare, superb & boxed used
Heco Celan 500 in Silver dem
Heco Celan 300 in Mahogany dem
Heco Statement in gloss black, £3k new dem
Kef Q100, brand new, sealed box new
Kef LS50, excellent boxed used
Kudos C10, boxed vgc and cheap used
Leema Xandia Mk1 in black new
Magneplanar MG1.7 mint boxed dem
Mark & Daniel Mini in Grey inc. Marble cabinets. dem
Martin Logan Quests, superb sound, reduced used
Martin Logan Motion 15 bookshelf as new dem
Martin Logan Prodigy, excellent used
Martin Logan Summit X, ex demo dem
Mission 782se nr mint boxed used
Mission Freedom 5, vgc in Rosewood used
Mission 752, rosewood excellent used
Monitor Audio RS8 excellent dem
Monitor Audio GX300, ebony near mint boxed new
Monitor Audio BX5, nr mint boxed dem
Monitor Audio Studio 50, vgc boxed used
Monopulse Model S new
Monopulse Model A speakers new
Monopulse Model C new
Musical Fidelity MC6 Floorstanders, boxed vgc+ used
Naim Ovator S400, excellent dem
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Naim SBL mk2, vgc+ used
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Nola Micro Grand Reference inc stands, £15k new dem
Paradigm Studio 10, excellent boxed used
PMC PB11, boxed, best walnut finish used
PMC Twenty 21, excellent boxed, ex dealer demo used
PMC Twenty 22, excellent boxed, ex dealer demo used
PMC Twenty 23, excellent boxed, used
Proac D38 in Yew, boxed fair used
Proac Tablette 2000, vgc+ in cherry used
Proac D18, good condition in cherry boxed used
Proac Studio 140 mk2, nr mint boxed dem
Proac Studio 110, excellent boxed used
Proac Studio 115, excellent boxed dem
Proac Studio 125, great boxed - sonic bargain! used
Quad 11L2, excellent boxed used
Quad 9AS Active speakers, excellent boxed used
Red Rose Rosebud £2.5k new with (i) stands dem
Rega RS3, vgc+, boxed dem
Rega RS1, vgc+, boxed dem
REL T2 Subwoofer, vgc+ used
Revolver Music 1, excellent boxed used
Revolver RW45 floorstander in Cherry dem
Revolver Cygnis Gold in Black, £14k new dem
Sonus Faber Ellipsa, superb boxed used
Sonus Faber Cremona Auditor, boxed used
Spendor A6, in Walnut excellent boxed used
Sunfire True Subwoofer dem
Tannoy Prestige Autograph Mini, ex boxed used
Thiel CS7.2, vgc, just refurbished... used
Totem Mini Signature, boxed near mint used
Totem Mite in black dem
Totem Rokk in mahogany, excellent used
Totem Staff, near mint boxed new
Usher N6311, transit damaged to clear dem
Usher Mini Dancer 1, excellent boxed dem
Vandersteen Quattro, accessories, transformers etc used
Velodyne DD18 sub in black dem
Veritas H3 (Lowther drivers) in gloss black, 100db dem
Wilson Audio Duette, excellent dem
Wilson Benesch Actor floorstanders dem

Acoustic Energy AE1 Classic new
Acoustic Energy AE1 Mk11 in Gloss black dem
Apogee Duetta Signature (Reality rebuilt) Superb used
Art Audio Stiletto in Maple dem
Aspara Acoustics HL6 in Oak new
Audio Physic Tempo in Cherry, fair dem
Audiovector Si3, near mintboxed dem
Aurum Cantus Music Goddess in Gloss black dem
Avalon Ascendant Mk2, mint crated, £10k new used
B&W 805s in cherry, excellent used
B&W CDM1se in cherry, excellent used
B&W CDM1nt boxed, excellent used
B&W DM601s3, vgc+ used
B&W DM602s3, vgc+ used
B&W 803 Matrix Series 2, vgc boxed used
Davone Ray, vgc in walnut, great! used
Dynaudio Audience 52, vgc used
Edwards Audio Apprentice, excellent boxed used
Eminent Technology LF78, some marks used
Ferguson Hill FH007&8 'desktop' audio set boxed used
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Heco Celan 300 in Mahogany dem
Heco Statement in gloss black, £3k new dem
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Mission 752, rosewood excellent used
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Monopulse Model C new
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Naim SBL, vgc+ used
Naim SBL mk2, vgc+ used
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Paradigm Studio 10, excellent boxed used
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PMC Twenty 21, excellent boxed, ex dealer demo used
PMC Twenty 22, excellent boxed, ex dealer demo used
PMC Twenty 23, excellent boxed, used
Proac D38 in Yew, boxed fair used
Proac Tablette 2000, vgc+ in cherry used
Proac D18, good condition in cherry boxed used
Proac Studio 140 mk2, nr mint boxed dem
Proac Studio 110, excellent boxed used
Proac Studio 115, excellent boxed dem
Proac Studio 125, great boxed - sonic bargain! used
Quad 11L2, excellent boxed used
Quad 9AS Active speakers, excellent boxed used
Red Rose Rosebud £2.5k new with (i) stands dem
Rega RS3, vgc+, boxed dem
Rega RS1, vgc+, boxed dem
REL T2 Subwoofer, vgc+ used
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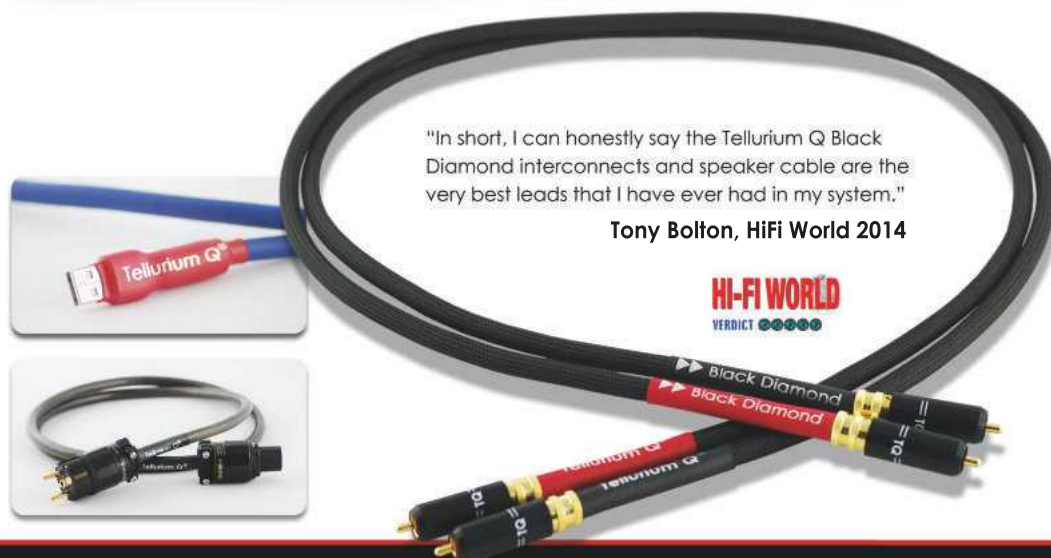
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LAST WORD

OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

Ken Kessler looks at the portable players and accessories now making hi-res listening a reality

There is a hive of activity in the portable digital player market. In the June issue we reviewed the small, portable HA-2 headphone amp from Oppo; a recent meeting with John Franks of Chord informed me that the Hugo DAC is one of its most successful products ever; and I've just learned that Astell & Kern is launching a £399 player.

HI-RES ON THE HOOF

Why is this important to us? Those who don't travel a lot are able to indulge in fixed, out-sized and/or mains-dependent systems of vastly superior quality than any portable can deliver (save for schlepping around a Nagra 4S with open-reel tapes). This stuff has little value for them. But how many of you commute daily, have occupations involving regular foreign travel, or – simply – love the idea of being able to carry a sizeable segment of your music library as true hi-res files from pocket to car to bathroom/bedroom to your main system?

Insofar as most audiophiles are happy to own physical media for their primary – that is, serious – listening sessions, equally most are fussy enough to *not* be happy with the sound of an iPod when we are away from our systems and desire music. I am flexible rather than doctrinaire, eg, music is not piped into our kitchen. When I cook, at least four nights

a week, I listen to a Tivoli radio. In mono. To Radio 2 FM. There goes my credibility. But contrast this with my travel gear...

Because of work, I have at least 20 foreign journeys a year, of which two or three are on the wonderful Eurostar, a joy thanks to the on-board mains outlets. Of late, I have been travelling with Oppo or Audeze headphones and the Pono player, enjoying the added quality of balanced headphone operation. Having also fed the Pono into a system with a price tag north of £100,000, I repeat what I said in June: the sound is terrific.

FORGOTTEN CLASSIC

What I have not yet had hands-on time with is the Sony NWZ-X2 that many I know have been raving about, not least musician/producer/composer David Chesky. My own first-generation Astell & Kern AK120 still delights, but the later versions are audibly superior, while the Pono – especially with, it must be emphasised, its own top-spec recordings – has raised

the bar substantially for portables. Despite using any of these new players in balanced mode if or when possible, or digitally into external amplifiers or DACs, the best (portable) sound for me remains music heard via the venerable Stax SR-001 headphones, a forgotten classic in the history

of portables that predates all of the earbuds and in-the-ear high-end solutions. I despise earbuds or anything else in my ear, save for the tongue of some goddess, but the Staxes were (and remain) a clever alternative, being in-ear but not pressure fitted, held in place by a thin band.

I am not going to suggest for a moment that they match the Audeze, Oppo, B&W nor especially the bigger Staxes for sonic worth. But these teeny ESLs sound wonderful when in transit, they're light and comfortable, and deserve the attention of those who are not about to fill their hand luggage with a pair of full-sized cans, however delightfully 'transporting' (pun intended) the Oppos, B&Ws and Audezes are even when powered directly off a portable's headphone socket.

IMPOSSIBLE DREAM

Of course, the Staxes have the downside of needing an external energiser pack the size of a smartphone, while its battery life is even worse than an iPhone's, but audiophiles are more prepared than most to make sacrifices in the pursuit of superior sound. Hell, if you're prepared to carry a Hugo – and it is a wonderful device but still a lump the size of a paperback book – then a few spare AA cells are hardly a cause for discouragement.

As the original anachrophile (so named thanks to ex-HFN editor John Atkinson), it delights me no end that some the finest sounds I've heard so far in a relatively transportable, manageable form involve headphones that date back to the tape-fed Walkman. I look forward to trying them with the Walkman's great-great-granddaughter.

Ironically, some of the best in-transit sounds I've heard involve a Nagra SD portable, which I use for recording interviews. This device only operates up to 96kHz/24-bit, but the sound is remarkable. Alas, it has no 'front end' for playing albums, so you can only access one track at a time. But can you imagine what a killer machine Nagra *could* create if it were to adapt one of its hand-helds to play folders rather than individual files? (And you'd be surprised how affordable its smaller devices are...)

A Stax-plus-Nagra system on the road? To dream, the impossible dream... ☺

'Some of the best in-transit sounds I've heard involve a Nagra SD portable'

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GENIUS



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