

# hi-fi news

THE HOME OF REAL HI-FI

## & Record Review

# SUPER CYRUS

**Exclusive:** 30th anniversary system unveiled

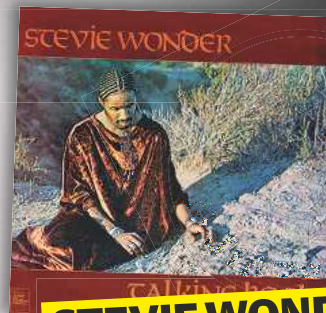


**'Not just surviving but thriving'**

**HFN visits AIR Studios, p16**

**Kudos**  
**Cardea Super 20 floorstander**

**Nagra VPS**  
**Luxury phono stage**



**STEVE WONDER**  
**TALKING BOOK**



**Audio Research**  
**REF CD9 disc player**

**Compact amps**  
**Group Test: Six integrated models from £650-£1250**

**Streaming stereo**  
**Chord DSX1000 media player**



**'A private pleasure'**  
**Vintage review, p114**

• **PLUS** 19 pages of music reviews and features • **VINYL RE-RELEASE** Fleetwood Mac's *Rumours* LP  
• **OPINION** 11 pages of letters and comment • **VINTAGE REVIEW** Rogers Cadet III two-box amplifier  
• **AUDIO MILESTONE** The Nytech CTA 252 receiver • **READERS' CLASSIFIEDS** Hi-fi bargains galore

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# MUSICAL FIDELITY

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**ABOVE:** Digital dream? The Audio Research REF CD9 player/DAC, p36

**RIGHT:** Lyra's Japanese-built moving-coil range begins with the golden Delos. See p58



**VINYL:** Stevie Wonder's *Talking Book* is our Vinyl Icon (p72) while Steve Sutherland ponders Stevie Nicks' past lives as Fleetwood Mac's *Rumours* is reissued on 180g vinyl (p70)

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



If you are dipping into *Hi-Fi News* for the first time or returning, perhaps prompted by the yellow border that also graced our magazine in the '50s-'80s, then you've a real treat in store. Since its birth in 1957, *Hi-Fi News* has always been passionate about bringing you the very best in home audio although the equipment certainly looked – and sounded – very different in those formative years.

Back in the day, the enthusiasts' sources of choice were the new-fangled vinyl LP (the stereo LP was launched two years after *Hi-Fi News*), radio and the open-reel tape. Today the vinyl-loving community is stronger than it's been in the last 20 years and the quality of the black stuff itself is at an all-time high. The days of thin, warped records made of recycled plastic, old rubber tyres and chewing gum are thankfully long gone!

Most of our key reviewers still spin a platter alongside their CD/SACD player and computer-backed hi-res media players. We just love our hi-fi, regardless of technology. Why not visit our website and see for yourself at [www.hifinews.co.uk](http://www.hifinews.co.uk) and click on 'Meet The Team' tab.

You'll discover that our reviewers have built their hi-fi systems over decades and they take a great deal of persuading



before changing a cherished component for something ostensibly superior. It's perhaps ironic that we necessarily review individual players, amplifiers and loudspeakers but it's their synergy in the context of a system as a whole that can make or break the musical picture.

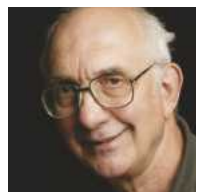
New, complete hi-fi systems are a rarity and so I'm especially

## 'Hi-fi system synergy can make or break the musical picture'

pleased that *Hi-Fi News* can reveal Cyrus's limited edition 30th Anniversary components, all hand-tuned by Technical Director Peter Bartlett right down to the choice of speaker, interconnect and mains cables. When one manufacturer has the flexibility, and experience, to indulge in such a programme you can bet the sound of the system will far exceed the sum of its luxurious parts. Why not join the birthday party on p22?

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



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



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



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



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





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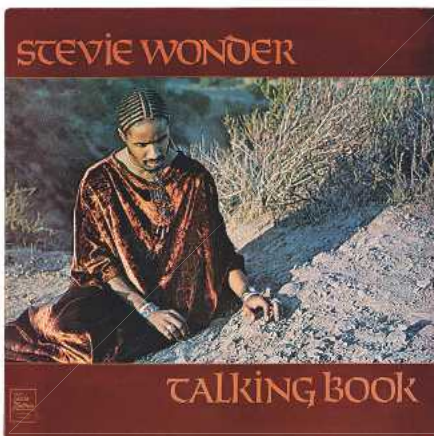
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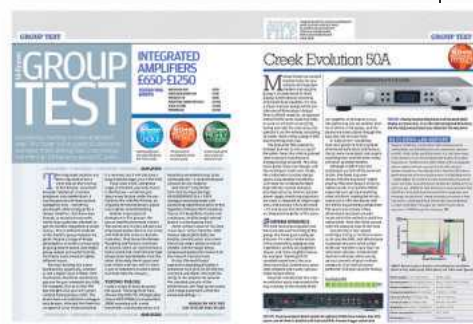
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We have lost a number of audio luminaries over the past 12 months. Ken Kessler takes a moment to remember their contributions



ABOVE: For our Group Test of £650-£1250 integrated amplifiers, turn to p41

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See page 82

# The crowning Krell

NEW TOP-OF-THE-LINE INTEGRATED AMPLIFIER BOASTS HUGE POWER OUTPUT



Any audiophile looking for a high power amplifier but wishing to avoid the real estate issues of a big pre/power will surely be tempted by Krell's latest integrated flagship, the S-550i. Rated at 275W/8ohm, the amp has a substantial 29kg bodyweight that's at least partially accounted for by a huge 1.75kW toroidal mains transformer, and yet the alloy

chassis stands a mere 15cm high. The elegant rotary volume control drives a 12-bit balanced resistor ladder while input selection studs cater for the three available single-ended inputs, one balanced (XLR) input and dedicated 30-pin iPod connection. Neither has Krell forgotten the custom installers, as the S-550i is also equipped with 12V triggers and an RS232

port for connection to third-party controllers. Naturally, the amp comes complete with its own IR handset that also provides access to its configuration menu.

The S-550i's preamp section takes its inspiration from Krell's statement Phantom model. It's DC-coupled throughout and uses all-discrete circuitry (surface mount but no IC op-amps) in a fully balanced topology. Krell's 'Current Mode' stages

promise an exceptionally wide bandwidth and very low distortion without the application of negative feedback.

Price is £4998 (the S-300i model is retained at £2795) and the first review will appear in *Hi-Fi News* next month.

**Absolute Sounds, 0208 971 3909;**  
**www.krellonline.com,**  
**www.absolutesounds.com**

## M1 expansion

NEW USB DAC/HEADPHONE AMP



Musical Fidelity's M1-series continues to evolve with the launch of the company's SDAC, a compact but flexible package that combines both DAC and headphone amplifier. Six digital inputs are offered in total – two coaxial, one optical, one AES/EBU and one asynchronous USB, the latter based on MF's innovative V-Link<sub>192</sub> D-to-D converter and compatible with media files up to 24-bit/192kHz. The final digital 'input' is MF's Bluetooth apt-X, which is good to 48kHz.

The headphone amplifier, in common with its sister products, has a claimed 'ultra low impedance' output and is rated at a maximum 2W. Price is £799.

**Musical Fidelity Ltd, 0208 900 2866;**  
**www.musicalfidelity.com**

## HI-FI NEWS' NUGGETS

### A NEW PARADIGM

Inspired by Paradigm's Reference MilleniaSub and MilleniaOne speakers, the company has now released its £699 Millenia CT 2.1 speaker system, part of its SHIFT Series, and available in gloss black. The satellites feature 1in satin-anodised aluminium dome tweeters and 4in satin-anodised aluminium bass/midrange cones. The low-profile subwoofer has an 8in reinforced polymer composite cone with 1.5in high-temperature voice coil. [www.anthemavs.co.uk](http://www.anthemavs.co.uk)

### SOLO MAGNE ARM

Following our review of the fabulous Bergmann Magne air-bearing turntable system [*HFN* Jun '12] the company has announced that the partnering linear-tracking tonearm – the carbon armtube that 'floats on air' – will now also be available as a separate item. Price is £4575 including the silent air pump. [www.bergmannaudio.com](http://www.bergmannaudio.com); [www.midlandaudiox-change.co.uk](http://www.midlandaudiox-change.co.uk)

## Kronzilla wakes

ICONIC TUBE AMP NOW AVAILABLE IN THE UK

We love big tube amps at *HFN* and they don't come much bigger than the Kronzilla SXi from Czech company KR Audio. Weighing in at 50kg, this integrated amplifier is a hybrid, albeit in reverse of fashion, combining a solid-state preamp stage with a valve output. The huge, 13in tall KR-1610 power triodes are exclusive to KR Audio and are configured here in single-ended (Class A) mode with 'zero feedback'. The ensemble is rated at a not insignificant 50W per channel and priced at a rather more significant £14,900.

**KR Audio, 01333 425999;**  
**www.kraudio.com; www.audioemotion.co.uk**





## New Mac DAC

MAC LAUNCHES DIGITAL-ONLY DAC/PREAMP



Mixing its iconic 1950s styling with up-to-the-minute digital flexibility, McIntosh's latest preamp is equipped with five digital inputs – two coaxial, two optical and one asynchronous USB. In practice, the £2995 D100 is a DAC with variable analogue output (and no analogue inputs), featuring an

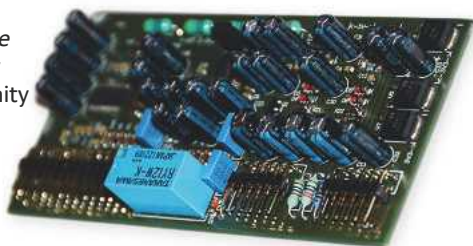
eight-channel, 32-bit/192kHz converter employed in quad/balanced mode to reduce distortion and lower noise. The black-glass fascia and classic rotaries are unmistakably 'Mac'. **McIntosh Laboratory, 01202 911886; [www.mcintoshlabs.com](http://www.mcintoshlabs.com); [www.jordanacoustics.co.uk](http://www.jordanacoustics.co.uk)**

## Digiphiles take Heed

PLUG-IN DAC UPGRADE BRINGS 24/192 PERFORMANCE

Owners of Heed's Obelisk *da* DAC or *pre* preamplifier are now offered the opportunity to upgrade their system's digital performance with a new plug-in DAC module. The DAC Card v2.1 is available at £450 and is based around the popular Wolfson WM8741 converter solution.

The card offers three digital filter settings, selected via jumpers on the PCB, including



two linear phase options with slow or fast roll-off and a third, minimum phase setting. **Heed Audio, 01242 511133; [www.heedaudio.co.uk](http://www.heedaudio.co.uk)**

## Bryston's Atom upgrade

SECOND-GENERATION DIGITAL FILE PLAYER

Seen alongside Bryston's new £2500 BDA-2 DAC at the recent Bristol Hi-Fi Show [see p8], the company's BDP-2 digital media player offers significant upgrades on its inaugural BDP-1 model. Inside, the custom Intel Atom-powered motherboard now supports NAS and eSATA

connectivity, includes a UPnP/DLNA audio server and offers six USB 2.0 inputs, the latter 'future upgradable' to USB 3.0. Media up to 24-bit/192kHz is playable via most traditional USB storage devices. **Bryston, 01938 559021; [www.pmc-speakers.com](http://www.pmc-speakers.com)**



## Monster arachnophonia

ONE-OF-A-KIND, DIAMOND-ENCRUSTED HEADPHONE

Collaboration between headphone manufacturers and artists of all kinds is common enough these days, but the product of Monster and world-renowned Korean artist and jewellery designer Sally Sohn is truly unique. Valued at £20k, the 'Diamond Tears' headphone has a bill of materials that includes 18k gold and a total 5.56 carats of black diamonds. The latter are fashioned into the spider motif seen here clinging to one of the headphone's tear-shaped capsules.

Of course, if creepy crawlies are not your thing, Monster has its more affordable 'Gold Diamond Tears' headphone available at £400 through Harrods of London. Numbers are very limited, however. **Monster; [www.monsterproducts.com](http://www.monsterproducts.com)**



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

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## Upcoming Events

IMPORTANT DATES FOR YOUR HI-FI DIARY

9-12 MAY

High End Show, M.O.C, Munich, Germany; [www.highendsociety.de](http://www.highendsociety.de)

31-02 MAY

T.H.E. Show, Newport Beach, California, USA; [www.theshownewport.com](http://www.theshownewport.com)

06-11 SEP

IFA Consumer Electronics Unlimited, Messe-Berlin, Germany; <http://b2b.ifa-berlin.com/en/>



# Bristol Hi-Fi Show 2013

Words & pictures: Paul Miller



As we've come to expect, the queues for what is now the UK's longest-running and arguably most popular hi-fi show started very early on the traditionally chilly Friday morning. So keen were many of the West Country's enthusiasts that the organisers even offered multi-day tickets for those wishing to return over the weekend. As ever, the Bristol Hi-Fi Show remains a vibrant meeting place for

music-loving soulmates to audition some very tasty equipment and share in a choice of less tasty baguettes.

Unlike some overseas shows we've reported on, many of the demos here were still driven by traditional physical media – CD and vinyl – although PC/Mac-based systems were certainly in the ascendant. As traditional brands rubbed shoulders with newbies, we celebrate the best that Bristol had to offer.

With its CNC-machined cabinet, FEA-designed mid and woofer motors and suspensions, the 'Ultra Tower' floorstander from SVS is pitched by its makers as 'the centrepiece of your high-end stereo system'. Its upswept trapezoidal shape is certainly striking and its 88dB sensitivity generous, as seems the £2199 asking price. [www.svsound.com](http://www.svsound.com)



Designed in Russia and made in Singapore, this is the £20k Passeri CD player by Loit. The chassis is a carbon-fibre/alloy composite supported on three ceramic ball bearings while the top-loading transport uses a Philips CD-PRO2 mech isolated on a silicone gel suspension. The post-DAC I-to-V stage is achieved by an all-tube circuit. This awesome player is distributed by [www.alternativeaudio.co.uk](http://www.alternativeaudio.co.uk)



First seen at this year's CES in Las Vegas [HFN Mar '13] T+A's massive MP3000 'High Voltage' disc player, streaming client and DAC also made it to Bristol alongside the hefty PA3000 HV integrated amplifier. The build quality of these substantial alloy cabinets is exquisite while the performance, on the two occasions I've heard them, sounds very promising indeed. *Hi-Fi News* will carry full and exclusive reviews of both from next month. [www.ta-hifi.com](http://www.ta-hifi.com)



Here's Siemen Algra, Primare's sales manager, proudly displaying the company's proven BD32 universal BD player [HFN Feb '12] alongside pre-production samples of the up-and-coming PRE60 preamp and A60 power amp. Projected to retail at €7500 each, the preamp features a digital streaming board while the 2x300W power amp is based around four of its UFPD Class D modules. [www.primare.net](http://www.primare.net)

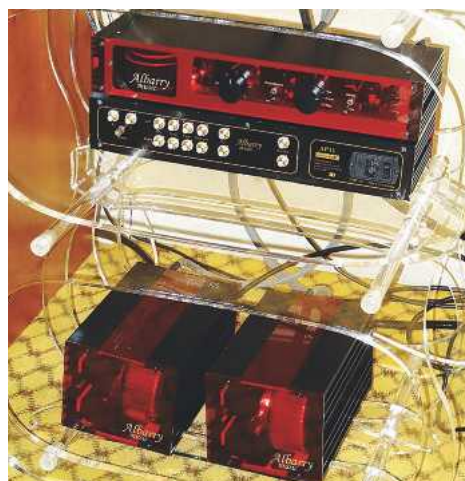


Audiolab and Quad, both key members of the IAG empire, shared one of the Marriot hotel's larger suites. Audiolab was previewing two new compact audio components: the Q-DAC [inset], based on the award-winning M-DAC but with simpler functionality at a more affordable price; and the M-PWR stereo power amp 'designed to perfectly match the M-DAC both aesthetically and sonically'. Pictured are the huge Quad ESL 2912s partnered by the Platinum CD player/preamp and monoblocks [HFN Jan '13]. [www.quad-hifi.co.uk](http://www.quad-hifi.co.uk)



Both of Bryston's key digital products have received recent upgrades. The BDP-1 digital player has morphed into the £3125 BDP-2 with its new Intel Atom-powered motherboard that now supports NAS and eSATA connectivity. The new mobo also carries more onboard memory and is equipped with no fewer than six USB inputs. The £2500 BDA-2 DAC is necessarily a more conventional hi-fi component but now includes '32-bit' AKM DACs with Bryston's bespoke Class A output. [www.bryston.com](http://www.bryston.com)

Conrad Mas is seen here with one of his 'babies' from the new Ingenium range of turntables. The skeletal deck shares its sapphire bearing with the established Diva II turntable but the T-shaped 'chassis', machined from a 2.5in section of solid aluminium, clearly sets the Ingenium apart. The basic £800 deck can be supplied with a 9in Pro-Ject Carbon tonearm for £1260 or with twin-arm mounts (one supporting a 12in arm) for £1200. [www.avidhifi.co.uk](http://www.avidhifi.co.uk)



The Audio Works Perspex rack made for a slightly untidy picture but what else would Albarry Music choose for its iconic red acrylic amplifiers? I was thrilled to see this once-famous UK brand back in business and remember reviewing its original M408 monoblocks over 25 years ago! Seen here is the new £2500 AP11 preamplifier and substantial £5750 M1108 monoblocks rated at 100W/8ohm. [www.albarrymusic.com](http://www.albarrymusic.com)

# ESL 2812 & ESL 2912

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This is Steve Rowland of Michell Engineering, wielding a set of new loudspeaker spikes (supplied with floor protectors) mounted here into slabs of wood by way of illustration. The turntable is a luxurious Orbe SE with Techno arm and Michell's yet-to-be-named MC cartridge. [www.michell-engineering.co.uk](http://www.michell-engineering.co.uk)



Yamaha, like Pioneer, is getting back into the two-channel swing of things with this new CD-N500 CD/networked media player and A-S500 integrated amplifier. Its original top-of-the-line NP-S2000 network player [HFN Feb '11] is still a current model. <http://uk.yamaha.com>



Paul Hawkins of Diverse Vinyl, happy proprietor of one of the last remaining independent record stores in South Wales. Diverse Vinyl is the mail order arm of Diverse Music, providing access to the wonderful world of vinyl to audiophiles who live outside the Principality. [www.diversevinyl.com](http://www.diversevinyl.com)



A 'statement in engineering excellence' says Tannoy of its 120kg Kingdom Royal flagship, presented here in an eye-watering pillarbox red. The huge enclosure marries a 12in Dual Concentric mid treble/bass unit with a 15in sub-bass woofer and 1in ceramic-coated magnesium super tweeter. Sadly, this sentinel stood silent at the show. [www.tannoy.com](http://www.tannoy.com)

Pitched at £400 without speakers, Pioneer's new compact stereo system features the 75W Class D SX-P01 receiver fitted with coaxial/optical digital inputs and DAB radio. The partnering PD-P01 CD player includes a 192kHz/32-bit DAC, will play music files in a variety of formats (MP3, WMA and WAV), and adds full support for all iDevices. [www.pioneer.co.uk](http://www.pioneer.co.uk)



Phil Swift of Spondor fame has been so overwhelmed by the performance of the Devialet D-Premier amplifier [HFN Apr '10] that he's persuaded Absolute Sounds to appoint his company as an official Devialet retailer. A pair of D-Premiers was used with Spondor's new D7 floorstanders (£4k in a premium finish) to superb effect at the show. [www.spondoraudio.com](http://www.spondoraudio.com)



# REFERENCE SERIES



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Home Cinema Choice, March 2009

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Colne, Lancashire  
Telephone: 01282 863823  
[www.royjowetthomecinema.co.uk](http://www.royjowetthomecinema.co.uk)

**Hi Fi Excellence Ltd**

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[www.hifix.co.uk](http://www.hifix.co.uk)

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[www.sevenoakssoundandvision.co.uk](http://www.sevenoakssoundandvision.co.uk)

**Sevenoaks (Guildford)**

Guildford, Surrey  
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[www.sevenoakssoundandvision.co.uk](http://www.sevenoakssoundandvision.co.uk)

**Unilet Sound And Vision Ltd**

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[www.unilet.net](http://www.unilet.net)

**Cymbiosis**

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[www.cymbiosis.com](http://www.cymbiosis.com)

**Stone Audio UK Limited**

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[www.stoneaudio.co.uk](http://www.stoneaudio.co.uk)

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[www.audioaffair.co.uk](http://www.audioaffair.co.uk)

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[www.quantumav.co.uk](http://www.quantumav.co.uk)

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Visitors were blown away – almost literally near the end of the day – by this ‘domestic’ SE version of PMC’s world-famous BB5 active monitor. Modelled here by PMC main man Pete Thomas, the BB5 SE features the brand’s exclusive PMC75 midrange dome and mammoth 15in bass driver. Powered by Bryston’s top-of-the-range 1kW 28B SST<sup>2</sup> monoblocks, these behemoths played music mastered by their active cousins. Awesome! [www.pmc-speakers.com](http://www.pmc-speakers.com)



Canton of Germany has an impossibly vast range of loudspeaker models. A mere few were on show including the top Chrono SLS 790 three-way floorstander with its magnetically-fastened grille. On the right of my picture is an example of its best-selling GLE series, the 496 three-way boasting a high 90.5dB sensitivity. [www.canton.de](http://www.canton.de)



Whatever next – live music at a hi-fi show? Brother and sister duo, The Luck powered through several acoustic sets aided and abetted by a pair of McIntosh MC601 amplifiers and Focal Stella Utopia loudspeakers, courtesy of Jordan Acoustics. I can only hope the idea catches on! [www.theluckmusic.com](http://www.theluckmusic.com); [www.jordanacoustics.co.uk](http://www.jordanacoustics.co.uk)



It’s always wise to don a set of sunglasses before marching into the Quadral room and this year was no exception. Bedecked in a high gloss red, this fab floorstander is the new Vulkan Aurum, marrying the same mid and tweeter unit we saw in the Titan [HFN Nov ’12] with two new 21cm woofers. Prices start at £7500 (+£400 for any of 190 gloss colours). [www.quadral.com](http://www.quadral.com)

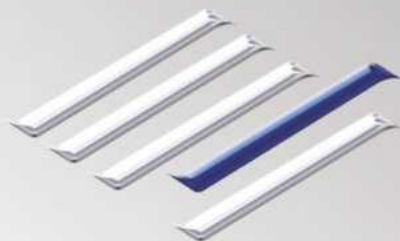


With iPad in hand, Inez Bukdahl of Dali loudspeakers demonstrates the new ‘Kubik Free’ active loudspeakers with USB, optical and Bluetooth connectivity. The two-way design has a 5in fibre bass/mid unit and 1in dome tweeter with 2x25W and 2x13W Class D amps in one cabinet. Price is €1099 for one active+passive pair. [www.dali-speakers.com](http://www.dali-speakers.com)

Having sprung from the German Dynavox company, Dynamikks! uses custom-built coaxial drivers with ‘huge magnets’ to combine high sensitivity with the virtues of a point source. The £4950 db8.2 floorstander is also horn-loaded to achieve a rated 92dB without compromising its easy 8ohm nominal load. [www.dynamikks.com](http://www.dynamikks.com)







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"The Siltech SAGA amp breaks all the rules - and sounds fabulous." The Absolute Sound, CES report January 2013

"...extremely impressive. The sound was immediate and effortless at all volume levels, with what seemed like unlimited dynamic range and a complete lack of distortion and time smear." The Audio Beat, CES report, January 2013

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"an abundance of detail..."

"[the Absolute Dream] can fill the space of your room, from wall to wall to wall, with the sound of the studio or hall in which the recording was made,"

Jonathan Valin, The Absolute Sound, January 2013

"Suffice it to say that whatever equipment I was auditioning, it never sounded quite as musical as when the Absolute Dreams were in play."

Paul Miller, Hifi News, April 2012

Siltech and Crystal cable are brands of International Audio Holding. All products are designed and built at our factory in Elst, The Netherlands. All cable products have laser engraved serial numbers for easy identification.



Looking pretty in pink (or at least pink lighting) NuForce showed four new sleek (216mm) components. From the left we have the £999 DAC-100 and £529 UDH-100 headphone amps with USB inputs (the DAC-100 also has S/PDIF), the £475 DDA-100 50W Class D amplifier and £475 HAP-100 analogue pre/headphone amp. [www.nuforce-europe.com](http://www.nuforce-europe.com)



Demonstrated along with Townshend cables and preamp, Brinkmann mono power amps and Dynaudio's superb C1 standmounts, the '1543 DAC' from Computer Audio Design was developing some fine sounds via hi-res media from an Asus laptop/JRiver combo. Priced at a heady £6900, this NOS DAC has a single USB input only. [www.computeraudiodesign.com](http://www.computeraudiodesign.com)



Tony Brady, the engine room of Exposure Electronics, was on hand to reveal the company's new 1010 Duetto amplifier, a 50W variation on the 1010 integrated but with a USB interface. The second silver box in this rack is more intriguing – the new 3010 S2 DAC with USB and LAN connections plus support for AirPort Express/DLNA. Price will be around £1500. [www.exposurehifi.com](http://www.exposurehifi.com)

Leema Acoustics brought out the big guns for this year's demo including its forthcoming Libra Constellation DAC that we announced exclusively in last month's news. With PC-sourced media and a pair of Hydra II power amps, Leema's Mallory Nicholls had every right to be pleased with the music from those KEF Blades. [www.leema-acoustics.com](http://www.leema-acoustics.com)



Looking positively demure alongside Paradigm's high-gloss Signature speakers, the elegant Mini Monitor standmount uses pure aluminium bass/mid and treble drivers integrated at 2kHz via a high quality 1st/2nd order crossover network. Sensitivity is rated at 87dB and the low frequency extension given as 42Hz (-3dB, in-room). Price £450. [www.paradigm.com](http://www.paradigm.com)



Funky colours and esoteric machined-from-alloy cabinets – it could only be 'Everything But The Box'. Here's a £2160 pair of Terra Mk3 high-end lifestyle speakers atop their £330 stands with a Subterranean M2 sub sitting alongside. The latter has a 10mm cast alloy shell and 12in driver with 250W amp. [www.ebtb.eu](http://www.ebtb.eu)

## Next month

HFN's EISA colleagues report from the Serbian Hi-Fi Show



# Coming up for AIR

Not just surviving but thriving... **Steve Harris** takes you into AIR Studios

**RIGHT:** AIR's founder Sir George Martin in the control room that looks out onto the main Hall. The control room measures 50m<sup>2</sup> and boasts one of the largest Neve 88R consoles in the world. It has no fewer than 96 channels. The speakers are a customised Dynaudio 5.1 system

**BELOW:** An external view of Lyndhurst Hall in Hampstead, which was purchased by the company in 1990. Being a Grade II listed building, the original appearance outside had to be retained. The central section adjoining the main hall was completely gutted and rebuilt internally

When George Martin left EMI in 1965, he had already re-defined the role of the record producer. With his company Associated Independent Recording, he was soon helping to shape a new era of independent recording studios too.

In the next few years, the UK's biggest rock acts did most of their recording in one of a handful of go-ahead new studios. There was Trident in Soho and Advision in Fitzrovia. There was Island Studios in Notting Hill and then there was the long-time Stones' favourite, Olympic, out to the south west in Barnes. At 214 Oxford Street, there was AIR.

## ON A MISSION

Most of the famous studios of the 1970s have now either closed or have given up the recording of live music. But since moving out to Lyndhurst Hall in Hampstead in 1992, AIR can boast facilities equal to those of Abbey Road.

Dating from 1884, the building was originally a Congregational church and mission school. It was designed by Alfred Waterhouse, who is perhaps best known as the architect of the Natural History Museum in South Kensington.

After the church closed in 1978, there was a plan to convert the building into a recital room, with flats for musicians, but this came to nothing. In 1985 it was used for Aikido martial arts classes, but after that it was not only disused, but falling into serious disrepair.



Meanwhile, in the late 1970s, AIR had built a second lavish, high-tech recording studio complex in the Caribbean. AIR Monserrat was extremely successful in the 1980s, recording Duran Duran, Dire Straits, Elton John, Pink Floyd, The Police, The Rolling Stones and many others.

But in 1989, the island of Montserrat was devastated by Hurricane Hugo, and the studio was effectively destroyed.

Back in London, AIR had already been looking for a new home, as the lease on the Oxford Street premises had expired. Tim Vine-Lott, AIR's present technical director, joined the company in that year.

As Tim recalls, 'It would have been 1986 that they started looking for premises. They actually lost quite a number of staff, who firmly believed they'd never find anywhere, and that would be the end of AIR Studios. But they found this place in 1989, started negotiations and bought it in 1990.'

Tim confesses that he'd joined AIR partly because of the prospect of being involved in setting up a new studio, and he wasn't disappointed.

The conversion of Lyndhurst Hall was a huge project, and it was planned by AIR's then technical director David Harries, working with studio manager Malcolm Atkin, architect Bernard Parker and in-house designer Angus Macpherson. A new company called Macademy, headed

by Macpherson, was formed specially to fit out the studios.

AIR had been owned by the Chrysalis Group since 1975, but the

building of AIR Lyndhurst needed additional finance. According to AIR partner John Burgess, it was through a former managing director of EMI Japan that George Martin was introduced to Seiya Matsumoto, the president of Pioneer. After several meetings and a visit to the site, Pioneer agreed to take a 50% stake.

## TUNE IN, TUNE UP

Initially it was envisaged that AIR would provide Laserdisc mastering, but as this market didn't develop, AIR created a television postproduction facility instead, tying in with Chrysalis's TV interests. In any case, the association with Pioneer led to an intriguing side activity for







AIR, the 'sound tuning' of Pioneer's domestic audio products.

Lyndhurst Hall was a Grade II listed building, and so had to retain its original appearance outside. Its main attraction for AIR was the unique hexagonal main Hall, big enough to record a 100-piece orchestra. The remaining parts of the building provided enough space for more studios and post-production rooms. Inside, the Hall retained its period architectural features, but the adjoining section of the building was completely gutted.

## NEW AND OLD

Within the shell that remained, a completely new structure was built up from a giant isolating raft in the basement. From this rose the vertical steelwork that supported a series of floating floors and ceilings, creating three independently isolated boxes, which would house the new control rooms. The smaller hall at the rear would become the new Studio 1.



While the Hall takes pride of place as the biggest recording space, the control room of Studio 1 provides one of the closest links with the 'old' AIR, with its Neve/Focusrite console, designed by Rupert Neve with input from George Martin.

'This is the only console left from Oxford Street,' says Tim Vine-Lott. 'It is actually one of three that were commissioned in 1977. One went to Montserrat, one was for Studio 2 in Oxford Street and this one for Studio 1. When it was first installed there, they shut down Oxford Circus over the Christmas period to put a crane there and craned it in.'

'When we moved out, you couldn't do that sort of thing any more. The result was that we had to take as much out of the frame as we could, and carry it down the stairs.'

**ABOVE: The Hall is hexagonal in shape, its 300m<sup>2</sup> live area big enough to house and record a 100-piece orchestra. Reverberation is controlled by the acoustic canopy, which is motorised. Three raised galleries, two isolation booths and lots of natural light only add to its appeal for recording musicians**

It took a dozen of us the best part of two and a half hours!

Studio 1 can accommodate quite large groups, and it's a flexible space with sliding doors to provide separation as required. But for full-blown movie scores, the big main Hall comes into its own. This is a huge space, around 80ft high, which needs to be controlled acoustically.

As Tim explains, 'The problem with tall recording spaces is that when people are playing together, a lot of the information they get is reflections from the ceiling, so if the ceiling is very high it throws the timing out. Which is why we've got the canopy.'

'Without any treatment, the RT60 reverberation time in the Hall is seven and a half seconds. Which makes life very splashy, very loose, very difficult to place things. Great if you're only using quartets and trios. Anything above that, it gets confused to say the least.'

## GOTTA HAVE FAITH!

So, the canopy is brought down, to reduce the RT60 to the desired three seconds or less.

'More than 60%, closer to 70%, of our income comes from film scores. You record in the Hall, and go and mix on the desk in Studio 3, which is a Digital Film Console.'

'The rest is rock, pop, classical. We do a lot of work with Harmonia Mundi, for example. And large established rock/pop artists. Muse were in Studio 1 for 14 months, on and off. They re-designed all their back line in Studio 1. George Michael practically lives in Studio 2.'



**ABOVE LEFT: A Bösendorfer grand piano sits on the fully floated floor of Studio 1**

**LEFT: A peek inside the control room of Studio 2 with its imposing 80-channel Solid State Logic 8000G console, which dates from 1991. The speakers are Dynaudio M4s**

# Introducing VIVALDI



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**LEFT:** Ray Staff (seated) talks to AIR's longtime Technical Director Tim Vine-Lott in AIR's mastering studio. Tim joined the company in 1989, before the studio moved from its original Oxford Street location to the Hampstead complex

In the Studio 2 control room, the console is an 80-channel SSL 8000G, dating from 1991 and, as Tim says, 'still doing sterling work.'

Main monitor speakers are all Dynaudio M4s, although the ones in the Hall and Studio 1 are a modified version designed by Dave Harries and Munro Associates, using two 15in TAD drivers instead of four 12in units. This gives a smaller frontal aspect, so you can have the three (LCR) front speakers above the desk and still see into the studio. To get the same volume, these cabinets are around a metre and half deep.

'All our rooms are 5.1. We've had the odd request for 7.1, but by the time you actually put all the speakers up and show people what it looks like, they just want you to take it all down again!'

## CHANGE OF OWNERSHIP

AIR can provide a wide choice of speakers for nearfield monitoring, but on top of the consoles you'll usually see Yamaha NS10s.

'All these came over from Oxford Street. I've worked for AIR since 1989 and I don't think I've ever bought a new pair of NS10s! The cabinets leak every now and again. You just have to take them apart, take out the lagging and line the whole thing with PVA to reseal it.'

In 2006, business magnate Richard Boote bought AIR from Chrysalis and Pioneer, to run alongside his existing Strongroom studios in Shoreditch.

'Basically,' says Tim, 'Richard merged the two companies. The idea was to spread expertise across both sides. I've done a couple of refits over there. And we built AIR Post – the TV post-production place – from scratch.'

Despite the change of ownership, Pioneer has continued happily working with AIR on the sound

tuning of new products.

'It's me, one or two Japanese guys, someone from the European or British office,' says Tim. 'We have a

CD of tracks that we listen to, and they've got copies back in Japan.

'And I'll say, for example, OK, listen to track so-and-so, the horns are strident. A lot of that is time information. And they'll go through and they'll maybe change capacitors in parts of the signal chain – not different values, but different types, different manufacturers – and ease things out. It's certainly an interesting process.'

It's a process that's given Tim a slightly different perspective, too.

'We tried to get studio monitoring standards and rigour into the design of a piece of domestic equipment. Many of the hi-fi manufacturers make nice-sounding kit, but it's not accurate. If you were to take the mix engineer or the recording engineer who worked on that particular piece of music, and put them in front of some very expensive and supposedly excellent hi-fi equipment, what they'd find missing is definition and separation.

'Whereas the guy who's bought that equipment has bought it because that's what he wants. He likes the fact that he's got that huge wash of pretty colours, for want of a better description.'

'When I first started working with Pioneer, I was convinced that I was right, and that what we were going to be doing was to be re-defining high-fidelity, blah-blah-blah, for the purchasing public. Ten years ago I'd have said what I think is best, *is* best, and everyone else is wrong. Now I'm prepared to admit that other people know what they like too!'

'Not everyone wants a reproduction system which is as surgically accurate and precise as a studio monitoring system. A studio monitoring system performs a particular function. It has to be accurate enough to tell you that a microphone's about to break up, or somebody's just turned a page or they've kicked a mic stand.'

## MAKE SOME NOISE

As an engineer, Tim's ear is attuned to listening for faults.

'I'm an engineer and I fix things! I tend to listen to things because someone says, "This isn't right!" And you need to hear the fault.'

'And that's how Matt Colton and Ray Staff, the mastering engineers, listen. So when we got round to building the mastering studio, we quickly found common ground. When we were testing out equipment and interconnects, we all settled on the opening ten or 20 seconds of 'So What' from *Kind Of Blue*, for tape noise.'

'We all know what tape noise should sound like, and if anything failed to replay tape noise accurately, it went back in the box!' ➔

**BELOW:** In-house maintenance in AIR's workshop. Here engineer Paul Crowther is working on a channel section from the Studio 2 console





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all wisdom and philosophy.

LUDWIG VAN BEETHOVEN - Composer - 1770 - 1827



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Mastering is the most recent addition to AIR's activities, having started about four years ago, and of course Ray Staff is well-known to vinyl lovers as the UK's most distinguished re-mastering engineer.

But even he can only work with what's available. Only rarely will an album be cut from the original analogue master, as was Pure Pleasure's issue of Art Pepper's historic 1980 performances at Ronnie Scott's.

'The Art Pepper stuff was actually done from the original tapes. That was a real re-master. And the 40th anniversary re-cut of *Ziggy Stardust*, that was from the original tapes.' In fact, Ray Staff had actually worked on the mastering of *Ziggy* the first time round, at Trident in 1971.

### ONE WIN FOR DIGITAL

'On the other hand,' says Tim, 'There's a band that I'm not going to name, who wanted to do the whole thing from the original mix tapes and remaster it as true analogue all the way through. Any signal processing had to be analogue.'

'But they couldn't find all the tapes, and the tapes they could find weren't first-generation. What they did have was some hi-res 96kHz/24-bit stuff that'd been transferred several years earlier, and it seems to have been at that point that the original tapes got lost.'

'When Ray put the tapes up and did what he could with them, and then did the same with the 96/24 digital copies, the source analogue material was so poor that the only



choice was to go with the 96/24 copies. Which was a real shame.'

It's an industry truism today that the only three big studios left in London are the three 'A's – Abbey Road, Angel, and AIR. Angel, created in 1980 by library-music giant DeWolfe, is also housed in a church, and also, like AIR, majors on film-score work. But you might wonder, in an era when anyone can record music in their bedroom, does the world still need facilities like this for anything else?

### JUMPING BASS

'Anything that doesn't require you to record a real instrument can be done anywhere you want,' says Tim Vine-Lott. 'The issue you have there is that most people, when they're programming and sequencing, are listening on crap monitors in crap rooms. Matt used to cut a lot of dance stuff that was done exactly like that, and sometimes, for a 12in single, it would take him a day to get it actually listenable. In the bedroom it probably sounded great, but you put it up in the mastering room and it's definitely not great.'

'There was one guy where we had to call him and say, you've got to re-mix this because the bass is panning across, and you can't do that, we just can't cut it. Maybe he thought it was a great effect, and OK, you could do it on a CD or any digital format, but when it comes to cutting it on to a record, anything

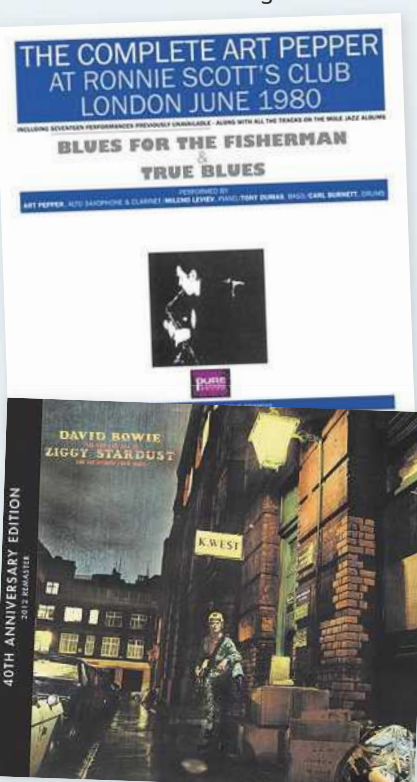
**ABOVE:** AIR's Studio 3 with its digital console. Close to 70% of the studio's income comes from film scores

**LEFT:** Ray Staff at the mixing desk. As well as working with such legendary acts as Led Zeppelin, The Stones and The Clash, Ray also created the world's first three-sided LP, cutting two spirals into one side of Monty Python's *Matching Tie and Handkerchief*

**RIGHT:** It's rare that a reissue is cut from the original analogue masters, says Tim Vine-Lott. Two that were: Art Pepper's 1980 performances at Ronnie Scott's and the 40th anniversary *Ziggy Stardust*

below 100Hz or 75Hz has got to be stable. You can't move the needle around that much, it will jump out of the groove.

'You need a well-designed mix room, acoustically flat or at least neutral, so you're not fighting the coloration of the room, if you're going to produce reasonable quality product. No matter how awful the music is! And as long as people need to record real instruments, there'll be a market for recording studios.'



# Cyrus 30th Anniversary System

Thirty years in the making, Cyrus's highly tuned 30th Anniversary system offers unrivalled high-end convenience and aims to deliver the brand's best sound to date  
Review: **Richard Stevenson** Lab: **Paul Miller**

**T**hirty years is a long time to be in the hi-fi business and clearly deserves something of a celebration. For Cyrus that celebration didn't involve a week-long party and getting arrested in Spain (hey, it happened on *my* 30th) but the creation of a statement system. This would embody the company's 30 years of research, development and audio expertise, fine-tuned by Director Peter Bartlett and culminating in Cyrus's best ever system.

The 30th Anniversary system is a holistic tower of Cyrus audiophile goodness, supported on a dedicated stand with a unique finish and integrated power cable management. The finish is a sort of bronze-blackish-satin-gloss with a chameleonic ability to look subtly different depending on the lighting. It certainly looks the part on the dedicated stand and has to be the most 'domestic' high-end system available. Despite packing in two source components, pre and mono power amps and a couple of off-board power supplies, it has a footprint no bigger than a single serious power amp.

The only spaghetti emerging from the tower are speaker cables, with a solitary power and Cat5 cables on the incoming. We actually reviewed the system at editor Paul Miller's house just in case my wife saw it and started questioning the hi-fi and cabling carnage in our living room.

## STACKING ORDER

Each component in this limited edition 30th Anniversary system is an enhanced version of Cyrus's flagship X-Series and shares the same diecast casework. It is superbly built throughout and comes supplied with dedicated cables including power leads and interconnects with ferrites to reject any RF intrusions. The supplied solid-core speaker cable didn't really gel with the large B&W 802 speakers in use for

this test but an alternative cable allowed the system to really shine. Just as well, as if hi-fi didn't involve some tweekery what would we talk about down the pub?

You can arrange the tower of components in pretty much any order so we went for easy-access source components at the top, power amps at the bottom and a sandwich filling of power supplies in the middle [see facing page].

The DAC XP+ (renamed the DAC XP32) is a 32-bit DAC with preamp running in fully balanced operation and includes two sets of XLR outs plus unbalanced RCA terminals. Key enhancements include new power supply and power filtering, improved smoothing on the DAC supply and new short-path analogue stages. It's slick and easy to use and usefully includes analogue as well as S/PDIF inputs.

The Stream X<sub>2</sub> is a combined network player and internet radio 'tuner' benefiting from improved power supply filtering and some chassis enhancements to reduce microphony. I found operation to be a little less than obvious at first, particularly when faced with a folder-laden music server as a source, but the excellent two-way remote control makes it a doddle.

Below this we placed the CD XT<sub>2</sub> SE CD transport. With no onboard DACs this feeds the DAC XP32 via electrical S/PDIF, again using a supplied system cable. A fair bit of power supply work has gone into enhancing the Anniversary transport along with additional motor control stage filtering. The smooth slot-loading mechanism is a joy to use and the machine spins discs quietly – of course SACDs are not catered for, alas.

## ENHANCED POWER

The two PSX-R external power supplies offer an extremely smooth and stable DC feed and connect via dedicated cable

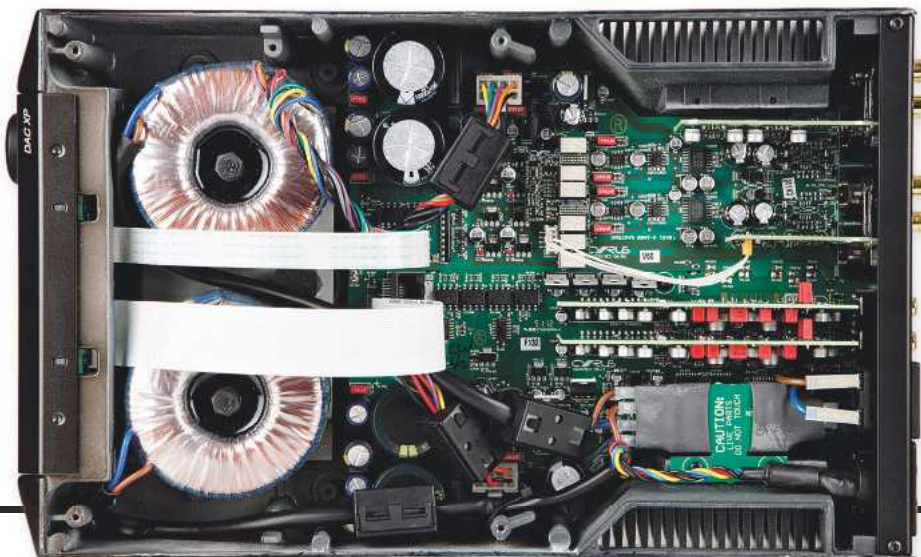
to the DAC and the CD transport. Those units also have a standard 240V IEC input as well to feed non-critical components such as the display. An opportunity missed, perhaps, but there is no equivalent PSX-R upgrade

for the partnering X<sub>2</sub> streamer.

The system is complete with a pair of X 300 Mono power amps that take the XLR feed from the DAC/preamp and boost the output up to a rated 235W/8ohm [see Lab Report, p27]. Cyrus's most powerful amplifiers to date have been enhanced for the Anniversary series with new input

*'The cha-ching of the cash register stepped right out into the room'*

**RIGHT:** The DAC XP32/preamp is a true dual-mono design featuring twin 32-bit Burr-Brown DAC chips for each channel and a new low impedance analogue output stage





buffer op-amps and wider gain bandwidth for a claimed smoother high frequency response. There has been some work on the power supply stages and power filtering to further refine the presentation. The system remote is also rather special. A two-way device, the full colour display brings up not only the menus and files of the network player but shows cover artwork too. It's a sleek device with decent sized buttons and classy design.

No system would be complete without an App and the Cyrus Cadence App for iPad is neat and intuitive and its background wallpaper mimics the signature cooling fin design on the Cyrus casework. Do search iTunes for the App by its full name though, as you won't believe how many Apps feature Miley Cyrus...

There are precious few complete systems available at the high-end, probably because hi-fi enthusiasts are obsessed with mixing and matching components in the pursuit of the best of all worlds. Yet there is something to be said for a system that is developed as a whole; the same designers and engineers working on every component, ensuring the best performance of the overall system. Cyrus's 30th Anniversary system ticks every box in this respect and does so with an admirable style, a bijou footprint and easy operation. ➔

## BIRTH OF THE BRICK

Cyrus' diecast metal casework has stood the test of time, the design changing little in the company's 30 year history. The idea was born with the original Cyrus One integrated launched in 1984. To improve sound, the aim was to minimise mechanical resonances, circuit microphony and airborne RF interference with one neat solution that could be expanded into other products. The result was a precision diecast chassis in a non-ferrous metal alloy, combined with an integrated aluminium heat sink. At a time when integrations were built on a pressed steel chassis and often cosmetically adorned with wooden cheek pieces, the Cyrus One was radical for its day. The production amplifier felt extremely robust, more like a high-end product, and delivered a sound that made it one of the best-selling integrated amplifiers at a time when competition was at its most intense. Little surprise then that this successful chassis design underpins Cyrus products three decades on.



**ABOVE:** A tower of enhanced Cyrus audiophile goodies including (from the top) the DAC XP32 DAC/preamp, Stream X<sub>2</sub> network transport, CD XT<sub>2</sub> SE transport, a pair of PSX-R power supplies and two 'zero feedback' X 300 monoblock power amps

## PETER BARTLETT

Having been involved with Cyrus since its inception and as MD for 15 years (now Technical Director), no-one understands its DNA better than Peter Bartlett.

'I'm a real music fan and although we have a great listening room at Cyrus, I still love to sit back to enjoy my own music at home. I'm lucky enough to have a 25x25ft den where I can relax or tweak to my heart's content. This is really where the project began – by enhancing our best X Series components for my own use we surprised ourselves with the progress we had made. And so the Anniversary series was born.

'Most *Hi-Fi News* readers will be familiar with Cyrus as a leading mid-range UK brand, but what they may not realise is that over the last 20 years the Cyrus engineering team has matured into one of the most capable in the business. Our most recent upgrades have not simply been about dropping a 32-bit DAC into an existing design but more about re-tuning every element of every design to achieve a holistic balance across the whole system.

'Unfortunately the physics of home hi-fi simply makes it impossible to recreate the scale and dynamics of, say, the LSO at the Festival Hall. Over the years we've learnt a lot about the psychoacoustics of listening, especially to subtle musical details. It's all about the music's emotional content rather than bringing the bass or midrange forward or back. We try to resolve these nuances to make the experience *real* rather than just blandly accurate.'



**ABOVE:** Inside the X 300 'zero-feedback' monoblock we see a 300VA toroid and a pair of devices for each supply rail mounted onto diecast aluminium heatsinking. The 'intelligent' fans kick-in at 58°C

## ON THE MONEY

As Cyrus's most expensive system to date it seemed fitting to start with a 24-bit/96kHz copy of 'Money' from Pink Floyd's *Dark Side Of The Moon*. Streamed from a NAS drive, the opening *cha-ching* of the cash register steps right out into the room giving an immediate sense of presence and scale. Bass guitar joins in with rich tones and fine detailing that allows it to connect seamlessly with your best tapping foot.

As the track picks up pace and the other instruments come in, the Cyrus system offers plenty of grunt and impeccable timing, crafting a very musical and involving performance. Both the top and bottom of the spectrum are treated with an even and well-tempered hand and this serves to highlight the system's truly lush midband. The sax solo soars through the track, etched into the soundstage and swelling easily into the room. Given a suitably 'classic rock' volume level, this sax sounds tangibly real.

Interestingly, some fiddling with the speaker toe-in showed the system's sensitivity to this part of the setup. With the speakers firing almost straight down the room the soundstage gained fabulous width and height but at the expense of vocal positioning which became rather smeared. The 'hot spot' angle of toe-in to achieve a perfect balance of width and focus is no more than a couple of degrees! The system seemed at its very best with a speaker toe-in that kept the soundstage relatively constrained yet delivered with pin-point precision.

Having borrowed Peter Bartlett's own demo server, a quick look at the content revealed a veritable festival of classic rock,

much of it in high resolution formats.

Fleetwood Mac and Elton John tracks both exhibited a crispness and fidelity that wholly belied their rather ancient roots and made you realise just what is possible from a high resolution render of an old favourite.

Playing 'Oh Daddy' from *Rumours* the Cyrus delivered Christine McVie into the room with a beautiful execution of her vocal tone and smoothness that oozed sexuality throughout. The simple piano arrangement was poignant and stark,

and the back drop blissfully low on hiss. Elton's 'Candle In The Wind' from *Goodbye Yellow Brick Road* was equally stunning, the Cyrus fuelling the song with passion and emotion throughout.

*'The Cyrus picked out Beth Hart's faint vibrato quality with ease'*

The Anniversary Stream X<sub>2</sub> is a very special network audio player indeed and partnered with the DAC XP32 and those potent power amps delivers music that wholly justifies the system price alone.

## UP TEMPO... TO 11

Switching to CD seemed to produce a slightly higher output for any given volume level, which was a little strange but not a major issue. Choosing something a little more up to date and up tempo I picked the challenging *Don't Explain* by Beth Hart and Joe Bonamassa. It's challenging because the engineer used a compressor so hard I am surprised he didn't burst, and then wound the gain up to 11.

Thankfully it doesn't faze the Cyrus. 'I'd Rather Go Blind' comes across smooth, refined and polished with rich bass and superb focus on Hart's vocal in the mix. The sustain at the end of her lines has a very faint vibrato quality and the Cyrus picks out the inflection with ease where lesser ➤



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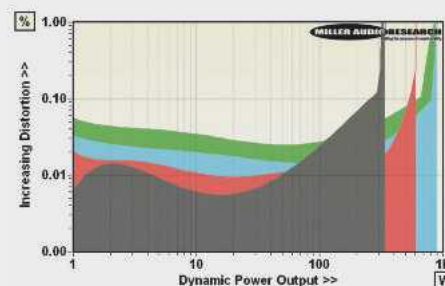


## LAB REPORT

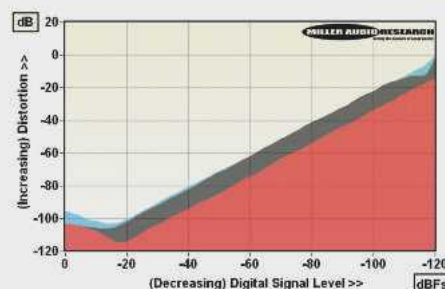
### CYRUS 30TH ANNIVERSARY SYSTEM

This short lab report cannot do justice to the scope of this Anniversary system, so I'll direct readers to the comprehensive QC Suite test reports available via the red 'download' button at [www.hifinews.co.uk](http://www.hifinews.co.uk). The real hub of the system is the DAC XP32/preamp which shares the same measured characteristics as the Cyrus DAC XP+ with its maximum 8.2V output, wide 112dB A-wtd S/N ratio and low 0.0006% distortion at 1kHz, rising to 0.0017% at 20kHz with 24-bit inputs at the maximum output. At -10dB to -30dB below full output, distortion falls to a minimum of just 0.0001% [see Graph 2, below]. Jitter is as low as ever with external S/PDIF inputs (as low as 14psec with 24-bit data) although evidence of low-rate noise-like jitter is far higher with the Stream X<sub>2</sub> network player as the source with all sample rates up to 192kHz. Jitter via the CD XT SE<sub>2</sub> CD transport and DAC XP32 is lower at the 16-bit limit of 115psec. All this the DAC XP32 shares with the DAC XP+, the major difference in its analogue upgrades reflected in the useful reduction in (balanced) output impedance down from 450ohm to just 49ohm here. Frequency responses are also exceptionally wide: up to +0.5dB/40kHz (96Kfs) to -3dB/80kHz (192Kfs).

Similarly, the 'anniversary' Mono X 300 amplifiers are deeply resonant of the original. When cool, the Mono X 300's distortion is 0.0035% (1kHz/10W/8ohm) increasing to 0.0065% before the fan kicks in at 58°C. The rated 235W/8ohm power output is easily surpassed in practice at 275W/8ohm and 435W/4ohm with a worthwhile dynamic headroom accommodating peaks of 340W, 605W and 905W into 8, 4 and 2ohm loads [see Graph 1, below]. PM



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



ABOVE: THD vs. digital level over 120dB dynamic range. S/PDIF and network inputs (48kHz/24-bit/1kHz, red); CD (1kHz, black and 20kHz, blue)

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	275W / 435W
Dynamic power (<1% THD, 8/4/2/1ohm)	340W / 605W / 905W / 870W
Distortion (DAC, 20Hz-20kHz, re. 0dBfs)	0.0006-0.0015%
Distortion (Amp, 20Hz-20kHz, re. 10W)	0.0042-0.064%
Freq. resp. (20Hz-90kHz, DAC / Amp)	0dB to -6.5dB / -0.85dB
A-wtd S/N ratio (DAC / Amp)	111.6dB (0dBfs) / 86.3dB (0dBW)
Digital jitter (CD / S/PDIF / network)	115psec / 14psec / 400psec
Power cons. (CD/network/DAC/amp)	9W/4W/13W/400W (15W idle)
Dimensions (WHD, each)	215x73x360mm

**LEFT:** The well-connected DAC XP32 (top) offers analogue and S/PDIF inputs and outputs to the power amps (bottom) via balanced XLRs. The Stream X<sub>2</sub> has network, S/PDIF and USB ins and S/PDIF out. Integrated power cable management keeps things tidy

intensity to the sound. Clearly the Cyrus system is more refined than it is raucous and that led nicely into a more relaxed listening session. The wonderful Emiliana Torrini's new album *Love In The Time Of Science* [One Little Indian Records] is one of those rare CDs without a filler track and is a masterpiece of contemporary chill-out music. The Cyrus produced a warm and wonderfully cohesive sound through all 11 numbers, seemingly unravelling the recording's slightly congested midband and elevating the whole ambience.

### ITS GREATEST STRENGTH

'Wednesday's Child' is a clean and simple track, and the Cyrus digs right into the recording from the opening keyboard notes. Torrini's soft vocal drifts like honey on a warm day and the bass line, once again, connects directly to your feet. The track has a wonderfully breezy feel and an openness across the soundstage that allows her voice to really drive the track along. There is a superb emotional connection that more analytical systems tend to miss in an effort to let you know what make and model the keyboards are.

This is the 30th Anniversary system's greatest strength: an ability to dispense with the hi-fi pretence and simply deliver the music. ☺

### HI-FI NEWS VERDICT

The 30th Anniversary system is a thoroughly polished package with outstanding design, ergonomics and sound. Its smooth balance and refined musical connection is addictive, appealing to all but hard core rock and dance fans, while the remote and iPad App offer seamless system control. With its engaging sound and startling resolution, particularly through the Stream X<sub>2</sub>, this is comfortably Cyrus's best to date.

Sound Quality: 85%



players would simply gloss over this minute detail.

The system's subtle bass and treble extension doesn't lift the recording by any great extent, so you are still left with the urge to beat the engineer repeatedly with a mic stand until he dumps the compressor. Like the best replay systems, of course, rubbish in equals rubbish out. Yet the Cyrus never lets the compression hinder this excellent track as it delivered solid bass lines and a level of refinement that kept the music truly alive.

With 'I'll Take Care Of You' from the same CD, I did feel I wanted a little bit more *chutzpah* as the intense guitar solo breaks half way through, as the Cyrus kept things a little too controlled for my liking. The answer was to utilise quite a few more of the X 300's watts, which brought the big B&Ws to life. The guitar solo hit more realistic concert levels, and with it a superb leading-edge attack that brought a renewed



# Chord DSX1000

Take Chord's award-winning QBD76HD DAC, add a network streaming client and stir into some ostentatious but instantly recognisable casework. Hey presto – the DSX1000  
 Review: **Keith Howard** Lab: **Paul Miller**

**A**n art editor colleague of mine from the days when I was a magazine staffer used to dare me to reject his work by saying, 'Love it or loathe it, you can't ignore it'. The phrase came to mind when I unpacked Chord Electronics' brand spanking new DSX1000 because Chord's brutalist rejection of Bauhaus design edicts offers up a similar challenge in metal. Love or loathe the Chord look, there's no gainsaying that the company is one of the few in the high-end diaspora to have created an aesthetic that is immediately recognisable from across a room, and achieves this without resort to displaying its name in large letters across the fascia. In fact the Chord nameplate is a model of discretion.

You could be forgiven for thinking at first glance that the DSX1000 is a small integrated amplifier, what with its two small forward-facing heatsinks located between the back panel and two rear outriggers. But this is actually a much more significant product for the Maidstone company: its first network player. What it has done to achieve this, in effect, is put its top-of-the-range QBD76 HDSD DAC on the end of StreamUnlimited's Stream700 audio streaming client – an off-the-shelf hardware solution for network audio we've talked of in *HFN* before which includes a 3.5in, 320x240 pixel colour display, supports up to 24/192 FLAC or WAV files via wired Ethernet (26/96 via a wireless connection), provides for internet radio and offers remote control via a smartphone app.

Round the back of the DSX1000 there are just two inputs – a BNC socket for S/PDIF connection and, of course, the Ethernet socket – and just two pairs of outputs, each either unbalanced via a pair of gold-plated phono sockets or balanced via three-pin XLRs: one at fixed level, for connection

to downstream components that have a volume control, and one a variable output, adjusted by an analogue volume control within the DSX1000, which allows for direct connection to a power amplifier.

There are no front controls other than what looks like a jog wheel but is actually a four-points-of-the-compass push-switch for navigating the menu that appears on the screen alongside it. On the other side of the screen is a deeply recessed sensor for the metal-bodied remote control provided.

## JUST A DODDLE

Network players are intended, of course, for use remote from the device on which the music files are stored – that's their *raison d'être*. Otherwise you would be crazy to swap the rich music-browsing experience offered by a monitor (even better, a touch-screen monitor) and player software such as JRiver Media Center for the clunkier streamer experience of

navigating music files via a small screen. But my listening room normally has no network running there, so when a streamer is here for review I set up the simplest possible network: my Mac mini, running Windows XP and Twonky Media, acts as the music server, and a Netgear RP614 router provides for Ethernet connection between it and the player.

Using this set-up, getting the DSX1000 to stream music was a doddle. Once Twonky had been selected as the media server, the DSX1000 found my music files and was ready to play them. Navigating and playing the files I found easier using the remote control than the four-way fascia control which, despite my heeding the user manual's injunction to 'Press any button *hard* for select function', didn't always react as intended. I imagine that some buyers would wish that the four-button push-switch also functioned as a volume control, so as to have handy rotary



**RIGHT:** Chord's Pulse Array DAC is lower left (against the output sockets) with screened switchmode PSU adjacent and StreamUnlimited UPnP/DLNA streaming client (green) topmost





adjustment of output level via the variable output sockets rather than via volume up/down buttons on the remote.

## UP WITH THE BEST

With any streamer that offers a local digital input, the first thing I want to try is a comparison between the same files played via that and via Ethernet. My experience is that the two never sound the same despite it being the same data; and as a rule I prefer the result from the local digital input to the streamed version. However, someone from the industry whose opinion I value, doing these comparisons, who hears the same differences as me, puts a different *value* on them, considering the streamed version to be as valid an alternative as the direct digital input.

Actually, after a lot of to-ing and fro-ing, that's what I eventually concluded with the DSX1000 – the two inputs certainly don't sound the same but the differences are essentially presentational. Via the S/PDIF input the sound was a little leaner, sparser and, on some material, arguably more engaging to listen to. Via Ethernet it was a bit warmer, the perspective a little closer,

and the music delivered with a sense of greater weight and control. The call could go either way depending on the recording, partnering equipment, etc.

Of more significance to most potential buyers, this initial listening confirmed that the DAC stage of the DSX1000 is right up there with the best: open and lucid sounding and capable of projecting wide, deep and stable images. It's a long time since the likes of the Bricasti M1 and dCS Debussy graced my listening room [*HFN* June '11 and Dec '10], and so making any detailed comparison with them is impossible this far removed. Nevertheless, it was amply evident that Chord's DSX1000 has the same stamp of class about it.

Partnering equipment, throughout the test, was a Naim NAC252/NAP250 pre-power combination and Thiel CS1.6 loudspeakers – items which all shine a harsh light on the quality of the music source. S/PDIF signals were, as usual, provided by a TC Electronic Digital Konnekt

**ABOVE:** Navigation of the menu in the colour display is either via the four-button control to its right or via the small, metal-bodied remote control, whose sensor is to the display's left

x32 FireWire interface from the Mac mini, with JRMC v17 as the player software.

## OPENING DOORS

Having satisfied myself that I wasn't missing anything by streaming the music,

I set about enjoying the DSX1000 – in streaming mode – on a wide range of music old and new, hi-res and lo-res.

I began with 'Riders On The Storm' from the remastered *The Best Of The Doors* [Elektra

7559-62468-2]. A friend in Australia was so shocked that I didn't have any Doors albums in my collection that he ordered it for me last year, but once it had arrived I put it on top of a pile of other discs awaiting ripping and it gathered dust. Given its vintage I expected the sound to be grim, so I didn't hurry to play it.

Silly me, because as the electric piano began playing in the left channel over the thunderstorm raging in the background I realised that the sound quality is actually rather good for the era. The DSX1000 did nothing to disguise the rather left-middle-right nature of the stereo but it certainly helped burnish this piece of rock history, making it an unexpectedly pleasant experience to regress pop music's most famous decade.

Encouraged by this I also sought out Led Zeppelin's 'What Is And What Should Never Be' (from *Led Zep II*), a track I normally find too compressed to stomach for very long. It would be exaggerating to say that it was transformed by the DSX1000 ➔

'The Chord  
certainly helped  
burnish this piece  
of rock history'

## GOING UPSTREAM

StreamUnlimited Engineering GmbH is a Viennese company that has cornered a significant chunk of the market in off-the-shelf network hardware that allows audio equipment manufacturers, lacking the necessary skills in-house, to create streaming products in which they can concentrate their expertise on the parts they know best: the audio circuits. It's a turnkey solution but one that allows customisation of the display to suit the brand concerned. So, for instance, the DSX1000 shows a Chord logo on the screen as it boots up. Any network-connected device which can run media server software such as Twonky Media can be the repository of audio files: not just a computer hard drive but alternatively a NAS (network attached storage) drive. In many setups, in fact, the NAS option is the better one. Not only can NAS drives combine a number of hard disk drives to provide prodigious storage capability, they also support various RAID modes that secure the data against loss due to hard drive failure.



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The first of an exciting new range, the Nagra JAZZ preamplifier is due to be followed by several new models designed by Audio Technology Switzerland. Watch this space!



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## DIGITAL MEDIA PLAYER



**ABOVE:** Balanced (XLR) and single-ended (RCA) analogue outputs, both fixed and variable, are joined by S/PDIF (on BNC) and wired Ethernet 'digital' connections

– compression is compression, after all – but the Chord streamer did the best job I've yet heard of accentuating the positives with this track and playing down the negatives. John Bonham's drums were mighty meaty.

Another, very different piece of music which was presented in a new light was the *Presto* from Haydn's String Quartet in D, Op.76 (a free 24/96 download from 2L Records' website). The playing is notable for its drive and commitment, but the recording can easily become hard and harsh on the louder sections – nowhere more so than in the 'd'DA, d'DA, d'DA' phrase that begins the piece. This can very easily get the music off to a disconcerting start.

### IT'S SNOW TIME

It was one of the tracks I used for the S/PDIF vs streaming comparison, and there was no doubt that via the former those insistent opening chords were as strident as ever. But when the track was streamed a remarkable change came over it. The energy of the playing was unaffected but the familiar occasional descent into raspiness was removed. I have never heard this track conveyed with such equanimity, particularly those formidable first chords.

Another piece I used for the S/PDIF versus streaming comparison was the 24/96 download of 'Snowflake' from Kate Bush's *50 Words For Snow*. This was a track where I appreciated the leaner, slightly better separated sound via S/PDIF, but the more I listened to the streamed version the more I appreciated its merits – particularly its ability to blend all the elements into an eloquent, immersive, infectious whole. The mesmeric, ethereal effect that I'm sure the

repeated piano figure and the treble voice of the snowflake ('Now I am falling...') were intended to invoke was irresistible.

I am used to Diana Krall's voice bordering on harshness in 'Narrow Daylight' (from *The Girl In The Other Room*), particularly on sibilants, but the Chord placed a much cleaner vocal over the background of a weighty piano sound.

The DSX1000 was also able to cut it with items that can all too easily sound lacklustre – for example, Fred Simon's 'Poetspeak', a laid-back number for jazz trio [Naim Label, 24/96]. There's nothing in your face about this recording: it is naturally distanced, with piano in the middle of the soundstage, double-bass to the left and drums to the right. But the playback system has to have a high level of transparency, when it becomes apparent that the cymbals are particularly cleanly captured and the double-bass is unusually natural in sound quality too. Suffice to say that with the DSX1000 playing this track I was encouraged to settle back for an evening listening session with a tumbler of malt whisky. ☺

### HI-FI NEWS VERDICT

Computer audio provides both non-networked and networked means of listening to music, each with pros and cons. If the network option is for you because you want to be able to listen remote from where your audio files are stored, the DSX1000 will deliver some of the very best sound quality available from a distant hard drive or NAS. As a first step into the audiophile streamer market, it's most impressive.

Sound Quality: 87%

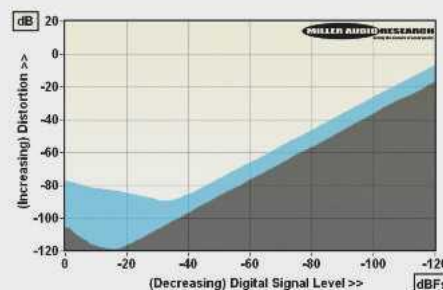


## LAB REPORT

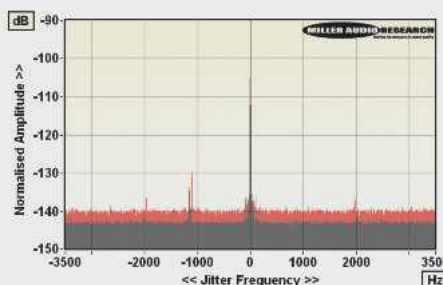
### CHORD DSX1000

There are clear parallels between the performance of this DSX1000 and Chord's QBD76HD and QuteHD DACs [HFN Sep '11 and '12], all featuring Robert Watts' WTA interpolating filter and Pulse Array DAC technology. The increase in high frequency distortion [blue trace, Graph 1 below] to 0.02% at 20kHz/0dBfs is a 'feature' as is Watts' protection of his IP: impulse data used to measure digital filter performance is detected within the FPGA and the output muted to prevent the time domain response from being analysed! Otherwise, the DSX1000 is truly state-of-the-art with bass and midrange distortion further reduced over the QuteHD to a mere 0.0008% at its peak 5.9V balanced output and just 0.00005% at –20dBfs [see black trace, Graph 1]. The A-wtd S/N ratio is a full 118dB and stereo separation >125dB.

In all respects, the performance of its S/PDIF and network connections yields identical results, although the latter will also handle 32-bit floating-point WAV files up to 192kHz (Chord only specifies up to 24-bit). Jitter is incredibly low at <10psec for 24-bit data at any sample rate from 44.1-192kHz [Graph 2, below]. A number of network audio players based on the StreamUnlimited platform suffer high jitter [see HFN Jan '13] but the DSX1000, like the MF CLiC [HFN Jun '11], can be numbered among the success stories. The frequency responses are even flatter and more extended than before, achieving a full 20Hz-90kHz span at ±0.2dB with 24-bit/192kHz media and 20Hz-20kHz ±0.04dB with 44.1/48k inputs. Readers may download full QC Suite test reports for the DSX1000's S/PDIF and network audio performance by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** THD vs. 24-bit/48kHz digital signal level over a 120dB dynamic range. S/PDIF and network connections are identical (1kHz/black, 20kHz/blue)



**ABOVE:** High resolution 24-bit/48kHz jitter spectra, S/PDIF (black) and via network (red). A superb result

### HI-FI NEWS SPECIFICATIONS

Maximum output level (balanced)	5.88Vrms at 63-68ohm
A-wtd S/N ratio (S/PDIF / network)	118.1dB / 118.0dB
Distortion (1kHz, 0dBfs/–30dBfs)	0.00077% / 0.00006%
Dist. & Noise (20kHz, 0dBfs/–30dBfs)	0.02% / 0.0028%
Freq. resp. (20Hz-20kHz/45kHz/90kHz)	0dB to –0.04dB/–0.12dB/–0.2dB
Digital jitter (S/PDIF / network)	9psec / 5psec
Res. @ –100dB (S/PDIF / network)	±0.05dB / ±0.05dB
Power consumption	13W
Dimensions (WHD)	420x88x355mm

# Kudos Cardea Super 20

Kudos Audio's new floorstander comes with cost-no-object crossover components and extremely careful pair matching  
 Review: **John Bamford** Lab: **Keith Howard**

**D**iscard undue concern over the bill for materials and you can make a loudspeaker that stands out from the crowd. It's what differentiates run-of-the-mill models from 'special editions' – me-too speakers from those aimed squarely at audiophiles looking for something out of the ordinary. In 2012, to celebrate the 21st anniversary of the British Kudos brand, company proprietor and loudspeaker designer Derek Gilligan introduced the £3500 Cardea Super 10 [*HFN* June '12], a go-for-broke 'supercharged' version of the company's 12 litre two-way standmount. Despite its premium price it has proved sufficiently popular that this year the company has followed up with a 'Super' version of its Cardea C20 floorstander.

So, as with Kudos Audio's compact C1 'bookshelf' model that's available also as the C10 (with a larger, better-spec'd tweeter) and the luxury Super 10 (the ultimate expression of the design, with very carefully matched drivers and audiophile-grade crossover components), the company's floorstanding C2 (£2450) is similarly available as an improved C20 (£3350) and, now, this 'super-improved' Super 20 (£4250).

Kudos has worked extensively with SEAS of Norway over the years in developing specific drivers for its various speaker models, the Super 20 employing the 29mm 'Crescendo K2' soft dome tweeter first introduced in the £13,000 Kudos Titan T88 flagship, a two-and-a-half-way floorstander with twin bass drivers in an isobaric arrangement.

The bass/mid driver in the Super 20 is a newly-developed version of the SEAS 18cm unit with hand-treated paper cone. It's used throughout the Cardea range, but upgraded for Kudos' Super models with copper shorting rings in its voice coil, designed to reduce eddy currents and minimise odd-order harmonics, along with an aluminium phase plug to act as a heatsink. The drivers are carefully matched in-house, at Kudos Audio's ever-expanding manufacturing facility in County Durham.

The aim of the Cardea designs is that the drivers should integrate as seamlessly as possible, requiring only a simple low-order crossover. As in the Super 10, crossover components in the Super 20 are individually tested and hand selected during assembly. These include Mundorf inductors and resistors and 'Supreme' (silver/gold/oil) capacitors. The enclosure is extremely rigid, formed of 18mm high density MDF with extensive bracing and internal damping with various (unspecified) compounds to minimise resonance, with a reflex port venting at the bottom of the cabinet. Standard finishes are black, satin white, and oak, walnut, rosenut or cherry veneers. Tineo and santos rosewood veneers are a £400 premium option.

## TESTED IN THE FIELD

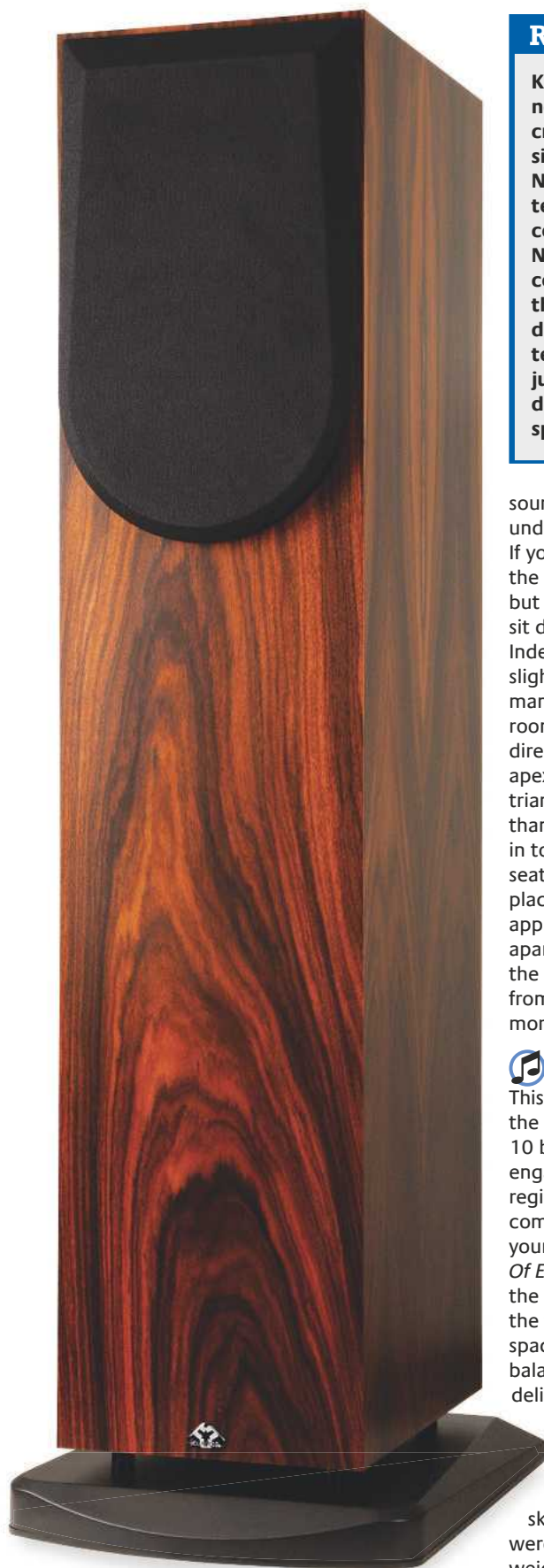
The enclosure 'floats' visually above a stabilising plinth which provides a fixed boundary gap for the downward-firing port. The plinth is a rigid tri-laminate structure of steel, damping compound and MDF. Further evidence of the design's attention to detail are the floor spikes: the Super 20s come with a set of exquisite Track Audio spikes [[www.trackaudio.co.uk](http://www.trackaudio.co.uk)] supplied in a wooden presentation box. These are beautifully crafted from stainless steel and thoughtfully contoured for penetrating thick carpet underlay. They don't come with spike shoes, however – so if your listening room has a polished wooden floor you may have to cross your dealer's palm with some extra silver...

Derek Gilligan takes a pragmatic approach to loudspeaker design, voicing his speakers by listening to prototypes in as many rooms (and dealers' showrooms) as possible before final tweaking. Says Derek: 'I've balanced the response of the speaker in order that it should

**RIGHT:** The 18cm bass/mid driver with its hand-treated paper cone, copper shorting ring and aluminium phase plug is made to Kudos' specification by SEAS, along with the 29mm Crescendo K2 fabric domed tweeter







## REMOVING THE LINKS

Kudos Audio's proprietor Derek Gilligan prefers single wiring to bi-wiring, not least because removing the links between the two halves of a split crossover can only be a good thing when striving to maintain as short a signal path as possible. Moreover Kudos speakers are often partnered with Naim amps, the two manufacturers having common distributors in some territories – including the large German market. Says Derek: 'Within the context of a Naim system and given the painstaking attention to detail that Naim's design engineers put into earthing arrangements, with a single-wire connection between amplifier and loudspeaker we are essentially continuing the star earth principle all the way down the chain to the speakers' drive units.' Kudos thinks its speakers should only sport two sets of input terminals when a customer intends to bi-amp them. The company charges just £125 for re-configuring its crossovers for bi-amping. Of course, if this is done retrospectively you would have to consider the cost of shipping your speakers to and from the Kudos factory at Willington.

sound musically and tonally correct under most normal listening conditions. If you measure the on-axis response in the nearfield it will have a rising treble, but nobody listens like that... unless you sit directly in front of just one speaker.' Indeed, they do sound best when heard slightly off-axis [see Lab Report]. For many listeners with typically-sized living rooms this will mean firing the speakers directly forward while sitting at the apex of the 'listening triangle' rather than toeing them in towards the hot seat. Recommended placement is approximately 2m apart and at least the same distance from the listening position, keeping them more than 45cm from room corners.

'The dark and haunting "Desire" was particularly spacious here'



## PERFORMANCES LIGHT UP

This Super 20 is very much a chip off the old block: just like its smaller Super 10 brother it sounds buoyant and engaging, its strength in the presence region making its music delivery highly communicative; the Super 20 really grabs your attention. I played Talk Talk's *Spirit Of Eden* [Parlophone CD PCSD 105], the dark and haunting atmosphere of the track 'Desire' sounding particularly spacious thanks to the speakers' vivid balance. The organ and guitar sounded deliciously authentic, the percussive embellishments highly resolved in this recording's artificially spacious sound image. The low frequency grumbings created by the loosely-skinned drum and deep bass notes were served up with commendable weight by this compact floorstander.

Of course, where the S20 scores over the C20 'bookshelf' is in providing greater clarity when listening to dense, multitrack recordings of progressive, symphonic rock or large-scale classical orchestral works. Bass goes a little deeper and has more weight and texture. As a consequence you get a little more insight into the formation of the music.

When Talk Talk let rip half way through 'Desire' the sound becomes pretty raucous – it's a challenge for any replay system to keep the brittleness in check – yet the Super 20 remained surprisingly civilised thanks to the clean behaviour of its tweeter, even when the gain was set at a thoroughly uncivilised level so as to enjoy the dynamic intensity of the band's performance.

Yet the speaker doesn't really deliver an easy-going, comfortable sound. I'd describe its sound as 'cool' rather than warm and cosy, and it's quite uncompromising in revealing the strengths and weaknesses of recordings. Moreover, its vivid clarity tends to shine a spotlight on *musical* performance too.

I moved on to an audiophile favourite album, the Oscar Peterson Trio's *We Get Requests* recorded for Verve in 1964, which certainly was a tremendous performance. I was listening to an excellent (albeit expensive) CD edition released by Seattle's First Impression Music specialist label [LIM K2HD 032], mastered in Tokyo's Flair Studios using JVC's K2 system. Thanks to the Super 20's ultra-clean sound, which is notably free of boxiness with its very rigid enclosure, the trio sounded really lively, the sense ➔

"the P10 will have an effect ranging from positive to positively startling". **Hi-Fi News**



PS AUDIO

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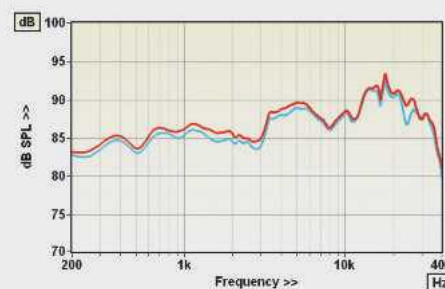
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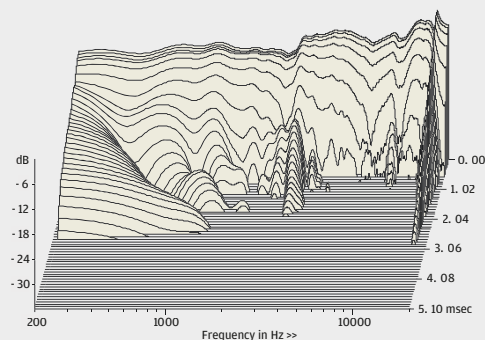
## KUDOS CARDEA SUPER 20

Kudos Audio's claim of 88dB sensitivity for the Super 20 is only a little optimistic according to our measurements, which recorded a pink noise figure of 87.1dB. In today's market context this is a little on the low side for a floorstander of these dimensions but justification for this is immediately apparent when you look at the Super 20's impedance. It has a minimum modulus of 7ohm (amply justifying its 8ohm nominal specification) and tightly controlled phase angles, as a result of which its minimum EPDR (equivalent peak dissipation resistance) is an unusually amplifier-friendly 4.3ohm at 444Hz. So the design emphasis appears to have been on making this an easy loudspeaker to drive rather than on achieving high sensitivity at the cost of creating a tougher amplifier load.

On-(tweeter)-axis frequency response [see Graph 1, below] is characterised by a marked shelving up in output at crossover to the tweeter followed by a rising trend thereafter, so the Super 20 will probably sound best when listened to a little off-axis, but not so far that off-axis drop-off of the bass-mid unit's output becomes an issue. Response errors will then be reduced somewhat from the measured  $\pm 5.2\text{dB}$  and  $\pm 5.0\text{dB}$ , 200Hz-20kHz, but the excellent  $\pm 0.6\text{dB}$  pair matching should be retained. Given the Super 20's sensitivity, impedance and cabinet size, bass extension of 50Hz (-6dB re. 200Hz using a diffraction-corrected near-field measurement) rates as a good result. The cumulative spectral decay waterfall [Graph 2] shows fast initial decay marred only by a resonant ridge around crossover and a tweeter mode at about 18kHz that, in all likelihood, will prove inaudible. KH



ABOVE: The Super 20's forward response shows a marked lift in presence/treble band output



ABOVE: Kudos' cabinet is well-damped and shows only very minor driver modes at 3kHz and 18kHz

## HI-FI NEWS SPECIFICATIONS

<b>Sensitivity</b> (SPL/1m/2.83Vrms – Mean/IEC/Music)	89.3dB/87.1dB/86.9dB
<b>Impedance modulus min/max</b> (20Hz–20kHz)	7.0ohm @ 164Hz 32.9ohm @ 1.9kHz
<b>Impedance phase min/max</b> (20Hz–20kHz)	-36° @ 3.7kHz 39° @ 780Hz
<b>Pair matching</b> (200Hz–20kHz)	$\pm 0.6\text{dB}$
<b>LF/HF extension</b> (-6dB ref 200Hz/10kHz)	50Hz / 39.0kHz/38.4kHz
<b>THD 100Hz/1kHz/10kHz</b> (for 90dB SPL/1m)	2.1% / 1.1% / 1.1%
<b>Dimensions</b> (HWD)	930x200x270mm

**LEFT:** Cardea models come with just one set of input terminals, as single wiring is preferred to bi-wiring [see boxout, p33]. Modifying the crossover for bi-amping costs a very reasonable £125

edges of transients, acoustic guitars having a bit more of a 'stringy' and slightly less 'wooden body' type of balance than some listeners might prefer. This could be observed with the duelling guitars of Acoustic Alchemy's Nick Webb (steel strings) and Greg Carmichael (nylon strings) on the title track of the duo's *Reference Point* album [GRP, GRD 9614], the speakers' forward presence bestowing a rather hyped, 'super-real' sound that accentuated the squeak of fingers on the strings and fretboards.

## SETS THE PULSE RACING

Although the Super 20's explicit nature is impressive, recordings such as this can sound a little forced. Nevertheless, the solidity and image focus set very high standards indeed. And the fact that the Super 20 has considerable presence certainly helps bring out the best of vintage recordings. I enjoyed immensely re-visiting Booker T & The MGs' 'Green Onions' from the golden age of Stax Records [24/192 download, HDtracks]. The band's infectious southern soul rhythms were served up graphically thanks to the Super 20's tight control of bass timing and broad, well-drawn soundstaging. It might not gloss over the cracks of splashy recordings but this speaker tracks musical dynamics with aplomb, rarely failing to set the pulse racing when the music commands. ⬆

## HI-FI NEWS VERDICT

Like the Super 10 'bookshelf', Kudos' S20 floorstander is quite expensive. So if you're looking for the biggest bang for your buck, look elsewhere. However, the premium price buys audiophile-grade internal components, excellent build quality and meticulous pair matching. If your room requires a compact floorstander and you can justify the price, you'll own a speaker that is indeed a little bit special.

Sound Quality: 79%

0 - - - - - 100



of acoustic palpable as the string bass and piano rang out in my listening room.

The Super 20 is nowhere near large enough to totally suspend disbelief, to create life-sized images of musicians performing in front of your sofa, nevertheless it does provide an ultra-clean window through which to observe a recorded event.

The transient leading edges of drummer Ed Thigpen's brushes on his snare and the ring of the cymbals were depicted beautifully, the rhythmic energy and sense of developing musical detail wholly captivating as the band worked its way through the album's repertoire.

The Super 20 does seem to slightly accentuate the leading

# Audio Research Reference CD9

Following a complete revamp of Audio Research's flagship series preamps, power amps and processors, here is a CD player/DAC worthy of the name 'Reference'

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

By now, there can't be a single hi-fi enthusiast who has failed to notice the new-found prolific nature of Audio Research under its new ownership. In addition to models throughout the range, the most ambitious undertaking has been, by its very nature, the complete overhaul of the much-adored Reference series.

In an embarrassingly short span, the company has revised the REF5 preamp, issued a limited-edition Anniversary model and produced the REF10, expanded the amplifier line-up to include two stereo and two mono models, and uprated the source components. The latest to join the catalogue is a replacement for the four-year-old CD8, which can serve as a stand-alone player, a transport-only front-end thanks to digital outputs, and – most importantly – a 'digital media bridge' of sorts, like the processor-only REF DAC. Indeed, to give it its full name, the unit is the Reference CD9 CD-DAC, the hyphenated suffix making it clear that this can be a one-stop purchase for those who feel compelled to enter the 21st century.

## AN OPEN AND SHUT CASE

Just as a standalone player, the REF CD9 has to follow an illustrious predecessor. What Audio Research has done, though, is make clear that the 'New Digital Era' is only partially CD-based. The day before writing this, a UK survey found that 20% of music consumers no longer buy any CDs. So, to facilitate the age of streaming, downloads and computer-based music libraries, ARC has produced what a coarse individual such as I might call 'the bastard offspring of a CD8 and a REF DAC'.

Looking at it primarily as a CD player, there's a valve-based analogue section and valve power supply regulation, the tube complement totalling five 6H30s and one 6550C. It dawned on me, after my usual

negative response to its top-loader format [see boxout], that Audio Research was wise to use this topology, because it means that you cannot put anything on top of the CD9 which would hamper its ventilation. Not that the unit runs hot, but valves do like air circulating around them.

Utterly conventional in its CD mode, the REF9's door slides open manually. CDs are held in place on the Philips PRO2R transport with a small, light puck. The player will not operate if the puck hasn't been positioned properly and the door closed fully.

To ensure the highest standard of playback beyond the CD element, to guarantee its appeal to those who use music-handling software like Fidelia, WinAmp and other alternatives to iTunes, as well as to serve the needs of incurable hobbyists with a bunch of transports that they like to swap around, the CD9 accepts

asynchronous USB 2.0, AES/EBU, RCA and Toslink digital inputs, compatible with data up to 24-bit/192kHz on all inputs. ARC supplies a CD with the software to enable you to use the USB 2.0 input, which was a straightforward procedure for both Windows and Mac operating systems.

Facilitating further practicality, the back contains, as well as the digital inputs, AES/EBU and BNC digital outputs, single-ended RCA and balanced XLR outputs, and mains input. I used the REF9 in balanced output mode in a system consisting of REF5SE preamp and REF75 power amp, feeding Wilson Sophia 3s, wired with YTER.

## ON DISPLAY

What lets you know that the DAC section isn't simply 'REF DAC Lite' are the user-variable settings. Via remote, you can select sample rate conversion – aka 'upsampling' – for all digital inputs as well



**RIGHT:** Borrowing from ARC's DAC8 and DSPre products, the new CD9 uses a pair of Burr-Brown PCM1792 DACs with 6H30 double triodes in the analogue stage, plus a tube-regulated PSU





as CD. Better still for those who prefer to be hands-on even with digitalia, there are selectable digital filter settings. This recipient of trickle-down technology from the REF DAC and the DSPre is fitted with quad 24-bit DACs running in mono mode, with dual-master oscillators: one is dedicated to 44.1/88.2/176.4kHz sample rates, the other to 48/96/192kHz rates.

While all of those LEDs might suggest constant trips to the fascia, everything can be handled via remote. The left-most of the three vertical LED displays indicates (top to bottom) sample rates of 192, 176.4, 96, 88.2, 48 and 44.1kHz. The middle one shows the inputs for CD, RCA, USB, AES and Toslink. The extreme right column shows Fast or Slow Filter, Upsample and Power.

Below the LED displays are seven metal control buttons for (from left to right) Power on/off, followed by transport controls, Previous, Play, Next, Pause, and Stop, followed by Input. The unit is offered in black or silver finished casework.

## GOING NATIVE

While most of us are conditioned to accept digital playback in a 'default' condition, Audio Research and other high-end houses believe that digital sources can

be optimised. I was delighted to find that experimenting with the user-adjustable parameters provided varying results from CD to CD: it was not always a case of simply setting everything to what one assumed was the best.

So, like messing about with cartridge loadings, here you have its digital equivalent. The sample rate conversion allows playback in native resolution or via upsampling, which ARC suggests is offered 'for the first time' for a USB input.

What tickled me pink was finding out that so many CDs sounded more lifelike and natural with native resolution than via upsampling, but (as I have suggested) it differed from disc to disc, and even when I compared different editions of the same recording.

If selected, 44.1kHz (CD) and 88.2kHz are upsampled to 174.6kHz, while 48kHz and 96kHz are upsampled to 192Hz. When upsample is 'off', the incoming rate is maintained. In use, it's merely a case of another press of the button on the now-all-metal remote. However, when changing

*'You will find the 24-bit Beatles tracks sound just spectacular'*

**ABOVE:** Top-loading allows plenty of real estate for a conventional display and row of transport controls, as well as 15 LEDs to show sampling rate, chosen input and digital filter choices

from one hi-res media file to another (eg, from 24/48 to 24/96 or vice versa), the upsampling light goes off and must be turned on again via the remote if you wish to have the upsampling to remain in effect.

Compounding one's opportunities for fine-tuning is a selectable digital filter, with either fast, which is a standard 'brickwall' filter, or slow roll-off. The latter is a low-order filter with reduced ringing (lower time domain distortion) but higher 'conventional' distortions. The Editor explained to me that this option is better

suited to 96kHz-and-above digital inputs.

What was less straightforward to determine was which filter to choose and whether or not to upsample. I dug out pairs of CDs, such as two versions of The Beach Boys' sublime *Surf's Up*: the 2000 release [Capitol 7243 5 25692 2 9] and the 2012 version [Capitol 50999 404439 28]. For all I know, they could be the same exact masterings, but they sounded sufficiently dissimilar to call for some deft use of the remote.

I won't bore you with which settings I preferred for which CD, but neither the upsampling rate nor the filters were the same for both discs. Differences included the 'texture' of sound effects, notably on 'Don't Go Near The Water' and 'Student Demonstration Time' – the latter showing its greatest susceptibility to sampling rates when the voice is played through a bullhorn. This proved true with pair after pair: two different versions of Fleetwood Mac's *Rumours* separated by five years, old Beatles CDs versus 2009's, etc. ➔

## A LOADED QUESTION

Audio Research CEO Terry Dorn dreads seeing me at shows because I usually whine about something petty, like a display's colour. Another gripe is top-loading, because of my selfish desire to put 19in-wide boxes into racks, and not always with enough space above to allow a hand-plus-CD to enter the gap.

As Terry explained the first time I broached this topic – a response echoed by nearly every manufacturer of top-loaders – it's a simple, inescapable fact that a transport section that remains in a fixed spot has greater mechanical integrity than those with either a tray that slides out to accept the disc, or even an entire mechanism that slides out on a massive block. When one is dealing with the precision required for a laser to track a CD – the concomitant servos, suspension, etc – one can grasp that top-loaders avoid all manner of potential woes. Indeed, one blogger has mooted that nearly every problem he's ever had with CD players involved the loading mechanism. OK, I stand converted...

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#### TRANSCENDENT

"This is an open window into the control room, yes, but more importantly it's endlessly satisfying with it. It's like a musician's musician's speaker; capable of deep levels of insight into what's going on in a recording."

"...these loudspeakers do sensationally well with orchestral music (their dynamic range serves up those tympani with shock and awe on Pickard's 'Flight of Icarus'), they also start and stop with the sort of speed that's needed to play bangin' dance music."

Alan Sircom, Hifi+ issue 78

#### IDEA

"Compact but perfectly formed, the Avalon Idea is imbued with a deep thread of natural timbre and musical performance, and teaches us just how good stereo sound reproduction can be. Highly recommended."

Martin Colloms, HifiCritic December 2012

"Tonally spot on, the overall presentation gives a sense of individual musicians working together, and the voices of those instruments, and the singers hanging together beautifully."

"...there's a physical authority to the sounds emanating from the Idea that makes the speakers so easy to get on with. And that's the big bonus of the Idea. You sit in front of them enjoying your music. A lot."

"For those who crave a big image in a small room, I can't think of a better design whatever the cost."

Alan Sircom, Hifi+ issue 84



All products designed by Neil Patel





## CD PLAYER/DAC



**ABOVE:** Balanced (XLR) and single-ended (RCA) analogue outputs are joined by USB, optical and coaxial S/PDIF and one AES/EBU digital input. Digital outs are offered too

It suggests that the CD9 can address differences in mastering, because that's all that should differ if the same musical performances are taken from the same master tapes. I do not want to belabour this: I merely wish to point out the possibilities for tweekers to fine-tune CD playback from the listening seat.

### TRANSPORTED...

While I realise that for many readers USB will prove not just an attractive option, but a crucially important inclusion, it was clear that the sound of this player with CDs was generally of a superior level to what I heard via USB – with or without upsampling engaged – and I could not make '24-bit/48kHz' USB audio delivered via my iMac and Mac Air sound better than the CD9's on-board disc player. But I accept that if one has the skill to tweak computer-stored material, one might find greater rewards with genuine high resolution downloads.

Example: if you have high-res downloads played through a worthy program – I'm partial to Fidelia with 192kHz WAV files and others in FLAC – you will find that material such as the 24-bit Beatles recordings (available only in the form of the 'metal apple' USB stick) and the 'free' 96/24 download provided with Paul McCartney's *Band On The Run* reissue [MPL/Concord Music 888072-32565] sounds spectacular. I played them via my Macs in the best manner I could muster, and they have the edge over CD by exhibiting smoother transient decay, reduced sibilants and more punch.



Returning to CDs, it was reassuring to confirm my initial reaction to the player's seductive silkiness. The first track I played was Lou Rawls' 'At Last' from the CD of the same name [Blue Note CDP 7 91932 2]. The 'tell' was the opening piano, followed by a sliding note on guitar. At the risk of using bizarre, wine critic-grade flights of fantasy, the sensation was a chime-like sound, as real and vivid as that of the wind-chimes my wife has hanging in our back garden.

It was glassine-translucent without being brittle, tinkly without sounding thin. Of course, it serves as the backing for two of the strongest voices ever to pair on disc, Rawls' rich-as-Amarone depths with Dianne Reeves' near-operatic soaring. Their call-and-response sections positioned the two singers with uncanny presence.

I was transported back to hearing Rawls live in London nearly a quarter-century ago. When hi-fi does that, we're talking about something more transcendent than even music: it's a time machine. ☺

### HI-FI NEWS VERDICT

Top-loaders or not, I have no qualms in admitting this is one of the finest players I have ever heard, up there with the Marantz CD-12/DA-12 and the Metronome Kalista. Regardless of the parameter – textures, space, attack, neutrality – it excels. The lack of artifice is as good as it gets. Even if you have no current use for USB, the REF CD9 is one of the most satisfying chasm-closers since, well, the REF DAC.

Sound Quality: 86%

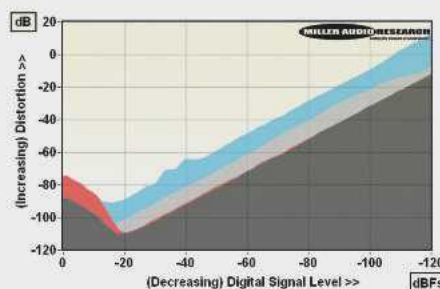


## LAB REPORT

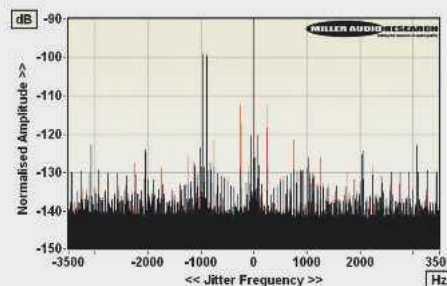
### AUDIO RESEARCH REF CD9

Unlike many CD player/DACs where an 'upsampling' option has little observable effect here, as in the DSPre [HFN Aug '12], the differences are very measurable. With 48kHz/24-bit inputs, at the maximum 4.8V balanced output, distortion is slightly higher in Upsampled than Native mode (0.022% vs. 0.014% at 1kHz/0dBfs and 0.016% vs. 0.012% at 20kHz/0dBfs) although, certainly over the top 20-30dB of its dynamic range, it looks as if the tube output stage is the major contributor [see Graph 1, below]. ARC's USB mode follows the same trend right down to -90dBfs whereupon the signal is truncated (a limitation of the USB driver), squeezing its resolution to about 15-bits. Jitter, on the other hand, is very low at 25psec via USB versus 140psec for the same 48kHz/24-bit data via S/PDIF, increasing to 500psec in Native mode. The re-clocking during upsampling clearly reduces its latent jitter [see Graph 2, below].

The A-wtd S/N ratio, at 105dB, is about 12dB behind what can be achieved with PCM1792 DACs but this is consistent across all inputs and modes. The response varies from -0.5dB/20kHz and -2.2dB/45kHz (Sharp filter) to -3.45dB/20kHz and -5.8dB/45kHz (Soft filter) in Native mode. The latter enjoys much reduced pre-ringing at the expense of poorer alias rejection – down from 120dB (Sharp) to just 8.1dB (Soft) – a trade-off that really comes into its own with 96kHz/192kHz than 44.1/48kHz media. Readers may download full QC Suite test reports for the Reference CD9's CD, S/PDIF (with native vs. upsampling) and USB performance by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** THD vs digital level at 1kHz (black = 24-bit/48kHz, Native; red, Upsample mode) vs CD (grey = 1kHz; blue = 20kHz, all in Upsample mode)



**ABOVE:** High res. jitter plots, 24-bit/48kHz inputs (red = Native, 500psec; black = Upsample mode, 140psec)

### HI-FI NEWS SPECIFICATIONS

Maximum output level (Balanced)	4.78Vrms at 300-520ohm
A-wtd S/N Ratio (CD / S/PDIF in / USB in)	105.7dB/106.0dB/105.8dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.0135% / 0.0002%
Distortion & Noise (20kHz, 0dBfs/-30dBfs)	0.012% / 0.0015%
Freq. resp. (20Hz-20kHz Fast/Slow filter)	+0.0dB to -0.50dB/-3.5dB
Digital jitter (CD / S/PDIF in / USB in)	122psec / 140psec / 25psec
Resolution @ -100dB (CD / S/PDIF input)	±1.0dB / ±0.1dB
Power consumption	108W
Dimensions (WHD)	480x134x390mm



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# hi-finews GROUP TEST

Considering investing in a new integrated amp? This month we've picked six solid-state examples, three utilising Class D technology and offering USB inputs to service PC audio

## INTEGRATED AMPLIFIERS £650-£1250

### TESTED THIS MONTH

ARCAM FMJ A19	£650
CREEK EVOLUTION 50A	£700
PIONEER A-70	£800
PEACHTREE AUDIO NOVA125	£1100
NAD C 375BEE	£1200
PRIMARE I22	£1250



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



The pinnacle of sound quality within its peer group



Great sound, great value and a cut above its rivals

### • CD PLAYERS • TURNTABLES • CARTRIDGES • SPEAKERS • AMPLIFIERS • HEADPHONES • INTERCONNECTS •

The integrated amplifier was once regarded as but a small step on the stairway to hi-fi heaven. Very much the poor relation of a two-box pre/power amp combination, it was the province of impoverished audiophiles only – something you bought while saving up for a ‘proper amplifier’. Not these days though, as manufacturers make increasingly audacious attempts to get the humble integrated to sound serious. The six different products in this month’s group illustrate the point. Despite a range of design philosophies, all make a serious stab at giving decent sound, meaningful power output and useful facilities. Yet they’re each aimed at slightly different buyers.

The main dividing line is over functionality: specifically, whether or not a digital input is fitted. With the Pioneer, Peachtree and Primare you can fire your computer (via USB), CD transport, Blu-ray or Sky+ HD box straight in to your hi-fi system without having to buy a DAC. The others here are traditional analogue-only designs, although the Creek has an optional tuner module (making

it a receiver) and it will also take a plug-in phono stage, as will the NAD.

If you want a DAC and phono stage as standard, your only choice is the Pioneer – which has just about every feature under the sun. Contrast this with the Primare, an elegantly minimalist design, digital input option notwithstanding.

Another major point of divergence in this group is the power amplification mode chosen. The Arcam runs in Class A/B and uses chip-based output devices, the Creek and NAD do the same via discrete transistors. That leaves the Pioneer, Peachtree and Primare, which are all Class D. Some will claim to hear a family sound and insist that one type of operation sounds better than the other. Ultimately there’s good and bad in both and how well it’s done is just as important as *what* is done. Our tests hold the answers...

### TESTING TRACKS

I used a range of music to assess the sound. ‘Morning Child’ from 4hero’s *Play With The Changes* [Raw Canvas RCR CD02LE] is an excellent 2006 recording with a wide bandwidth, crashing dynamics and

beautifully recorded strings, brass and keyboards – a veritable physical workout for any amplifier.

Dire Straits’ ‘Lady Writer’ from *Communique* [Vertigo 0042280005221] is a 1978 analogue recording made with painstaking attention to detail at the legendary Compass Point studios in Nassau. It’s beautifully smooth and sumptuous, and the song’s relaxed groove is a toe-tapping treat.

Annie Lennox’s cover of ‘No More I Love You’s’ comes from the 1995 *Medusa* album [BMG-068]. Her breathy, ice-cold vocals are a stern trial of any amp’s ability to remain smooth, and the song’s dense, compressed production makes it all the more of a torture track.

Finally, Channel Classics’ superlative recording of Mahler’s Symphony No.4 [CCS SA 26109] has vast scale and depth. This tests the ability of the amplifier to recreate the recorded acoustic of the performance, and flags up any issues with image placement within the stereo soundstage. ➞

REVIEWS BY NICK TATE  
LAB TESTS BY PAUL MILLER

### • CD PLAYERS • TURNTABLES • CARTRIDGES • SPEAKERS • AMPLIFIERS • HEADPHONES • INTERCONNECTS •



# Arcam FMJ A19

It is 30 years since Arcam launched its first 'affordable' integrated, and now up pops the new FMJ A19. And what a refined design it is, too. This amplifier lacks the chintz of some of the others here, but gives little away in terms of build quality, despite its relatively low price.

Central to the user experience is its green alphanumeric display, which obligingly tells you the source and volume selected, and shows status messages (eg, when headphones are plugged in). The volume control and other switchgear work very smoothly and there's a degree of intelligence built in – it will automatically power down after a user-selectable period of non-use, for example.

It can't quite match the Pioneer, NAD or Creek in the feature stakes but is the equal of the others here, with a standard MM phono input which can be repurposed as a line input. There's a preamp output for bi-amping, something Arcam is a great believer in. Under the hood, this Class A/B design is tidily laid out with a decent sized toroidal power transformer. With a finely finished, non-resonant case, the amp weighs in at 8.5kg. Overall, it feels classy for what is essentially a budget product.

## CUTS TO THE CHASE

With Arcam amplifiers, excuses have sometimes had to be made regarding dynamics and rhythm – but not this one. Indeed, the FMJ A19 proved something of an ear-opener in the way it was able to cut to the musical chase.

Allied to this is a satisfying tonal warmth, generous bass and an expansive soundstage that was totally unexpected at the price. For example, Dire Straits' 'Lady Writer'



came over with a tremendous sense of urgency, the Arcam ramming the rhythmic point home with some deft handling of the bass guitar and snare work. Yet it was smooth too, making Knopfler's slightly smoky, coarse voice sound like he'd been on the Bailey's Irish Cream.

It wasn't all fast and furious however: although this amp got into the groove better than most in the group it still had the subtlety and insight to give the recorded acoustic a fine sense of shape. 'No More I Love You's' saw the FMJ A19 set up a vast soundstage from which large amounts of information flowed out. And as the volume went up, the amp kept its shirt on – never showing any sign of dynamic distress.

Although not quite the most detailed, atmospheric or neutral competitor here – and blessed with a bass that may be too fruity for some – this amplifier proved unexpectedly effective at getting into the swing of things and really rocking out. Indeed, like a drunken uncle at a wedding, it almost seemed to be enjoying life more than perhaps it should!

Detail freaks and neutrality seekers may balk at such licentious behaviour, but music lovers won't. It's a great performer at the price.

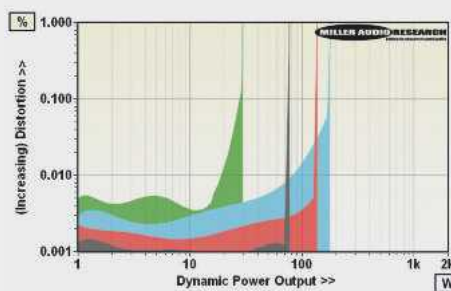
Sound Quality: 80%



**ABOVE:** Fluorescent display shows source selected and gain level. Volume knob works smoothly and buttons are tactile. There are 3.5mm jack line-in and headphone fascia sockets

## HI-FI NEWS LAB REPORT

Our most affordable amplifier in this month's test is arguably the 'cleanest'. The dynamic power profiles [see Graph below] not only illustrate its 75W, 135W and 180W headroom for musical peaks but also clearly show the very low levels of distortion enjoyed over 95% of its dynamic range. Figures vary from as little as 0.0009-0.0014% from 1W to its rated 50W through bass and midrange, increasing to 0.016% at high frequencies. The A19's A-wtd S/N ratio is also very wide indeed – a full 92dB (re. 0dBW) or some 20dB wider than the Peachtree. What passes through this wide open window is another matter, of course. Arcam has engineered a relatively steep high treble roll-off to reduce the impact of ultrasonic noise from digital sources, amounting to -0.4dB/20kHz down to -11.7dB/100kHz into 8ohm. The output impedance is a moderate 0.07ohm, increasing to 0.145ohm at 20kHz, so the system response shouldn't vary overmuch. Stereo separation is good to 75dB through bass and midrange. PM



**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm loads (green)



**ABOVE:** Seven RCA line inputs are offered, and one can be switched to MM phono operation. A power socket for Arcam r-widgits is fitted, plus pre out for bi-amping

Power output (<1% THD, 8/4ohm)	64W / 100W
Dynamic power (<1% THD, 8/4/2/1ohm)	77W / 135W / 178W / 30W
Output impedance (20Hz-20kHz)	0.065-0.14ohm
Frequency response (20Hz-100kHz)	-0.24dB to -11.7dB
Input sensitivity (for 0dBW/50W)	32mV / 223mV
A-wtd S/N ratio (re. 0dBW/50W)	91.8dB / 108.8dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.0009-0.016%
Power consumption (Idle/Rated o/p)	19W / 190W
Dimensions (WHD)	430x70x283mm



# Creek Evolution 50A



**M**ichael Creek has worked hard to make his new entry-level integrated modern and versatile, giving it an alphanumeric OLED display, full electronic switching and backlit fascia buttons. It's also a clever modular design which can take one of three plug-in Sequel Phono MM/MC modules, an optional Ambit FM/AM tuner module (£100) or even an infrared sensor (£25), letting you hide the amp away and operate it via the remote. According to Creek, there will be a plug-in DAC board coming soon, too.

The Evolution 50A is decently finished, but not as slick as any of the others here: the slimline pressed steel casework in particular is disappointingly resonant. The alloy fascia panel looks nice though, and the switchgear works well. Inside, the all-discrete transistor design sports a big toroidal transformer with separate windings for both high and low current analogue, plus logic circuitry. Smaller, parallel power supply smoothing capacitors are used, as opposed to single larger ones, and circuitry is fully balanced – it's rare to see XLR connections on an integrated amplifier at this price.

## SUPERB DYNAMICS

The most musically enjoyable and the least coloured sounding of the group, the Creek gave unalloyed pleasure. It's similar to the Arcam in the wonderfully engaging way it performs, yet has an altogether cleaner and more insightful nature. For example, 'Morning Child' sounded magnificent, the amp showing its taut, tuneful bass, glass-clear midband and sweet, spacious treble to best effect.

Powerful and detailed, this amp nevertheless really impressed in the way it strung all the strands of the



mix together in so natural a way. Vocal phrasing was on another level to all others in the group, and the percussive piano shone through the busy mix like no rivals here.

In 'Lady Writer' everything from bass guitar to hi-hat cymbals shimmered with detail and texture. Vocals were more direct and urgent sounding than with the other amps, yet never sounded strident.

Although it didn't have the sumptuous warmth of the excellent Arcam, the Creek dug even deeper into the musicians' subtle playing inflections to give an eerily lifelike sound. It suited the Mahler especially well, giving everything order and form, making the Arcam sound just a little too louche and the others disjointed by comparison. The result was a lovely, three-dimensional recorded acoustic inside which the orchestra could live and breathe. Here the Creek proved itself the absolute class of the field.

Dynamically it was superb, seemingly having as much in reserve as all save the NAD, and able to keep its powder dry even when called to deliver 'No More I Love You's' at anti-social volumes. It maintained rhythmic cohesion while serving up vast amounts of grunt without complaint. A brilliant all-round performer and epic value for money.

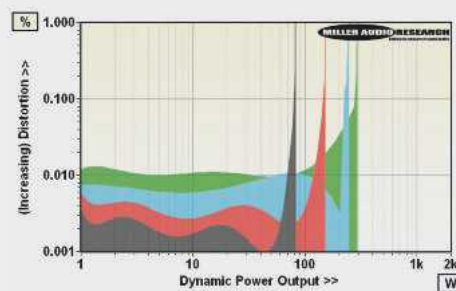
Sound Quality: 85%



**ABOVE:** Chunky brushed alloy fascia and fine-pitch OLED display are impressive, as are the slick-acting back-lit buttons, but the rattly pressed steel case rather lets the side down

## HI-FI NEWS LAB REPORT

Rated at 55W/8ohm, the Evolution 50A still delivers a full 2x64W/8ohm and 2x100W/4ohm with momentary increases to 85W, 155W, 245W and 295W into 8, 4, 2 and 1ohm loads under dynamic, music like conditions [see Graph]. The output impedance is ~0.04ohm from 20Hz-20kHz so the amp/speaker system response will not vary significantly with swings in speaker impedance. Into a benign 8ohm load the 50A shows a gentle treble roll-off amounting to a mere -0.2dB/20kHz out to -3.8dB/100kHz. This is the first Creek amp to feature balanced inputs and offers an A-wtd S/N ratio of 89dB (re. 0dBW) with hum and noise just -80dBV (0.1mV). Distortion is very consistent from 0.003% at 1W to 0.002% at the rated 50W through bass and midrange, though there's almost inevitably an increase at high frequencies, reaching 0.02% at 20kHz/10W. Channel balance is a tight ±0.01dB at 1W output (re. 500mV in) and stereo separation >70dB through the midrange. **PM**



**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm loads (green)

<b>Power output</b> (<1% THD, 8/4/2/1ohm)	64W / 100W
<b>Dynamic power</b> (<1% THD, 8/4/2/1ohm)	85W / 155W / 245W / 295W
<b>Output impedance</b> (20Hz-20kHz)	0.038-0.041ohm
<b>Frequency response</b> (20Hz-100kHz)	+0.0dB to -3.75dB
<b>Input sensitivity</b> (for 0dBW/55W)	134mV / 995mV
<b>A-wtd S/N ratio</b> (re. 0dBW/55W)	89.0dB / 106.4dB
<b>Distortion</b> (20Hz-20kHz, 10W/8ohm)	0.0009-0.019%
<b>Power consumption</b> (Idle/Rated o/p)	9W / 180W
<b>Dimensions</b> (WHD)	430x60x280mm



**ABOVE:** Rear panel sports blank sockets for optional Ambit tuner module. Four RCA inputs, one of which is doubled with balanced XLRs. Remote trigger sockets too



# The Legacy Lives On



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# Pioneer A-70

**S**tylistically, Pioneer's flagship integrated amplifier is pure 1980s retro – blue LEDs notwithstanding. That's a good and a bad thing. It is beautifully finished and feels among the nicest to use here; and it has a welter of facilities including a USB digital input for computer audiophiles and a surprisingly listenable MM/MC phono stage.

It certainly meets the 'feel the width' test at a spine-worrying 17.1kg. However, the downside is that some folk won't like such a big, 'technical' looking bit of kit which looks dumpy compared to the sleek Peachtree Audio.

Potential Pioneer owners will doubtless like the fact that the A-70 sports multiple inputs, one of which is a direct digital link to the internal ESS Sabre32 DAC chip. Under the hood, this Class D design has twin power transformers, one each for the power amp and preamp sections, each shielded in separate blocks; and a rigid under-base is used to minimise resonance.

## CRISP AND UPFRONT

Like its casework, the A-70 has a big, chunky sound. Bass is one of the stronger here, making 'Morning Child' sound cathedral-like in its size and scope, with huge tracts of low frequencies underpinning a vivid midband and sparkly treble. Indeed, tonally the Pioneer has a crisp, upfront nature that doesn't hide the recording from the bright light of day. That said, it never descends into harshness, and is able to serve up high levels of power without getting hot and bothered.



**ABOVE:** Fascia offers A and B speaker switching, source-direct and MM/MC selection, plus unusual power amp direct

Unfortunately the amp can bring a slightly mechanical gait to the way it plays rhythms. Whereas the Arcam, Creek and NAD let the music bounce along, the Pioneer is more reserved. Dire Straits' 'Lady Writer' flagged this up, the A-70 sounding leaden despite an otherwise crisp and open sound.

Soundstaging is impressively wide and clear, with decent image location but, again, the Mahler didn't flow as well as it should, and switching to the internal DAC didn't help – sounding a tad thinner and more cerebral than with my Audiolab M-DAC reference. A fine starter converter for computer audio, but no match for a decent separate design. Overall, a good all-round amp, but not as special as the similarly priced Arcam or Creek.

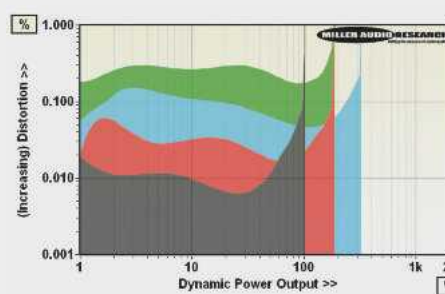
Sound Quality: 70%



**ABOVE:** Two pairs of speaker binding posts dominate the back panel, along with USB and coaxial digital inputs and phono in, plus four standard RCA line inputs

## HI-FI NEWS LAB REPORT

This latest Class D amplifier consumes 25W when idle (<1W in standby) but just 170W at its rated 2x65W/8ohm power output. This amounts to a 76% efficiency – high by Class A/B standards – and increases further to 85% at its maximum output which is rather closer to 2x82W/8ohm and 2x135W/4ohm. Unlike the Class D Primare, Pioneer's A-70 offers even higher output under dynamic or music-like conditions, reaching 100W, 190W and 320W into 8, 4 and low 2ohm loads but its response is still load-dependent, like the Class D Peachtree. Pioneer has 'tuned' the A-70's filter resonance (+17dB/48kHz unloaded) to yield a slight treble lift of +0.5dB/20kHz and +1.3dB/35kHz into 8ohm but with a gently rolled-off treble (–1.2dB/20kHz) into a lower 4ohm load. Distortion is also load and frequency-dependent, from a low of 0.001% at 1kHz/8ohm to 0.01% at 1kHz/4ohm and 0.1% at 1kHz/2ohm [see Graph] with 0.04% at 20kHz/8ohm. PM



**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm loads (green)

Power output (<1% THD, 8/4ohm)	82W / 135W
Dynamic power (<1% THD, 8/4/2/1ohm)	100W / 190W / 320W / 185W
Output impedance (20Hz–20kHz)	0.040–1.53ohm
Frequency response (20Hz–100kHz)	+1.3dB to –13.2dB
Input sensitivity (for 0dBW/65W)	25mV / 208mV
A-wtd S/N ratio (re. 0dBW/65W)	78.2dB / 96.3dB
Distortion (20Hz–20kHz, 10W/8ohm)	0.001–0.04%
Power consumption (Idle/Rated o/p)	25W / 170W
Dimensions (WHD)	435x142x362mm

# Peachtree Audio Nova125

Here's an amplifier that stands out from the crowd – its radiused casework looks truly modern, unlike most of the others here. Oddly, there's a small fascia window behind which is a single 6N1P triode valve which forms part of a switchable (via remote control) tube buffer in the preamp circuit. Another standard fitment is an ESS Sabre 9023 upsampling DAC, linked to an asynchronous USB input. Galvanic isolation is used, so any noise from the digital input is blocked from the rest of the circuitry – an important feature for computer audiophiles.

The fascia sports touch-sensitive, backlit buttons for source selection and power, and is made from anodised aluminium, set into an MDF case that comes in a choice of high gloss black, cherry or rosewood real wood veneers. It's pleasingly compact yet decently sturdy.

Like the Pioneer, it's a modular Class D design and is cleanly laid out inside with an efficient power supply, standby transformer and multiple regulated supplies.

## CLEAN AND SHINY

Here's a clean and shiny sounding amplifier that gives an enjoyable listen, possesses a decent grip on the fundamentals of the music, and doesn't make any major mistakes.

Feed it a widescreen production like 'Morning Child' and the Nova pushes out a soundstage that's nicely spacious but just a little close to the plane of the loudspeakers – the others here offer better depth perspective. Tonally, it's certainly 'well lit' by group standards, the

**RIGHT:** Clean, modern fascia uses tube buffer as a visual centrepiece, although you'll need the remote control to activate it! The back-lit touch controls work nicely

amp throwing a bright spotlight on the recording. This means that even super-smooth tracks like 'Lady Writer' can sound lively with brighter speakers, but the upside is that there's always plenty of detail and a crisp midband to enjoy. The switchable tube buffer made next to no difference in the reference system, taming the treble just a touch but not meaningfully.

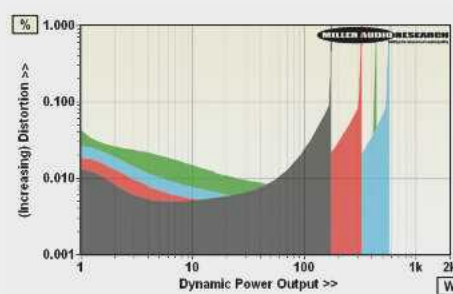
Like the Pioneer and Primare, this amplifier can sound just a little pedestrian, lacking a sense of flow and slowing things down a touch too much. On classical material this effect is less pronounced, but the inability to render the true texture of strings spoiled things slightly – even if the overall effect was still pleasant. The onboard DAC gave a decent sound with plenty of energy and a taut, firm bass – but it might not beat a good budget offboard converter. An interesting product then, but one that's challenged by conventional competition.

Sound Quality: 70%



## HI-FI NEWS LAB REPORT

Three of the six amplifiers in this month's test are Class D types but Peachtree is the only model using an ICEPower module from B&O. This balanced Class D architecture has been improved and now appears less sensitive to speaker load – its response rolling very gently away into 8ohm (−0.12dB/20kHz) but optimised for lower impedances (0.0dB/20kHz into 4ohm and +0.1dB/20kHz into 2ohm). The power output is substantial too, easily besting its 2x125W/8ohm rating at 2x155W/8ohm and 2x270W/4ohm with sufficient headroom to accommodate 175W, 325W and 575W into 8, 4 and 2ohm loads. So the Nova125 is more load-tolerant than the Class D Primare, for example, but its S/N ratio is rather poorer at just 72dB (A-wtd, re. 0dBW). The channel balance error is also weaker at 1.1dB (re. 500mV in/0dBW out). Once again, the Class D filtering network almost inevitably causes a rise in high frequency distortion, from 0.003% here at 10W through bass and lower midrange to 0.07% at 20kHz. PM



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

Power output (<1% THD, 8/4ohm)	155W / 270W
Dynamic power (<1% THD, 8/4/2/1ohm)	175W / 325W / 575W / 440W
Output impedance (20Hz–20kHz)	0.009–0.035ohm
Frequency response (20Hz–100kHz)	−0.23 to −4.8dB
Input sensitivity (for 0dBW/125W)	39mV / 442mV
A-wtd S/N ratio (re. 0dBW/125W)	72.1dB / 93.1dB
Distortion (20Hz–20kHz, 10W/8ohm)	0.0026–0.075%
Power consumption (Idle/Rated o/p)	24W/300W
Dimensions (WHD)	376x111x292mm



ABOVE: The Nova's 4mm speaker outlets are balanced (beware grounded speakers) with one analogue input, two digital coaxial, one optical and one asynchronous USB





# NAD C 375BEE

**N**ADs are industrially styled with a refreshing lack of gimmickry. And this is a large and heavy (15.3kg) example of the breed packed with facilities, as you'd expect towards the top of the NAD range.

The grey metal front panel is festooned with fiddly buttons, along with a 3.5mm mini-jack socket. The defeatable tone controls work well, offering sensible boost and cut, although are best switched out completely. It doesn't feel as swish as the Pioneer or Primare, but is still well screwed together.

Inside, this discrete Class A/B transistor design boasts a chunky Holmgren toroidal power transformer and short signal paths. The switchable soft clipping circuit allows the C 375BEE to overload more gracefully – great for parties but it can degrade the sound slightly at normal listening levels, so was switched out. The rear has an access slot for the optional PP 375 phono module and switching for bridged operation, which (with an additional amp) is claimed to deliver a thumping 330W into 8ohm.

## BARREL-CHESTED BASS

This is a smooth, open amplifier with a warm tonality, backed up by a barrel-chested bass and monstrous power. 'Morning Child' was a lovely listen with a capacious soundstage inside which was plenty of detail, although it's never forced on the listener. In line with other NAD amps, it is excellent at conveying the texture of the instrumentation – such as the bowing of cello strings or breathy, raspy brass. It also



**ABOVE:** Fascia offers a welter of input switching, plus speaker selection. Has soft clipping and bridged mode LEDs

proved especially easy to focus on individual elements in the mix.

The Annie Lennox track showcased the C 375BEE's open nature but the song didn't quite convince rhythmically, plodding along slightly and with less emotional purchase. You'd not actively dislike the NAD – it made everything it touched sound very appealing – but it does lack that last hint of emotional commitment offered by the Arcam and Creek.

It made a fine job of the Mahler, detailing the subtle acoustic signatures of the instrumentation and their respective positions within the concert hall. Dynamically however, while able to capture the full weight of the orchestra, it didn't swing from quiet to loud with quite the poise of the best of the rest.

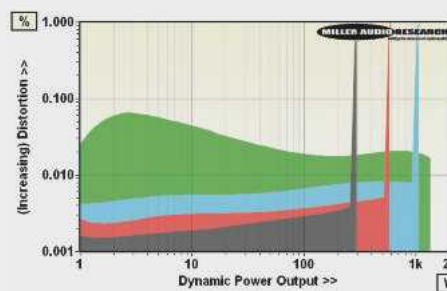
Sound Quality: 75%



**ABOVE:** Five RCA inputs plus two tape loops and pre out/power in sockets, the latter with variable pre out for bi-amping. Blanking plate is for optional phono stage

## HI-FI NEWS LAB REPORT

Hawk-eyed readers will have noticed that the dynamic power plots accompanying these amplifiers are all scaled up to 2kW, if only to accommodate the substantial 1.3kW/1ohm (36.6A) output possible from the NAD C 375BEE. Huge dynamic outputs are a regular feature of NAD's amplifiers with their commutating power supplies, but the massive 300W, 580W and 1.1kW reserve of the '375BEE into 8, 4 and 2ohm loads puts it well ahead of the Primare or Peachtree despite their similar *continuous* power ratings. The 91dB A-wtd S/N ratio (re. 0dBW) is very wide too, while distortion is not only steady with power output (0.0016% at 1W to 0.0038% at 150W) but also impressively so versus frequency (0.0012-0.0017%, 20Hz-20kHz at 10W/8ohm). The '375BEE is also a true 'wide bandwidth' amplifier whose response stretches out to -0.5dB/100kHz into 8ohm, only falling to -0.5dB/20kHz and -2.2dB/100kHz into 1ohm. PM



**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm loads (green)

Power output (<1% THD, 8/4ohm)	205W / 210W
Dynamic power (<1% THD, 8/4/2/1ohm)	295W / 580W / 1.06kW / 1.34kW
Output impedance (20Hz-20kHz)	0.036-0.080ohm
Frequency response (20Hz-100kHz)	+0.0dB to -0.53dB
Input sensitivity (for 0dBW/150W)	30mV / 381mV
A-wtd S/N ratio (re. 0dBW/150W)	91.0dB / 112.8dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.0012-0.0017%
Power consumption (Idle/Rated o/p)	80W / 630W
Dimensions (WHD)	435x133x352mm

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# Primare I22

If looks could kill, this Swedish designed amplifier would get life. Despite being the baby of the company's range, there's no sign of its modest status – with a satin finished aluminium fascia and superb detailing to its largish casework. Total weight is 12.5kg and there's an option of black or titanium finishes; both are superb.

It treads the line between minimalism and convenience, sporting only unbalanced analogue inputs and an optional isochronous USB-equipped digital input card (£400) that adds coaxial and optical – making a total of seven inputs. In conjunction with the fluorescent display, you can name inputs and set volume and balance levels for each. Operation is a breeze, just a case of selecting volume and toggling through the sources.

Inside, it sports two bespoke 'Ultra-Fast Power Device' power modules, running in Class D. A switched mode power supply is employed, and enhanced with PFC (Power Factor Correction).

## SURFACE ALLURE

Crisp and bristling with detail, there's a lot right about the Primare's sound. Indeed, compared to the Peachtree and Pioneer it's a model of insight and sophistication, yet it often failed to string all the component pieces of the music together in a natural way. 4hero's 'Morning Child' was a case in point: on so many levels it was lovely, with a nice, full bodied cello, a sweeping, rasping cor anglais and lots of subtle percussive elements twinkling inside the mix like stars in the night sky.

But somehow it just failed to knit everything together convincingly, a trick the Arcam and Creek did with



aplomb. The Primare I22 had power aplenty, but its bass came over as somewhat detached from the rest of the song, which in turn appeared a little shut-in compared to the best of the rest this month.

'Lady Writer' underlined this: the surface of the sound was lovely, with just the right amount of light and shade, plenty of detailing and a surprisingly good vocal tone. The amp let us in a little closer to the recording than some here, with a bit more analogue tape hiss audible than with the Arcam, for example. Trouble was, when asked to get into the rhythmic swing of things, it seemed too busy-sounding to get my feet a-tapping.

This effect was arguably most obvious with classical fare, which typically washed past without much fanfare. It didn't articulate the position of the instruments in the recorded acoustic terribly well either. Going via the digital input bought a little more bass grip and a slightly more cohesive feel, but still the I22 sounded like it was going through the motions. Beautifully styled and built, the I22 nonetheless lacks some competitive edge.

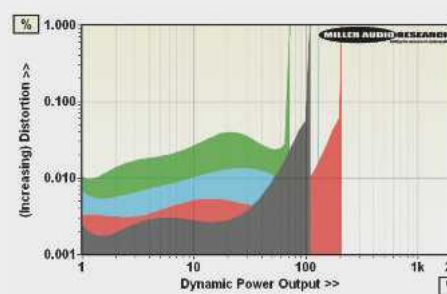
Sound Quality: 75%



**ABOVE:** An essay in minimalism, with the central display showing input selection and volume, controlled respectively by the left pair of buttons and the right knob. Very slick action

## HI-FI NEWS LAB REPORT

As the costliest Class D amp in our group test, Primare's UFPD technology also renders it the most compatible. As a true single-ended design (like the Hypex modules), the I22's frequency response does not vary with speaker load impedance, reaching -0.4dB/20kHz with a gentle, resonance-free roll-off to -14.6dB/100kHz that's consistent (within ±0.3dB) from 8ohm down to 2ohm. Like other Class D amps, however, distortion does climb rapidly at high frequencies – from just 0.0015% at 1kHz/10W to 0.08%/20kHz and 0.3%/40kHz. There's also a gentle increase in distortion with power output from 0.0016% at 1W to 0.013% at its rated 80W through bass and midrange. In practice, the I22 delivers a full 110W/8ohm and 200W/4ohm albeit with little dynamic headroom. Finally, the 7.8kHz idle tone detected in the I32 amplifier [HFN Jun '11] is reduced here so the I22 has an improved, if lower-than-average 81dB A-wtd S/N ratio. PM



**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm loads (green)



**ABOVE:** Fine finish extends to back panel; digital input card offers optical, coax and USB. IR sockets join four pairs of RCA line-ins plus tape loop and speaker binding posts

Power output (<1% THD, 8/4ohm)	110W / 200W
Dynamic power (<1% THD, 8/4/2/1ohm)	110W / 210W / 130W / 70W
Output impedance (20Hz–20kHz)	0.019–0.105ohm
Frequency response (20Hz–100kHz)	+0.0dB to -14.6dB
Input sensitivity (for 0dBW/80W)	32mV / 290mV
A-wtd S/N ratio (re. 0dBW/80W)	80.9dB / 99.9dB
Distortion (20Hz–20kHz, 10W/8ohm)	0.0015–0.08%
Power consumption (Idle/Rated o/p)	24W / 190W
Dimensions (WHD)	430x106x420mm



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# GROUP TEST VERDICT

• CD PLAYERS • TURNTABLES • CARTRIDGES • SPEAKERS • AMPLIFIERS • HEADPHONES • INTERCONNECTS •

**P**eachtree's Audio Nova125 is an undeniably versatile and well drawn product, but it was arguably the least memorable on test. Its crisp, clear sound is reasonably enjoyable to listen to, but it never sufficiently stirred my soul to capture the visceral thrill of the music. Still, it is well made and of course excellent value, especially if you have no intention of investing in a separate digital converter.

The Pioneer A-70 really is a good all-rounder, but suffers from being priced too closely to its tough competition. So much about this amplifier is beyond reproach, from the build quality to the operational flexibility – only its slightly 'matter of fact' sound marks it down. With plenty of power, strong bass and lots of detail, there's still a lot to like – it's just that it lacks the musical exuberance of higher ranked amplifiers here.

Primare's I22 is a beautiful amplifier by any standards, let alone those at its price point. Styling and build are exemplary, and the unit confers a real sense of class that none of the others has. It's a decent enough sounding unit too, producing a polished 'hi-fi' performance that will have many perfectly content. Again though, it just didn't quite gel on a musical level and the result was often a performance that focused more on the surface of the sound than its inner rhythm. The optional digital input card is a nice feature but this does bump the I22 into another price bracket.

## IRON-FISTED POWER

I was rather more convinced by the NAD C 375BEE. This behemoth has massive power on tap and the tremendous authority that comes with it – as if an iron fist is conducting the music from on high.

It offers a solid and well-structured sound with a wide and deep soundstage and plenty of detail, too. Factor in its useful facilities (including party-friendly soft clipping and bridgeable operation) and it's a potent package at the sub-£1000 price.

However, for just over half this sum comes the Arcam FMJ A19 which, where power is less of an issue, can sound even better still.

It's a little less detailed across the midband and softer in the bass, but makes up for it with a foot-tapping presentation that seems to dive right into the musical fray and splash around having fun. It's arguably less able than the NAD in pure hi-fi terms, but a rewarding listen all the same. Factor in a decent smattering of power and

useful facilities, and it represents excellent value for money.

## WONDERFUL LUCIDITY

But the winner is the Creek Evolution 50A. It shares the Arcam's euphony, but builds on it with a good deal more detail, insight and grip. The result is a highly transparent, modern sounding solid-state amplifier yet one that is marvellously musical and

engaging. It just digs right into the mix and serves it all back to you in a wonderfully lucid way. The Creek is undeniably versatile with its range of plug-in

modules, and is nice to use too – although it wins no prizes for finish. Somehow though, this doesn't matter as soon as you switch it on and listen: this has to be the very best value mid-price integrated on the market right now.

*'The Creek has to be the best value mid-priced integrated now'*



**ABOVE:** NAD's C 375BEE (bottom) is a bruiser with power enough to raise the roof. Surprisingly perhaps, the affordable Arcam FMJ A19 (middle) gives it a close shave in the sonic stakes, while its Creek Evolution 50A rival (top) proves a musical superstar

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Music is our Passion

# MBL 1511F

This DAC from Germany's high-end MBL marque boasts battleship construction and immaculate build quality. But it's not even the company's top model...

Review: **John Bamford** Lab: **Paul Miller**

Welcome to a world of truly luxurious audio. From the portfolio of Berlin's MBL Akustikgeräte, the 1511F D-to-A converter is almost as large as the Mark Levinson amplifier that sits in my equipment rack. Built around a substantial metal chassis with brushed aluminium panels and polished acrylic trim pieces, it weighs 16kg and sports five digital inputs and three line outputs (one balanced and two single-ended). The outputs are simultaneously active should you wish to feed your main system, a secondary system and a separate headphone amplifier, for example. As it's nothing other than a DAC, yet costs as much as many hi-fi enthusiasts' entire music systems, you'd be right to assume it aspires to being 'up there' with the best of them...

## DIFFERENT THRILLS

This is one of the components in MBL's Noble Line range, a step up the price ladder from the company's 'entry level' Corona Line separates [*HFN* Sep '12]. OK, so it could be judged a 'mere toy' if compared with the company's Reference Line 1611F DAC that costs twice the price, or if put alongside the wildly elaborate form of Light Harmonics' Da Vinci DAC [*HFN* Apr '13] which, despite having only two inputs, costs (gulp) £20k. Still, this is like comparing an AMG S-Class Mercedes with a Ferrari: you'd expect them to offer different thrills, both equally exhilarating.

The 1511F's front panel houses a large VFD status panel flanked by two rows of control buttons that govern input selection, standby, mute, and allow setting of the display brightness in seven steps (including off). One button labelled True Audio disables the DAC's error correction circuits. It is recommended that True Audio is engaged 'for maximum sound quality'. An error light in the display will warn if

incoming data is corrupted – when playing a badly scratched CD, for example – in which case disengaging True Audio might improve playability by obviating clicks and dropouts. The company's Noble Line range includes a CD transport (model 1521A) to partner the 1511F, the former naturally supplied with a remote handset that will also control the DAC's major functions. Made of alloy and finished in black or silver, the remote is available separately for £175.

## AIMING FOR A BALANCE

Previous incarnations of the 1511 dating back some five years featured a proprietary 'SACD Link' for marrying with appropriate MBL disc players, but since hi-res audio is now predominantly computer audio-based this has been replaced with a USB input. And this current version employs an improved 'descrambling algorithm' claimed

to deliver a 'smoother transition between the low-level delta sigma and high-level multi-bit parts' of the DAC.

As with the USB and S/PDIF inputs of the Corona C31 CD player/DAC [*HFN* Sept '12], all of the 1511F's inputs are limited to accepting data up to a maximum of 24-bit/96kHz, which might disappoint number-counting obsessives collecting hi-res downloads in the largest possible file sizes. I'm also guilty in this respect: it's kinda daft, since I know that many of today's finest-sounding DACs that accept 192kHz data may subsequently downsample internally. Moreover, the S/N ratio and low-level linearity performance of some of the latest top spec DACs featuring 32-bit/384kHz-capable USB inputs (and even more rarified DoP functionality for native playback of DFF files) often suggest resolution capabilities no better than 16-17



**RIGHT:** A work of art comprising full-sized and surface-mount components together with Crystal's popular CS4398 DAC. Note status LEDs for power, error, mute and de-emphasis





bits. Ultimately, one must conclude it is the sound quality performance of a DAC – and its *true* ability to offer substantially-better-than-CD resolution with hi-res recordings – that's paramount, not the numbers on its specification sheets.

On this topic, MBL's chief development engineer Jürgen Reis says: 'Research shows that when we compare the sound of a 96kHz or 192kHz recording through today's replay systems, the differences we perceive are due to typically-employed digital filtering techniques.'

'Since we believe the ear to be four to five times more sensitive to *pre*-ringing than to *post*-ringing, we've designed a psychoacoustically optimised filter type best described as approximately four-fifths minimum phase and one-fifth linear phase, as we're aiming to give the best balance between impulse behaviour, stopband rejection and band pass transition.'

'When developing our asynchronous USB MCMI [Master Clock Mode Interface] we focused on low jitter clocks, with low noise and high bandwidth voltage regulators, and aimed for extremely high isolation to

avoid computer noise entering the D-to-A stage. We did in fact intend to make the F version of the 1511 24/192-capable, but I was not happy with the sound because the bass lacked some punch and the midrange was missing some definition.'

While at the core of the 1511F lies the same Crystal CS4398 DAC seen in the Corona C31 player/DAC, there are many differences in design topology. The 1511F's display and control power supplies are fed from separate windings on the power transformer and

isolated from the analogue and digital paths with opto-couplers. To further lower interference there are *two* input receivers. An auxiliary receiver with fixed oscillator measures incoming sampling rate, isolated from the DAC's digital audio path to minimise ingress of noise. Its 'voicing' is also different from the C31's [see boxout].

### ANALOGUE LOVER'S DELIGHT

If you've witnessed one of MBL's demonstrations at an audio fair, its electronics driving the company's unique

'Muted trumpet  
displayed just  
the right amount  
of searing blast'

## SYSTEMATIC DESIGN


Along with Tokyo's TAD Labs and Connecticut's Krell Industries, MBL of Berlin is one of only very few high-end audio manufacturers producing complete replay systems from source to loudspeakers. Doing so affords complete control, allowing tuning of the electronics for precisely the sound character they desire. Says MBL's chief development engineer Jürgen Reis: 'Although the DAC circuit and output drive chips in our 1511F are the same as those used in our Corona Line C31 CD player, the DAC has been tuned to sound quite different. With more expensive Noble Line components such as this, we want to give our customers a more emotionally-oriented sound; one could say a more "analogue-style" sound, with smoother and more relaxed high frequencies. Where necessary we employ higher-grade internal components if we judge them to deliver more musical enjoyment. And in the 1511F in particular, we have tweaked the group delay of the digital bi-phase signal so the bass delivers more "rhythmic swing". Since the acoustic aspect is tuned differently, the measurements will be different.'

**ABOVE:** Blue VFD shows incoming USB sampling frequency. With the other inputs it reads CD when data is seen to be 44.1kHz, DVD-V if 48kHz and DVD-A if 88.2kHz or 96kHz

Radialstrahler omnidirectional speakers (which have multiple segment strips of carbon fibre acting as bending-mode radiators when a signal is applied to their voice coils), you'll know that when tuning and voicing its components Reis and his engineering colleagues are hardly working in the dark. The firm's larger speaker models create high fidelity images of musicians that are convincingly lifelike.

Listening to the 1511F via balanced (XLR) connection to the Mark Levinson No.383 amplifier and Townshend monitors in my listening room [click on 'Meet the Team' at [www.hifinews.co.uk](http://www.hifinews.co.uk)] I thought it sounded richly textured and colourful. I was reminded of the sort of lyrical, 'filmic' quality I experienced last year when playing host to CEC's elaborate belt-driven CD transport together with the Japanese specialist firm's DA3N DAC [*HFN* Nov '12].

In some ways you could describe the sound character as an analogue lover's delight – inasmuch as it's pungent and meaty, with an invitingly warm midrange and super-smooth treble quality. There was certainly no sharp-edged 'digital hardness' to be heard here. Even when playing barren, clinical-sounding recordings, the 1511F unquestionably seduced me with its charms. I re-visited the somewhat vicious 'Grounds For Divorce' from Elbow's *The Seldom Seen Kid* [Polydor 1764098] and found it a little less comfortable than with the softer-focused CEC DAC, I concede. With the 1511F the energy was bolder and crashing guitars and percussion more strident – and, I'm bound to conclude, rather more honest.

Indeed, I judged the 1511 to be beautifully balanced. Yes, the bass was bold and punchy – hey, I like it like that! – while remaining always to appear 'calm', 

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## OUTBOARD DAC



**ABOVE:** Two coaxial, one optical (S/PDIF) and XLR (AES/EBU) digital inputs are joined by a USB port. There is one coaxial digital output but a total of two single-ended (RCA) and one balanced (XLR) audio output. Input sample rates are limited to 96kHz

self-assured and even-handed. My favourite rock and jazz/rock recordings (countless live Zappa albums, alongside 1970s-vintage live performances of Focus and Ian Carr's Nucleus, to name a few of my references) were delivered with immediacy and delicacy in equal measure, together with outstanding dynamic qualities.

I can't concur wholly with Reis's description of the 1511F sounding 'more analogue and relaxed' than his C31 player/DAC, since I found the C31 exceptionally smooth and luscious-sounding. In my system, at least, the 1511F sounds less creamy and more tightly-focused than the C31, with better transparency thanks to its 'blacker blacks'. And where I judged the C31 to be a bit euphonic, with a coloured sense of richness, the 1511F sounded more open with Patricia Barber's *Companion* live set from 1999 [Blue Note/Premonition 724352 29632]. Where MBL's cheaper DAC never fails to draw you in to a musical event, this 1511F paints better holographic images, with a deeper and more lifelike sense of three-dimensionality.

### AUTHENTIC ZING

Digiphobes adamant that most digital replay sounds remorseless and barren really should bow to the intimacy and involvement the 1511F delivers. I was knocked for six by the way it remained composed while tracking the dynamic contrasts throughout the song 'GiornoNotte' from Italian singer Alice Pella's *Little Dream* album [Suono Records SR001]. The combination of the electric piano's energy and its aggressive zing seemed particularly authentic, while the muted trumpet displayed just the right amount of body and searing blast. I was also carried away by Otis Redding's

timeless 'Sittin' On The Dock Of The Bay' from his posthumous 1968 *Dock Of The Bay* album [24/96 download, HDtracks]. The way in which the 1511F presented images was glorious, instruments emanating from a black background and portrayed vividly in space, the layering of drum kit, electric guitar and accompanying instruments clearly depicted. It also produces a charming, welcoming sound – I'd dare to describe it 'a sound for relaxing to at home' rather than analytical studio-type monitoring. I've no doubt the voicing of MBL's electronics is beautifully matched to its loudspeakers which render dimensional space in the most tactile fashion.

Let's face it, if *your* day job necessitated sitting in front of a replay system of such high calibre for hour upon endless hour, listening to music and making judgements on the subtle subjective effects caused by changes in the electronic and mechanical design of your sources and amplifiers, you'd be bound to conclude 'Well, there sure are worse ways to earning a living.' ☺

### HI-FI NEWS VERDICT

Choosing any component is a matter of system integration: what does it do for you in *your* system? MBL's 1511F DAC is indeed 'up there', its sound waiting to be judged alongside the finest high-end DACs available at any price. Its ability to paint spookily realistic images out of silence is nothing short of fabulous, while its build quality shows carefully considered engineering both inside and out.

Sound Quality: 86%

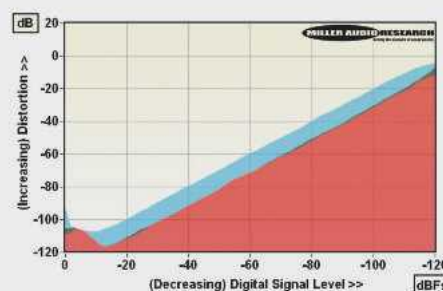


## LAB REPORT

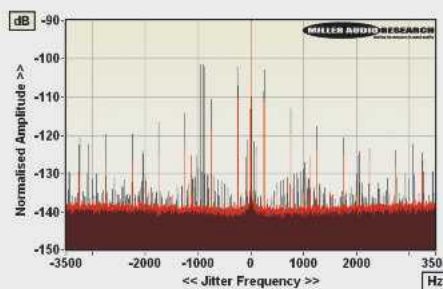
### MBL 1511F DAC

Although we have only recently featured the MBL Corona Line C31 CD player/DAC [HFN Sep '12], the 1511F DAC actually bears a closer technical relationship with the older 1531 CD player [HFN Oct '06]. The digital filter characteristics of Crystal's legacy CS4398 DAC have been 'tweaked' here to minimise any pre-echo at the expense of greater post-echo artefacts, yielding what MBL describes as a filter with a performance that's 80% minimum phase and 20% linear phase. The impact on frequency response is most evident with 44.1/48kHz inputs, which roll off within the treble region to the tune of -1dB/12kHz and -3dB/20kHz. The effect is less marked with 96kHz digital inputs which reach -0.5dB/20kHz and -3.5dB/45kHz. Higher sample rates are not supported but the USB input arguably offers the more refined performance with jitter falling from 580psec (S/PDIF) to 190psec [see Graph 2, below].

Maximum output is a solid 3.9V through the balanced XLRs which offer a moderate 96ohm source impedance while the 113dB A-wtd S/N ratio holds true via S/PDIF and USB inputs. Distortion is exceptionally low at <0.0003% through the midrange over the top 30dB of its dynamic range while figures <0.0005% at 20kHz over this same range (and channel separation of 130dB) pay testament to the quality of MBL's analogue output stage [see Graph 1, below]. There's only one oddity to report – the USB input 'clips' with a 0dBfs/20kHz digital input in True Audio mode. Readers can download full QC Suite test reports detailing the MBL 1511F's S/PDIF and USB performance by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



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



**ABOVE:** High resolution jitter spectra comparing USB (red) and S/PDIF (black) inputs with 24-bit/48kHz data. Jitter is lower via USB at 190psec

### HI-FI NEWS SPECIFICATIONS

Maximum output level (balanced)	3.93Vrms at 96ohm
A-wtd S/N ratio (S/PDIF / USB)	113.1dB / 113.1dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.00009% / 0.00016%
Dist. & Noise (20kHz, 0dBfs/-30dBfs)	0.00025% / 0.00049%
Freq. resp. (20Hz-20kHz/45kHz)	+0.0dB to -3.0dB/-3.5dB
Digital jitter (48kHz/96kHz/USB)	580psec / 300psec / 190psec
Resolution @ -100dB (S/PDIF / USB)	±0.2dB / ±0.9dB
Power consumption	19W
Dimensions (WHD)	450x425x113mm

# Lyra Delos

Lyra's new entry-level moving-coil cartridge costs as much as many manufacturers' range-toppers, so does it justify its price?

Review: **Nick Tate** Lab: **Paul Miller**

**V**inyl giveth and vinyl taketh away. On one hand, you have the last physical music carrier that represents the signal in analogue form (unlike CD). On the other, you have a precision mechanical engineering challenge that would seem almost impossible to overcome. Cartridges have to ride the groove in an accurate yet compliant way – in effect measuring it, while at the same time not imposing their own physical presence.

To this end, Lyra designer Jonathan Carr has devoted a large part of his life to developing a range of moving-coil pick-ups, and they're expertly built by Akiko Ishiyama and Yoshinori Mishima in Japan where the company is based. The Delos is the latest in a long line, and costs a whisker under £900. Being the baby of the range, it's designed to be tonearm and phono-stage friendly: of medium weight and compliance it pushes out a claimed output of 0.6mV at 5cm/sec [see Lab Report]. Recommended load into a phono stage is from 98ohm to 806ohm (Lyra says the final value should be determined by listening) – step-up transformer users should expect a 5 to 15ohm load; the transformer's output must be connected to a 10kohm to 47kohm MM-level RIAA input, says Lyra.

The cartridge body is in Carr's preferred skeletal style – encasing a startlingly sensitive mechanical measuring instrument in a resonant metal body never seemed like a good idea to him – and is machined

**RIGHT:** Lyra's partially exposed MC generator is mounted onto a machined, one-piece alloy body/mounting-plate

from a solid 6063 aluminium billet, which is partially non-parallel in its shape, in order to help minimise resonances. High purity (6N) copper signal coils are fitted, with square-shaped high-purity iron formers. A solid boron cantilever is mounted directly into the cartridge body via a novel asymmetric single-point suspension system [see boxout], and a Japanese-sourced Namiki microridge line-contact nude diamond stylus is used. Thanks to the clever stylus guard design the cartridge proved relatively easy to install into my SME Series V tonearm atop a Michell GyroDec, and it tracked rock-solidly at the recommended 1.75g.



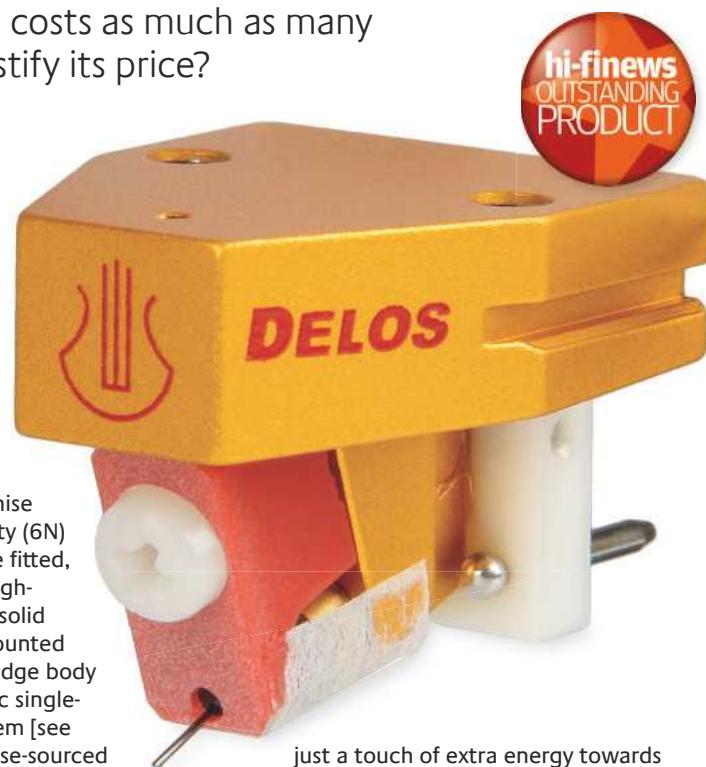
## LIKE A BALLERINA

The Delos showed itself to be a balletic performer, possessed of a far more graceful, supple and lithe sound that you have a right to expect for under £1000. Essentially it's a very neutral device, with

just a touch of extra energy towards the high frequencies – but so civilised is the Delos that it never once seems so much as forward, let alone harsh. Instead, you get a seamless, even sound with civility and sophistication at its very core...

Scritti Politti's 'Small Talk' [Virgin 25VC-1028] showed the Lyra's amazing blend of couthness and lyricism; the song's complex, high tempo sequenced percussion is something of a white-knuckle ride for any cartridge, but the Delos proved utterly unflustered, tracing the groove as assuredly as magnetic tape past a pick-up head. It was able to throw out vast amounts of detail and thread it altogether in a fluent and musically communicative way, never once getting fazed by the crashing Yamaha DX7 keyboard stabs or singer Green Gartside's falsetto vocals.

Moving to some classic 1970s rock, and Al Stewart's 'Year Of The Cat' [RCA RVP6 166] served up that smooth Abbey Road studio sound with voice hovering ethereally over the recorded acoustic. Still, this cartridge didn't get all nostalgic, giving instead an extremely spry rendition of the recording. The Delos has massive speed, so the strummed steel-string guitars came over with great impact, and it was able to



## ASYMMETRIC SUSPENSION

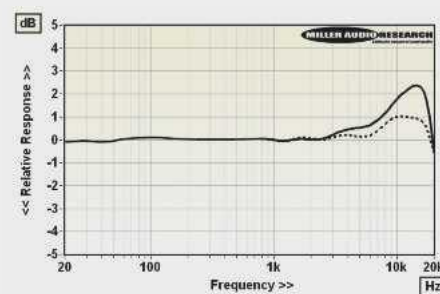
Lyra's designer says the aim of the suspension system developed for the Delos was 'to enable the stylus to respond to any kind of groove modulation with equal facility. Normally, applying a tracking force changes the stiffness according to the direction of movement. Vertical compliance becomes stiffer than horizontal, and even *within* the vertical plane upward compliance becomes stiffer than downwards.' But to work properly, the suspension should facilitate equal movement in all directions, so Carr's asymmetrical suspension doesn't use up any of its available stroke when a tracking force is applied. It achieves this by recourse to an offset (excess) vertical stroke, so when the needle is in the groove it centres itself perfectly, he claims. 'This allows the stylus to move with equal ease in any direction, as dictated by the undulations of the LP groove.'



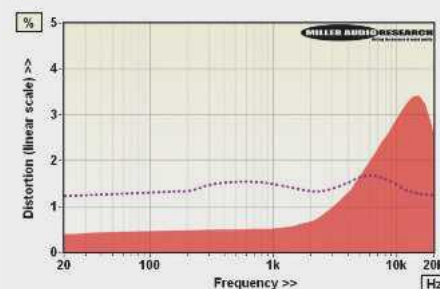
## LYRA DELOS

Although far from Lyra's costliest MC, the Delos' DNA is unmistakable. Its 0.63mV output (re. 1kHz/5cm/sec) is bang-on specification and while this sample's 0.4dB channel imbalance might have been tighter at least the 80ohm coil impedance confers broad compatibility with most >100ohm head amps. The response is very extended too, the Delos engineered to fine tolerances of  $\pm 1\text{dB}$  over a full 20Hz-9kHz and  $\pm 2.5\text{dB}$  to 20kHz while its stereo separation sits between 33 and 35dB through bass and midrange. The symmetry between lateral and vertical responses is quite impressive [see Graph 1, below], although the stronger treble from L+R cuts will bring a little extra brilliance to central (mono) images in the soundfield.

The MC's compliance is also slightly 'stiffer' laterally at 18cu although both vertical and lateral figures are higher, and the suspension softer, than Lyra's 12cu specification would suggest. Although the Delos' bodyweight is relatively low at 7.3g, I would not recommend substantial mounting bolts or tonearms beyond the effective mass of – say – the SME V if low resonant frequencies are to be avoided. Nevertheless the behaviour of the Delos is very well controlled at resonance, so extra damping will not be required. Furthermore, VTA is ideal at  $22^\circ$  and tracking very impressive at  $>75\mu\text{m}$  for the recommended 1.75g, the Delos only just letting go on the right channel through the +15dB/300Hz track. Distortion, typically <1% lateral up to 5kHz/-8dB is as low as I've measured from a modern MC [see Graph 2]. Readers may view a comprehensive QC Suite test report for the Lyra Delos by navigating to [www.hifinews.com](http://www.hifinews.com) and clicking on the red 'Download' button. PM



ABOVE: Frequency response curves ( $-8\text{dB}$  re. 5cm/sec) lateral (L+R, solid) versus vertical (L-R, dashed)



ABOVE: Lateral (L+R, solid) and vertical (L-R, dashed) tracing and generator distortion (2nd-4th harmonics) vs. frequency from 20Hz-20kHz ( $-8\text{dB}$  re. 5cm/sec)

## HI-FI NEWS SPECIFICATIONS

Generator type/weight	Moving coil / 7.3g
Recommended tracking force	1.7-1.8mN (1.75 mN)
Sensitivity/balance (re. 5cm/sec)	630 $\mu\text{V}$ / 0.37dB
Compliance (vertical/lateral)	23cu / 18cu
Vertical tracking angle	22 degrees
L/R Tracking ability	$>80\mu\text{m}$ / $75\mu\text{m}$
L/R Distortion ( $-8\text{dB}$ , 20Hz-20kHz)	0.49-3.5% / 0.45-4.4%
L/R Frequency resp. (20Hz-20kHz)	$-0.5$ to $+2.4\text{dB}$ / $-0.5$ to $+2.2\text{dB}$
Stereo separation (1kHz / 20kHz)	34dB / 22dB

signpost their percussive significance to the song brilliantly. Such delicacy and insight extended to the treble too – the hi-hats and ride cymbal work was totally devoid of splash or sibilance yet possessed a wonderfully authentic steely ring.

Dynamically it impressed too – Alphonse Mouzon's pile-driving 'By All Means' is a beautifully recorded late-'70s jazz-funk standard [MPS JS-035] with Herbie Hancock bashing the ivories over Mouzon's virtuoso drumming. The Delos was in its element and caught the spaces between the notes deftly, making the beat all the more impactful.

## SPATIAL RESOLUTION

Better still, it was able to carry the phrasing of the musicians artfully, showing this song to be the roof-raiser that it really is. Despite serving up a rock-solid bass-drum and snare sound, allied to a super-taut bass guitar and sparkling hi-hats, it still had enough left to render the choppy rhythm guitar and raspy brass brilliantly.

Spatially the Delos doesn't let the side down either: a Karajan recording of Beethoven's *Pastoral* Symphony [DG SLPM 138 805] showed the beauty of classical music from vinyl, with a wonderfully atmospheric and immersive recorded acoustic, seemingly falling



ABOVE: 2.5x75 $\mu\text{m}$  Namiki line contact stylus and solid boron rod cantilever  
BELOW: Output pins are colour-coded and well spaced while the body has pre-tapped mounting holes

back forever. This pick-up doesn't inject artificial body and bulk into solo instruments as some more euphonic designs can, but instead chooses to lock on to them and project them in correct proportions

with tremendous solidity and composure.

Therein lies the beauty of the Lyra. It has uncanny stability and forensic detail

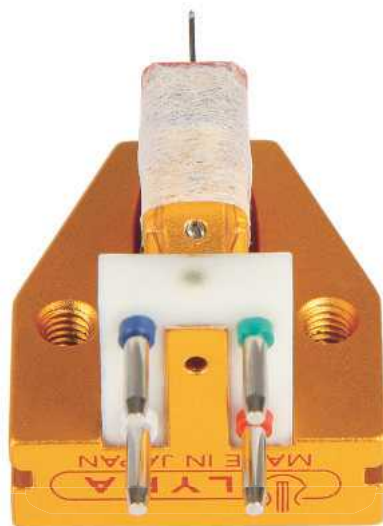
retrieval, allied to real rhythmic and dynamic alacrity. It's not, however, a 'romantic' sounding performer – those who want a sepia-tinged sound from their vinyl should probably look elsewhere.

I honestly cannot think of any similarly priced moving-coil that offers such a stirring combination of insight and musicality. ☺

## HI-FI NEWS VERDICT

A thoroughly modern moving-coil, the Delos has ability that totally transcends its price point. Technically brilliant and musically accomplished, it does everything you could reasonably expect of it, and more besides. Indeed it is so good that it may make prospective purchasers of pricier Lyras wonder why they're spending the extra, and will surely entice fans of rival cartridge brands over to this marque.

Sound Quality: 85%



# Nagra VPS

A costlier alternative to the company's battery powered BPS phono stage, the highly flexible VPS packs a superior power supply and a valve output stage to boot...

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

**A**ny tendency to regard Nagra's AC-powered VPS as merely a beefed-up version of the battery-operated, ultra-compact BPS [HFN Sept '10] would be to do a disservice to the former. With both an outboard supply and solid-state and tube gain stages, the VPS is clearly a more sophisticated proposition than its battery-powered sibling.

At a third of the VPS's price, the BPS could not be other than an affordable alternative with minimal sonic compromise. But it lacks the sheer flexibility and potential of the VPS, the superior power supply and all which that provides, and – essential for some of us – a valve output stage. The VPS, then, could be all things to all people.

There is, as ever, a caveat. Like the BPS, the VPS simply doesn't like to deal with desperately low-output MCs, nor does it have the headroom to overload gracefully when fed a signal from an MC with too *much* output. It is therefore a bit like an LS3/5A in its recalcitrance: the LS3/5A needs power but can't handle much, so you have a narrow operating range. The VPS seems to suffer the same issues. Or does it?

It is beyond the scope of this review to enter into the debate about the virtues of various types of MCs, vis-à-vis their output, but it has been my experience that the finest cartridges I've ever used, from Koetsus to Air Tights and Lyras to Kisekis, tend toward sensible output levels. Yes, I know there are those dedicated to the extremes, and I have heard convincing arguments for every type of them.

If there's a solution, then, it is to avail one's self of an aspect of VPS ownership that's not often mentioned: in addition to the six modules supplied with every VPS, there are three which Nagra will,

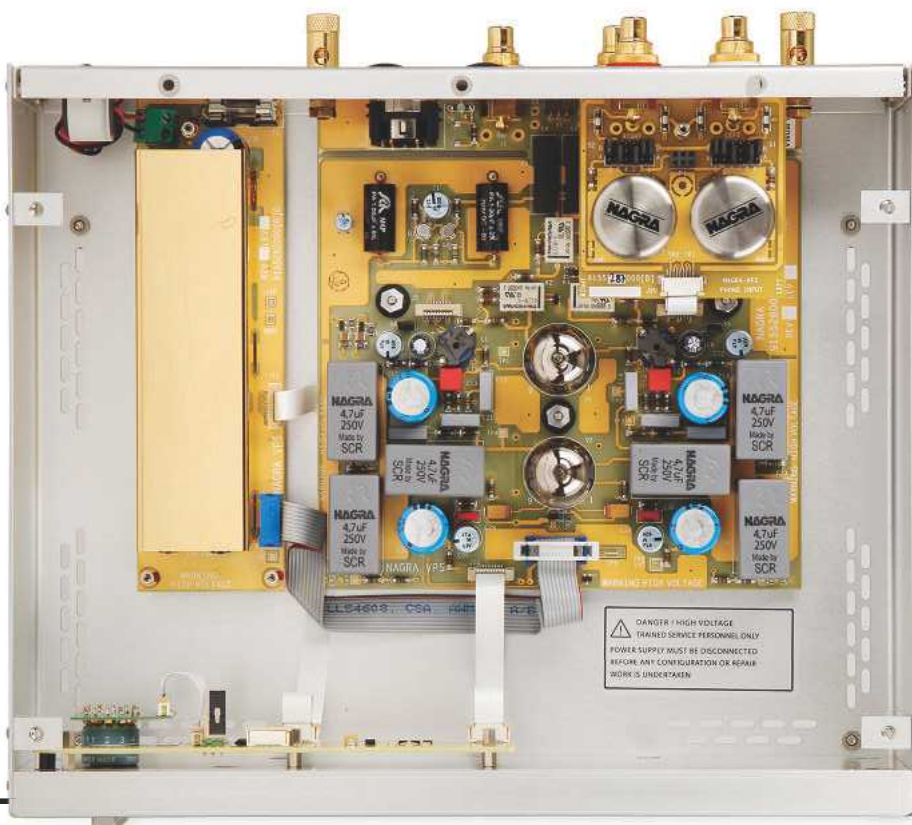
upon request, set up with custom values. I suspect that there aren't many cartridges which the Swiss would be unable to accommodate.

## OFF WITH THE LID THEN

That said, I have no cartridges to challenge the extremes of the VPS, but then I'm not here to tell you about its behaviour under duress. Rather, I'm here to describe the performance as Nagra would have it behave. And to attain this, you must pore over the manual, so that you can match the VPS precisely to your cartridge. Remove the lid, and you expose the receptacles for the cartridge loading modules and jumpers which deal with RIAA, which outputs you're using, and other settings. As much as I groan about having to take the lid off every time I change a cartridge, the Nagra's is held by only four screws – and even I am not that lazy.

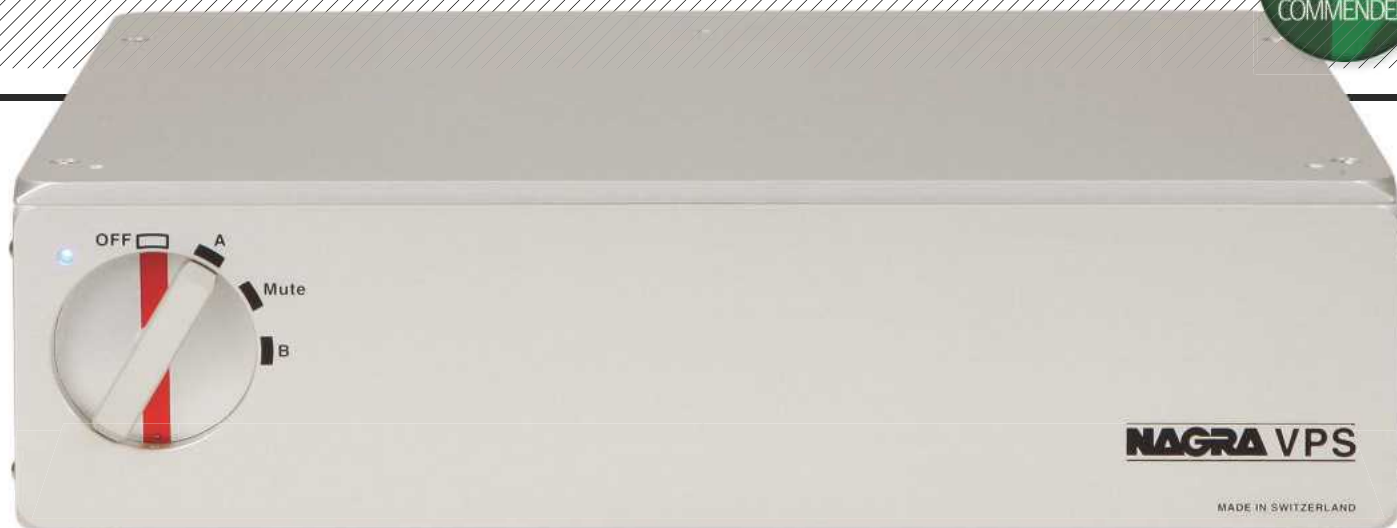
Armed with Kiseki Blue, Air Tight PC1 and Koetsu Urushi, and using the VPS via its XLRs, I was confronted by no setup dilemmas. As far as the above caveat is concerned, I would imagine that anyone buying a phono stage at this price point would: 1) have a reasonable sense of what a high-end cartridge needs as a suitable step-up device; 2) has access to a dealer worthy of selling Nagra products; and 3) has the initiative to ensure that pre-purchase 'due diligence' has been undertaken. If you're running an Audio Note lo or some such, then it serves you right!

What will seduce some of you is a facility that reminds me of my Musical Fidelity KW25 CD player: a choice of solid-state or valve output stages. With the KW25, it was simply a matter of taste: tubes versus trannies. Here it's a matter of available gain. The rear gain switch chooses either the lower 0.3V



**RIGHT:** The VPS comprises three essential blocks – the input transformer and loading stage, the 12AX7EH/12AT7EH tube-based RIAA stage and optional transistor output buffer





output of the tube section or the high 2V offered with the solid-state stage in tow.

Yes, they sound different beyond the gain, and yes, I loved the slightly more temperate valve-only sound, but the tube plus solid-state setting is precise, fast and refined... and louder. Because this is one adjustment that doesn't require the removal of the case top, trying both is literally a mere flick of the switch.

Keen observers will note from our photographs that there are two blanked-off apertures on the back. They're present should you wish to add a second input. For an extra £1050, it can be fitted with a second MC board. For £250, you can add an MM input. If you were to configure this with both, factoring in the valve and/or solid-state outputs, six standard sets of cartridge loadings with the free offer of three more dedicated custom-specified values, well, I'd imagine you would have to own a particularly obscure cartridge *not* to find a match.

Physically, this is sized like most Nagra control units and is fashioned from the same machined aluminium that houses the Jazz, the Melody and other siblings. The valves are easy-to-replace ECC81 and ECC83; and the connectors are WBT and Neutrik. One other detail: the jumpers

also allow you to choose either of two types of equalisation, both RIAA 1953 (with jumpers in place) or IEC 1976 (without jumpers). Why you'd want the latter is anyone's guess.

### FROM SYNTH TO SLIDE

Quite what possessed me to start off with Yazoo's *Upstairs At Eric's* [Mobile Fidelity MOFI 1-020], I'm not sure. It has to be Moyet's voice, because the rest of this 1980s synth-fest is so aggravating that it almost undermines the brilliance of songs like 'Only You'.

As I can only take so much of the circus sound/Mellotron/grunt/wheeze nonsense, it speaks volumes of the Nagra that I was captivated. The image placement was breathtaking, with air and dimensionality and space. And I write this knowing that – the vocals aside – this has about as many natural ingredients as a fast food 'milkshake'. But the sweep, the impact, the attack... it was almost enough to allow me to forgive God for having me on earth during the 1980s. If the opening to 'Situation' doesn't make you want to

*'It's as fluid as a shot of absinthe past Rimbaud's tonsils'*

**ABOVE:** It doesn't get any more minimalist than this: the rotary on/off chooses one of two inputs, with a mute position in between

murder some 'new Romantic', then you're a better man than me.

There is no better antidote to 1980s Britpop than something so real you can hear the performers sweat. The Allman Brothers, as undiluted and authentic as Southern Rock ever got, delivered a killer closing to their eponymous debut [Mobile Fidelity MFSL 1-397], the heart-

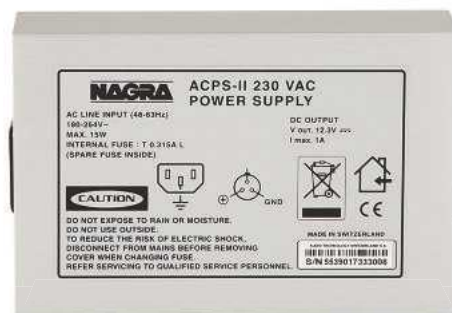
stoppingly intense 'Whipping Post'. A surfeit of syncopated percussion, raw vocals, layers of guitar work, and above it all the piercing keyboards of Brother Gregg and the soaring leads from

Brother Duane... the Nagra handled all of this with aplomb, especially as the music ascended around the 4min mark.

Still in a Leslie West mood, I couldn't resist some HM in the form of that riff-rock classic, 'Mississippi Queen', savoured via a Japanese pressing of *Mountain Climbing!* [CBS/Sony 25AP 1277]. Didn't take much, just the distinctive cow-bell ➡

## NAGRA'S NEW GENERATION

With the unfortunate passing of its founder, Stefan Kudelski, Nagra makes another break from the past. Kudelski had retired in 1991, but remained as a member of the Board until 2006, and since then served as its Honorary Chairman. He leaves an unparalleled legacy, not least for his revolutionary work with miniature and portable tape recorders, embraced by both the film industry and the world of espionage. Since the late 1990s, Nagra has been manufacturing domestic high-end audio equipment, but to the same standards as its professional hardware, and with shared styling and functionality. Recently, the high-end audio division had been separated from the Kudelski Group, as an autonomous company called Audio Technology Switzerland. Kudelski family members remain at the helm, with son André Kudelski as Chairman and CEO of the Kudelski Group, while Marguerite Kudelski is a member of the Board of Directors. They'll ensure that Stefan Kudelski's values remain the brand standard.



**ABOVE:** No 'wall wart' but a nicely-made external power supply on a 1.5m umbilical cable terminating in a mini-Neutrik-style connector

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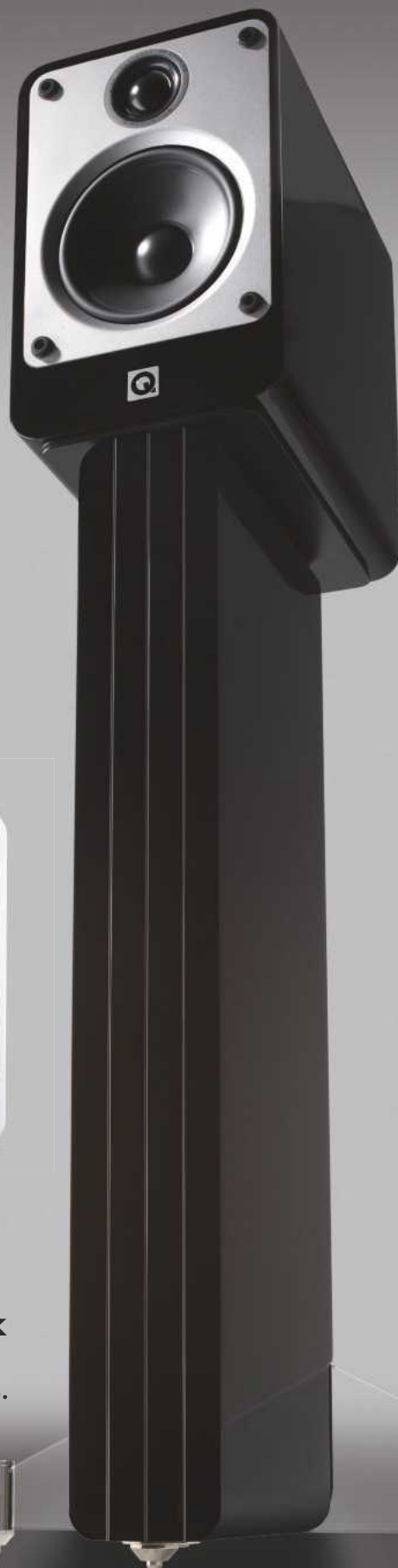
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## PHONO STAGE



**ABOVE:** Separate ground posts are provided for the MC input (A) and the optional MM input (B). The low (0.3V) and high (2V) output options are switchable here through both RCA and XLR outputs, both of which are single-ended

to let me know that this was as authentic a sound as I would want to hear. Despite the meters on the REF75 barely moving, in true metal fashion there was an undeniable sense of dynamic swinging, the bass flowing below the sinuous lead guitar work, iced with West's throat-rendering vocals. Possibly the finest 2m 30s in hard rock, and the Nagra respected every decibel!

### IT'S NO SLUGGARD

But back to the world of reefer. I bought The Flying Burrito Brothers' *Burrito Deluxe* [A&M SP4258] on the strength of a lust for anything Byrds-related, and an itching desire to hear a Stones composition released before Mick & Co issued it themselves. As to which is the better version, I have absolutely no desire to antagonise both Gram Parsons and Rolling Stones fans all at once. Suffice it to say the Burritos boasted 'Sneaky' Pete Kleinow's pedal steel, and it is that instrument which I wanted to hear.

Quite why the Gramsters don't rate this as highly as other Burritos efforts, I can't quite determine. With tracks like 'Lazy Days', a Dylan gem, more nods to The Byrds than one might consider decent (considering that this band contained three Byrds drop-outs) *Burrito Deluxe* is a celebration of Left Coast Cosmic Cowboy excess, and the Nagra sure handles its trebles with panache. The aforementioned pedal steel is as fluid as a shot of absinthe past Rimbaud's tonsils, the harmonies suitably ragged-yet-tuneful, the percussion sounding as dusty and wooden (in a good way) as you'd demand of such pure Americana.

Again, the Nagra belied its alleged limitations with an absence of compression or sluggishness. The added gain of the solid-state setting wasn't needed as much as it was with *Mountain*, so tiny details and subtle flourishes were kept in proportion, with just enough background silence to suggest that the noise floor was not an issue, and I wasn't cranking up the REF5SE's volume control. This was consistent with all three cartridges, which have a range of 0.4mV-0.6mV outputs. The only thing I didn't try was a London (*née* Decca). But if a VPS ever crosses my path again, I'll see if they can set me up with a 68kohm load.

I almost forgot: this latest version of the VPS has enjoyed a price decrease which was explained to me as part of the company's restructuring [see box out]. Price cuts are not something we hear much about at a time when franchise cafes charge £3.60 for coffee and toast. ☹

### HI-FI NEWS VERDICT

While mere sloth forms my antipathy toward phono stages that hide the adjustments within, the VPS renders it moot because the flexibility is total. You have two levels of gain determined by the solid-state and valve stages, custom combinations for cartridge values – the only option is a second stage if either you run two turntables, or want dedicated MC and MM inputs. It's simply a dream phono amp.

Sound Quality: 84%

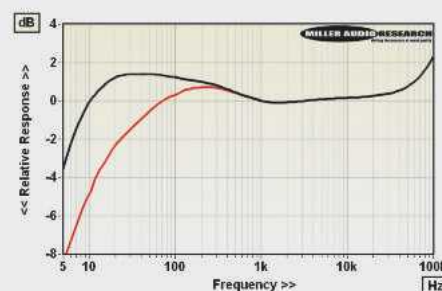


## LAB REPORT

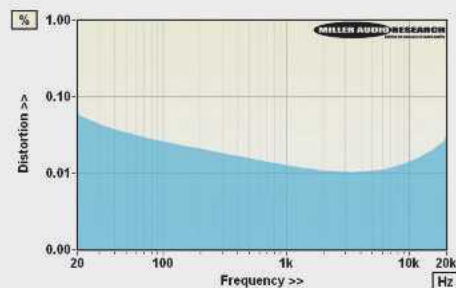
### NAGRA VPS

Many manufacturers post a conservative 'target' specification in their literature that may not truly reflect the finer points of the product's performance. Sample variation typically ensures that not all models of a specific type will have an identical specification, so it's very refreshing to find Nagra offering a general guide (gain, distortion, output level etc) alongside a unique 'Test and Measurements Protocol' datasheet printed according to the unit serial number. It's equally gratifying to report that these measurements, supplied for the review unit, are very accurate indeed. Nagra rates our VPS's sensitivity as 1.55mV ( $\pm 0.3$ mV) for a 1.9V output, which is almost identical to the 0.825mV/1V recorded in our lab, equivalent to a compound gain of just +61.7dB. Nagra's general specification cites +60dB (11dB for the MC input transformer, 34dB for the tube RIAA stage and a further 15dB for the transistorised 'high gain' output option).

With its limited gain arguing in favour of higher-output MCs, the low 2.45mV input overload unfortunately restricts its practical range to low/mid output types. Fortunately, the excellent 73.4dB A-wtd S/N ratio (a dB or so better than Nagra's spec.) suggests this might be achieved without penalty of noise. This might not have been identified by Nagra's tests but the +1.7dB bass tilt [see Graph 1, below] most certainly was, bringing a predictable warmth and weight to the sound. The effect of the subsonic IEC filter option is revealed by the red trace. Distortion, meanwhile, rather depends on input/output level, reaching a minimum of 0.01-0.06% at 0.825mV in/1V out. Readers may view a QC Suite test report for Nagra's VPS phono amp by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'Download' button. PM



**ABOVE:** RIAA corrected frequency response from 5Hz-100kHz (black) with IEC/1976 subsonic filter (red)



**ABOVE:** Distortion versus frequency from 20Hz-20kHz – typically between 0.01% and 0.1% at 1V output

### HI-FI NEWS SPECIFICATIONS

Input loading	Options to order
Input sensitivity (re. 0dBV)	825µV
Input overload (re. 1% THD)	2.45mV
Maximum output (re. 1% THD)	2.8V (17ohm o/p impedance)
A-wtd S/N ratio (re. 0dBV)	73.4dB
Frequency response (20Hz-20kHz)	+1.7dB to -0.15dB
Distortion (20Hz-20kHz, re. 0dBV)	0.010–0.061%
Power consumption	10W (<2W standby)
Dimensions (WHD)	254x76x310mm

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# Signal Projects Hydra

Searching for untainted signal transmission? You might want to audition these interconnects from Signal Projects. Review: **John Bamford**



**L**ooking sufficiently robust to tow a caravan, Signal Projects' cables may be considered the stuff of high-end audio dreams. Company proprietor Nick Korakakis hails from Greece where he founded Signal Projects in 2007. His company's 'entry-level' Lynx interconnects start at £725 for a 1m pair while these Hydra cables are the next models up. Hold onto your credit cards: a 1m set of top-of-the-line Golden Sequence interconnects costs an eye-watering £10,125!

It's unusual to see balanced (XLR) and single-ended (RCA) cables priced identically, but here the construction is the same – with individual signal cores and screening. In these Hydra models the conductors are 0.84mm diameter twisted pairs employing what's described as a 'hybrid design' of 6N purity copper, gold and silver, with a dual-layer PTFE plus polyolefin insulation. Shielding is 1mm aluminium foil with a high-purity copper braid, the cable finished with a hard-wearing outer sheath.

The cables are a little unwieldy. They're not inflexible, but their over-sheathed terminations necessitate a



**ABOVE:** Signal Projects' hand-assembled cables are individually serial numbered and auditioned before shipping

wide clearance at the back of a rack and will preclude their use with components with cramped sockets.

### SCALE AND TRANSPARENCY

My DAC and amplifier both offer balanced connections and tend to sound slightly 'cleaner' when used with balanced cables, although when listening to these Hydras both the XLR and RCA versions sounded exceptionally vivid and open. There really wasn't much to choose between them.

Playing some hi-res recordings by the Helge Lien Trio [[highresaudio.com](http://highresaudio.com)] revealed a clear midband with tremendous image depth, width and focus. The piano, acoustic bass and drums were depicted graphically, seemingly with acres of space around them, and cymbals appeared vibrant with breathtakingly

realistic sparkle and zing. The cables' vividness also helped dig out buried details in murky prog-rock productions where multi-tracking and over-dubbing tended to conceal instruments and vocal lines. The Hydra cables made it easier to listen into such recordings, rather like giving clean windows a final polish. ☺

### HI-FI NEWS VERDICT

If you already own a splendid high-end system, any upgrading will probably involve fine-tuning its installation – including trying different cables to see if they get you closer to 'being there'. Of course you'll need to justify their high cost; however, with top-notch recordings I found Signal Projects' Hydra interconnects helped make music sound truly alive. They appear wonderfully transparent to source signals and can be highly recommended.

Sound Quality: 88%



**LEFT:** Supplied in a wooden presentation box, each cable also comes with a signed test certificate





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3 EVO3 Super Titan ultimate - £7,995.00  
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5 Chord Sarum Cables - £POA  
Finance available\*

2 Naim DAC-V1 (NEW) - £1,250.00  
20% deposit, then £83.33/month x 12\*  
(Pic shows DAC-V1 & NAP 100 together)

4 EVO3 Genesis ultimate - £11,995.00  
20% deposit, then £319.86/month x 30\*

6 Focal Scala Utopia (pair) - £18,999.00  
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7



9



12



8



10



11



13

7 Bricasti M1 DAC - £6,495.00  
20% deposit, then £216.50/month x 24\*

8 Mastersound Evolution 845 - £9,495.00  
20% deposit, then £253.20/month x 30\*

9 ART Alnico Signature (pair) - £22,000.00  
20% deposit, then £586.67/month x 30\*

10 Anthem M1 Statement (pair) - £7,000.00  
20% deposit, then £233.33/month x 24\*

11 (NEW) McIntosh D100 - £2,995.00  
20% deposit, then £99.83/month x 24\*

12 Leben CS-300x - £2,965.00  
20% deposit, then £197.67/month x 12\*

13 Wilson Benesch Vertex (pair) - £4,650.00  
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# Vinyl Frontier

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

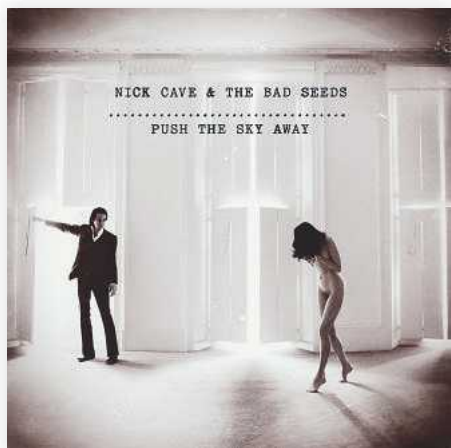
David Bowie's 2013 album, a 1960s civil rights Suite, new work from Nick Cave, classic Dylan... **Chris Heard** finds plenty of vinyl variety this month

**M**any readers of these pages are by definition lovers of all things analogue, and yet few of us remain untouched by the cultural reach of the internet and digital technology. It's the same with Nick Cave, whose 15th studio album with the Bad Seeds, *Push The Sky Away* [Bad Seed Ltd Records], finds the artist meditating on the wonders and madness of the worldwide web and the impact it has had on our lives and relationships.

Cave speaks of Googling curiosities and being entranced by exotic Wikipedia entries, 'whether they're true or not', and he writes of how news of great world-shaping events sits side-by-side online with passing fads and unimportant twaddle. The challenge according to Cave on *Push The Sky Away*, to the accompaniment of some beautifully haunting music, is how we might work out which bits of information really matter.

As a 55-year-old man of letters, Cave's song 'We No Who U R' (the lead single) is in part a pithy comment on a newer generation's poverty of literary manners, while the album's general tenor is very much that of the Cave we have come to know in the past decade or so: reflective, mildly rueful, urbane and wry – expressing a powerful longing and sadness without sentimentality, and brimming with understated wit and humanity.

Cave as a slightly frowning middle-aged musician remains the epitome of cool; impeccable and fairly inscrutable yet playful and light in his touch, while his



➔ Nick Cave's *Push The Sky Away* is on the Bad Seed Records label

## WE INSIST!

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FEATURING ABBEY LINCOLN  
COLEMAN HAWKINS, OLATUNJI

CANDID

➔ Max Roach's *We Insist!* dates from the 1960s' civil rights period

suited-and-collared band of brothers (for the first time without Bad Seeds co-founder Mick Harvey) are adept as ever in marrying a certain sartorial gravitas with delicate yet purposeful playing.

The songs, richly melodic in that subtle post-punk way and characterised by Cave's melancholic piano motifs, took shape around the singer's Sussex seaside home as he jotted notes for a year or so in a shellac-covered book. It's his first album since 2008's *Dig, Lazarus, Dig!!!* and the first to be released on his own label; footage shows it to be the result of apparently relaxed yet deeply-committed studio sessions. Says Cave: 'Well, if I were to use that threadbare metaphor of albums being like children, then *Push The Sky Away* is the ghost-baby in the incubator and Warren's loops [Warren Ellis, Bad Seeds multi-instrumentalist/composer] are its tiny, trembling heart beat.'

## BOWIE LOOKS TO HIS PAST

Artists of Cave's calibre are surely needed more and more as we album-lovers stumble forward in a post-Simon Cowell musical landscape driven by TV talent show nonentities and cheap, compressed downloads. If you buy my vision of this dystopian climate, then the news of a new David Bowie long-player, *The Next Day*, was especially welcome, particularly after a decade of near-radio silence from the great man. In the New Year, such secrecy surrounded the album [Iso Records] that even Bowie's parent record

## CHRIS HEARD

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



company, Sony/Columbia, could offer scant information (indeed it was rumoured to have heard about it only after our Dave unleashed the digital single 'Where Are We Now?' on his 66th birthday in January).

Bowie has spent two years working with New York-based musicians amid unprecedented secrecy honing his first work since 2003's *Reality*. Twenty-nine songs were set down (some for future use), produced by Tony Visconti, who says 'If people are looking for classic Bowie they'll find it on this album. If they're looking for innovative Bowie, new directions, they're going to find that on this album too.'

The lyrical references in 'Where Are We Now' to Bowie's time living in Berlin during the late 1970s suggest an element of looking back, while the 'doctored' *Heroes* sleeve only reaffirms this idea of coming to terms with a past... with a life. But Visconti is quick to dismiss the idea of *The Next Day* being an exercise in mawkish nostalgia, describing the material as 'extremely strong and beautiful'.

## POLITICALLY MOTIVATED JAZZ

Max Roach's *We Insist! (Freedom Now Suite)* is one of the landmark politically-motivated jazz records of the later bop era. Recorded in August 1960 on Candid Records as African-Americans' struggle for civil rights reached critical mass, *We Insist!* was the first of several jazz-as-protest albums explicitly to voice the growing demand for equal rights – as portrayed so memorably on its 'sit-in' sleeve.

Drummer-composer Roach had begun to develop the theme in 1959 with his lyricist Oscar Brown, planning to perform it in 1963 to mark the centennial of the Emancipation Proclamation. It was conceived as a suite with a shifting cast of players (only Roach and female singer Abbey Lincoln are heard throughout).

Veteran tenor sax maestro Coleman Hawkins puts his stamp on the 5/4-beat slave song 'Driva' Man', while Lincoln's anguished operatic howl defines the album's centrepiece, 'Triptych: Prayer/





Julia Holter's new album *Ekstasis* from RVNG is 'quietly compelling'

Peace/Protest', introduced by Roach's signature drum moves. Trumpeter Booker Little, trombonist Julian Priestner and tenor player Walter Benton are an integral part of the razor-sharp ensemble, and percussionists Ray Mantilla and Michael Olatunji give Lincoln's wordless, thespian-honed vocals enough of a Latin kick to reference similar prejudice being experienced at this time in Afro-Cuban and South American societies. The humanitarian message of Roach's pivotal work is as relevant and timely as ever [180g vinyl on So Far Out Records].

#### PULP FACTS

Pulp's *Different Class* may have been one of the era-defining Britpop albums, but the record that preceded it, 1994's *His 'N' Hers*, is widely regarded as the real Pulp fan's favourite. Now reissued on Music On Vinyl, it marks the moment when Jarvis Cocker's band leapt from relative obscurity in the back streets of Sheffield to the middle reaches of the singles charts, courtesy of classic Pulp fare such as 'Babies' (via 'The Sisters EP') and 'Do You Remember The First Time?'.

Pulp had been John Peel favourites for several years already, but remained cult heroes until the wider public was exposed to Cocker's peerless wit and lyrical invention, at a time when media



'There's always space to eulogise *Bringing It All Back Home*'



and politics were proclaiming a certain Cool Britannia. In a sense, Britpop made Pulp, although in reality they predated the movement by a generation-separating decade and a half, having formed in 1978 when Cocker was a 15-year-old schoolboy. *His 'N' Hers* made 1994's Mercury Music Prize shortlist, eventually losing out to M People's *Elegant Slumming* by a single vote, but *Q* readers still named it as the 70th best album of all time.

#### BEDROOM VENTURE

One of the more quietly compelling albums to sneak in undetected at around this time last year was *Ekstasis* by Julia Holter, a Los Angeles singer, songwriter and multi-instrumentalist who has worked with Linda Perhacs (whose cult album *Parallelograms* will be familiar to *HFN* folk completists) and whose ethereal vocal and compositional qualities have invited comparisons with Joanna Newsom and Laurie Anderson. In truth, Julia Holter sounds pretty much like a one-off, owing as much to European classicism as she does to the otherworldly American gothic of *Ekstasis* (it's Greek for 'outside of oneself', since you ask).

Recorded largely alone in her bedroom, the record has a bleak, wintry quality, rather like an early Cure album, while Holter's generally fragile-sounding vocals and lyrical ambiguity make for a theatrical posturing that even Kate Bush might balk at. *Ekstasis* [RVNG Records, two 45rpm LPs]

Is Bowie referencing his past, or merely saving on sleeve artwork costs for his new 2013 album?

seems to drift in and out of consciousness, built on a series of keyboard-led mood pieces ('Marienbad', 'Boy In The Moon', 'Für Felix') with little in the way of hooks and tunes to drag you in – save the relatively upbeat indie-pop of 'Goddess Eyes I', a

remix of a song formerly on her album *Tragedy*, and 'Moni Mon Amie'. Have a listen and see if you can avoid its uncanny ability to get right beneath your skin.

#### BOB THE MASTER

While this column has already given up many inches to the majority of must-have Dylan records (*Blood On The Tracks*, *The Freewheelin' Bob Dylan*, *Blonde On Blonde*, *The Basement Tapes*), there is always space to eulogise *Bringing It All Back Home*, Bob's half-electric, half-acoustic 1965 masterpiece that arguably did as much to change the world as any LP ever released.

Representing that seminal moment when Dylan went electric, side one explodes with 'Subterranean Homesick Blues', 'Maggie's Farm' and a wealth of inspired blues-rock; while side two kicks off with 'Mr Tambourine Man' and climaxes with the unimaginably great 'It's All Over Now, Baby Blue'. Now it's all on two beautiful big slabs of 45rpm vinyl from Mobile Fidelity. What's not to love? ☺

'Even Kate Bush might baulk at such theatrical posturing'

# Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

## Fleetwood Mac: *Rumours*

It's billed as 'the audiophile edition that music listeners have dreamed about for decades'. **Steve Sutherland** talks to Stevie Nicks as *Rumours* is released on 180g vinyl

**H**ere's a little journalistic tip for you. You can tell how crazy a person is by how they answer the following question:

Do you believe in incarnation?

If they answer as follows, they are clearly bonkers.

'Absolutely! I know I've been here in my other lives. I know I was in Germany and went through some of the atrocities. I know I experienced it. Every time I go to Germany I feel it. I've also been told that I was a high priestess in Egypt many, many years ago and I believe that because... I don't know... because I *flash* on that, living up on a stone kinda thing and meeting up with people. I'm some kind of ruler.

'And I know I was a concert pianist because I have all the moves down – I just don't play very well. And I think that this life I'm living is my last. To have gone through being in one of the biggest bands in rock 'n' roll history, to come through the entire drug thing... I wouldn't say unscathed but I've come through... to

still be writing, to be going very well with my art... If I live another 40 years, which I absolutely will... it seems that I have just about completed everything that I can complete here on this particular plane.'

This particular basket case, in the event you haven't already guessed, is Ms Stevie Nicks who we meet one May

afternoon in 1989 in the Monte Carlo Suite of London's very plush Mayfair Hotel, some 12 years after she was instrumental in the creation of *Rumours*, the Fleetwood Mac album we're here to talk about, and an album, incidentally, that to date has clocked up sales in the region of 40 million copies.

Ms Nicks, it must be said, is not in great shape. She wafts theatrically into the room on a pungent cloud of perfume, immediately sets to plumping up all the sofa pillows, snatches up the phone when

'She barks to no-one in particular: "Did I not say I don't wish to be disturbed?!"'

it rings, slams it down, picks it up when it rings again, hurls it onto the floor and barks to no-one in particular: 'Did I not just say I don't wish to be disturbed?!'

She's dressed, as you'd expect, in black widow's weeds, like a modern day Miss Haversham, and although this may sound a mite ungentlemanly, it would be remiss

not to mention the shocking amount of weight she is carrying – an issue she has frequently addressed in the many years since our meeting. She has also subsequently referred

to the fact that she was so addicted to Klonopin – the drug prescribed to keep her off the cocaine – that she can barely recall the '80s at all. Our liaison occurs at the troubled midway point in her epic journey between the fit, revived and revered songbird currently announcing a brand new 2013 Mac tour, and the emotional trauma that kicked it all off. That trauma was *Rumours*.

### IN DISARRAY

Recorded in 1976, mostly in Sausalito, it came about in legendary circumstances of disarray. For a start the keyboard player, Christine McVie, née Perfect, was just getting divorced from the bass player, John McVie after eight years of marriage and had started a relationship with the band's lighting engineer – a situation hardly conducive to coming together in a small studio to make a record.

Then there was the band's boss, drummer Mick Fleetwood, who had just discovered that his wife was having an affair with his best friend. Plus, there was Stevie herself, going through a bust-up with the band's guitarist Lindsey Buckingham with whom she'd joined the group in 1975, the pair helping convert a worn-out Brit blues outfit into radio-friendly AOR chart-topping Cali dreamoppers. Eye and ear candy, if you like.

### 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...



The band in 1979 promoting *Rumours* follow-up, *Tusk* (clockwise l-r): John McVie, Mick Fleetwood, Christine McVie, Lindsey Buckingham and Stevie Nicks (centre)





➔ Priced £37.99, the 180g re-release of Fleetwood Mac's *Rumours* can be ordered online from [www.classicclips.co.uk](http://www.classicclips.co.uk)

This was the soap opera from which members of the Mac fashioned *Rumours*; wedding – if that's not an inappropriate word – the dark substance of their personal problems to a sublimely light and breezy studio sound which rendered their anguish superbly commercial. Bittersweet pretty much covers it.

### HURT INTO HITS

Unable to look each other in the eye, they piled their energies into making sure that every track on the album would stand up as a single in its own right if called upon to do so. 'If it's gonna hurt this much, they better all be damn hits,' was the mantra in précis.

Stevie contributed *Dreams*, which became the Mac's only American singles chart-topper, the self-explanatory 'I Don't Want To Know' and the sublime 'Gold Dust Woman' which referenced her growing addiction to cocaine as all the band members partied non-stop to dull the pain of having to work so closely and yet so awkwardly with one another.

Buckingham brought 'Second Hand News', 'Never Going Back Again' and 'Go Your Own Way' – all songs about the pain of break up – and Christine McVie rubbed her ex's nose in it by contributing the upbeat 'Don't Stop' and 'You Make Loving Fun', songs which reflect the sheer joy of finding a new lover.

Then there was 'The Chain', the album's sole group effort, a sado-masochistic monument to the personal sacrifice each individual was making to ensure Fleetwood Mac's continued success.

The stories of cocaine abuse that accompanied the recording of the album are almost as famous as the break-ups and the songs themselves

so you'll forgive the fascination with the pharmaceutical as I ask how Ms Nicks feels about the powders these days?

'Drugs,' she says, 'are like Sarah Lee Cheese Cake. If you leave it in your refrigerator, every time you go past you're gonna take a little piece with you and, by the next day, the whole cake's gone. So I just don't ever have Sarah Lee Cheese Cake in my house, and if anybody brings it over, I get very upset.'

### MALADIES TO MILLIONS

She's been through so much and, miraculously, managed to turn all her maladies into millions of dollars along the way. I wonder if there's anything in this world that really scares her now?

'Well,' she purrs, 'I had a dream once. I was very upset. This is before I stopped doing drugs of any kind. I had a very bad experience of thinking, "I wonder if after you die, you're still able to write?". Or, y'know, whatever you like to do – hang glide, or dance or whatever. And that night I had a dream where I saw myself sitting at a beautiful white enamel carved

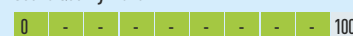
desk, writing with a really beautiful pen with a white feather quill which was really long. It went way back over my shoulder. And there were clouds coming in and out and I was just floating and I looked up and I smiled and that smile said, "You don't have anything to worry about. This will go on once you leave this particular plane of life". Y'know, that's what always scared me about dying – that I wouldn't be able to be creative anymore.'

There's talk, as I write, of a new Mac album coming. Ladies and gentlemen, Ms Stevie Nicks is still very much alive. ☺

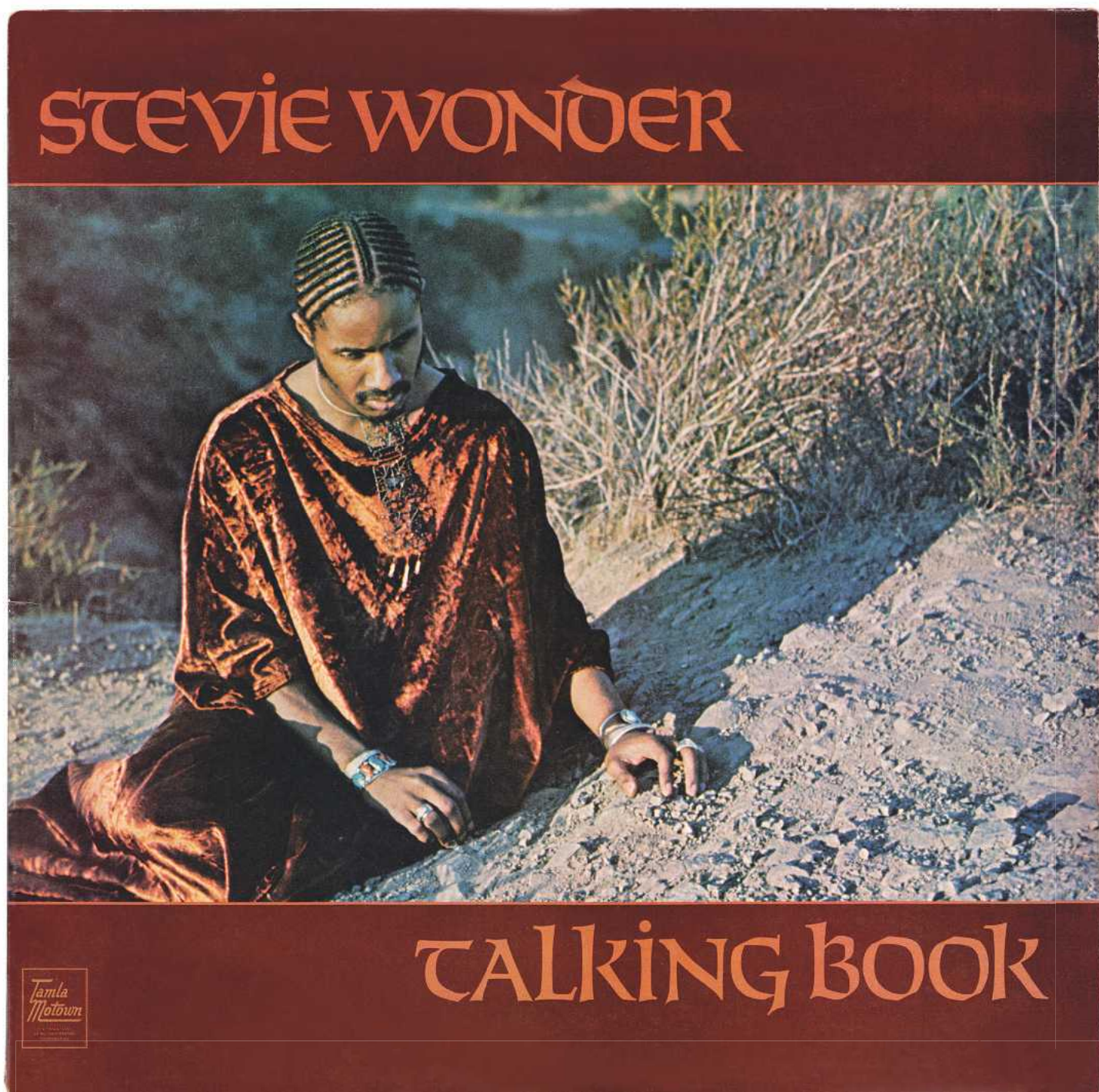
### RE-RELEASE VERDICT

From the laminated outer gatefold sleeve made of heavy cardstock to the poly-lined paper sleeves that house each slice of heavy 45rpm vinyl, this 180g reissue screams quality. Mastered from the original tapes by Steve Hoffman and Kevin Gray, this release, dare we say it, in parts makes the Ken Perry-mastered original sound veiled. A detailed description of how the mastering was approached can be found at [forums.stevehoffman.tv](http://forums.stevehoffman.tv). Meanwhile, take this to be the definitive cut of one of rock's classic LPs. HFN

Sound Quality: 90%







# Stevie Wonder *Talking Book*

The innovative mix of r'n'b and cutting-edge electronica that became the singer's 15th studio album was to win Stevie Wonder three Grammy Awards and prove for the first time that Motown artists could appeal to a rock audience. Yet many were ready to laugh...

Words: **Johnny Black**



**W**ith 1972's *Talking Book*, Stevie Wonder finally hit his stride commercially, creatively and in terms of radically influencing the future development of pop and rock music. Of course, his early Motown career as r'n'b wonder kid Little Stevie Wonder had been hugely successful but, as the years passed, the kid grew up and wanted not only to control his own music but to create something radically new. Motown, still raking in the profits, refused to give him the artistic freedom he now craved.

Wonder's response was to continue writing new songs but withhold them from Motown.

'Stevie had been stockpiling songs so he could re-negotiate with Motown when he turned 21,' remembers Jim Marron, manager of New York's Electric Lady studios, where *Talking Book* was recorded.

'I heard "You Are The Sunshine Of My Life" about two years before it came out.'

'Stevie turned 21 on the 13th of May, 1971,' explains Malcolm Cecil, co-producer and synthesiser programmer on *Talking Book*.

'When you turn 21 in this country, any contracts you made prior are null and void because you're no longer a minor.'

## LONE RANGER

Just seven days after winning his freedom from Motown's control, Stevie turned up at New York's Media Sound studio, owned and operated by two innovative synthesiser pioneers, Malcolm

➔ 'You've Got It Bad Girl', the B-side to 'Superstition' and 'You Are The Sunshine Of My Life' (right) with picture sleeve

➔ On stage in the late '70s, rocking it with beads and braids, and with braids in 2012

➔ Live in the early '70s, surrounded by synths

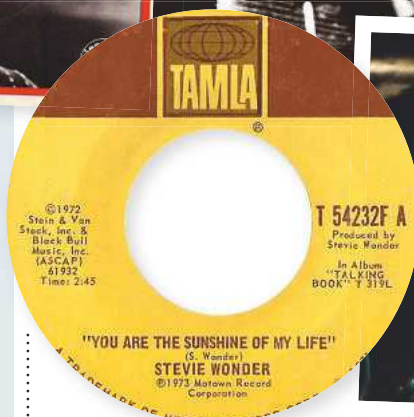


PHOTO: GUSTAVO MIGUEL FERNANDES/SHUTTERSTOCK.COM

Cecil and Bob Margouleff, who had recently released an acclaimed electronic music album, *Zero Time*, under the name TONTO's Expanding Head Band. When Stevie arrived at Media Sound, he had a copy of *Zero Time* tucked under the arm of his lime-green jumpsuit.

Wonder had realised that if he learned how to play Margouleff and Cecil's hand-built TONTO (The Original New Timbral Orchestra) synthesiser, he could create

complete tracks with a previously unheard-of palette of sounds which would free him from having to depend on musical arrangers to interpret the music he had in his head. As Margouleff recalls, 'He asked us to program some sounds for him, and we started developing that funky keyboard style, putting his clavinet through our synthesiser.'

The duo quickly realised that, despite his blindness, Stevie was

also able to play drums. 'Steve was multi-talented,' says Margouleff. 'He played the piano, he played the clavinet, he played the synthesisers so long as Malcolm and I would contend with the knobs and the programming.' Within a week, the three of them had laid down no fewer than 17 songs.

## A PROBLEM...

Around this time, Jim Marron of Electric Lady Studio was facing a

problem. The studio had been financed largely by a loan from Warner Brothers, which was financially bearable when Jimi Hendrix

recorded and virtually lived there. However, his death in 1970 turned it into a financial drain.

Needing to find creative artists who could make use of the facility, Marron did a deal with Centaur Productions, owned by Margouleff and Cecil, to bring Stevie Wonder in.

*'Everybody at the studio laughed... Wonder was going nowhere'*



## PRODUCTION NOTES

Production of *Talking Book* started in Bob Margouleff and Macolm Cecil's Media Sound Studios in New York City, but quickly moved to the better equipped, somewhat grander Electric Lady in Greenwich Village.

With the exception of Stevie Wonder's vocals and drums, most of the sounds on *Talking Book* were either generated by or processed through TONTO, a one-of-a-kind music synthesiser custom-built by Margouleff and Cecil for their own pioneering electronic albums under the name of Tonto's Expanding Head Band. In theory, TONTO was capable of creating not just an electronic equivalent of any sound imaginable, but sounds never previously heard or imagined. Nevertheless, it had some inconvenient limitations.

'With an instrument like TONTO you can't write a line ahead of time,' admitted Cecil, 'because until you get the sound up, you don't know how it's going to react with the other sounds, so everything was done



'Everybody at the studio laughed at me,' recalls Marron. They thought of him as Little Stevie Wonder and, in their eyes, he was going nowhere.'

Fortunately, Marron's gamble paid off because, like Jimi, Stevie virtually lived in the studio. 'There were no hours,'

Margouleff told the BBC's Stuart Maconie in 2010. 'We worked night and day whenever Stevie felt he'd like to work.' As a result, the final bill for studio time came to over \$250,000 – paid out of Stevie's bank account.

explains Margouleff. 'We'd record things and then put them away, with notes like "This needs drums" or "This could use a synthesiser part", or "Maybe Steve could think about the words for this song".'

The first fruits of their

collaboration, 'Music Of My Mind', was released on March the 3rd, 1972, under a re-negotiated deal with Motown which

gave Stevie complete creative control. It was critically acclaimed, but didn't quite make the Top 20 albums chart.

**"The final bill for studio time came to over \$250,000, paid for by Stevie"**

## FUND OF SONGS

With Wonder's stockpile of songs, plus the inspiration that came from working with the most hi-tech musical instrument on the planet, a fund of songs was created that provided material for several albums. 'We kept lists of songs, like a library,'

## JEFF BECK

Stevie returned to Electric Lady to do further work on the tracks that would become *Talking Book*.

The collaboration proceeded in the same way as it had for 'Music Of My Mind', with Stevie, Bob and Malcolm pitching in ideas wherever seemed best.

From the 23rd to the 25th of May the core trio was joined by Jeff Beck, ↪

Work in the studio would begin at 6:30 or 7 o'clock at night and continue until five in the morning. He would often arrive with ideas worked out on the clavinet at his home

Grammy Award-winning producer Bob Margouleff, who helped Wonder develop many of the electronic sounds used on the album

Inside Electric Lady Studios in New York, with its mood lighting, and a floorplan of the studio in which Wonder recorded *Talking Book*. Built originally for Jimi Hendrix, 'it was the shoe that we put our foot in,' said Bob Margouleff

PHOTO: CHERYL FLEMING PHOTOGRAPHY



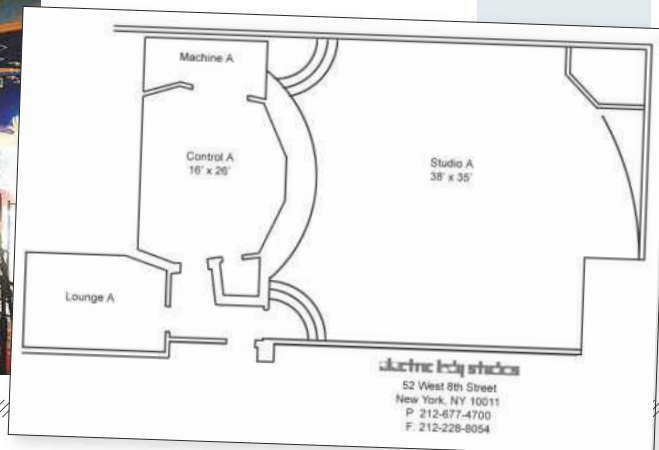
sort of jazz fashion, it was all head arrangements.'

Working with a blind musician, it became prudent to adapt the environment to his requirements.

'I had all the instruments set up in the studio in a circle – the piano, the clavinet, the Rhodes, the Moog, everything,' says Margouleff.

'Stevie could go, just like Braille, from one instrument to the next. They were all plugged in all the time. We fixed a lot of the instruments, modified our sound. We were using guitar boxes on the Rhodes, doing all kinds of experimental things.'

There was also a two-track room tape running at 7½ips to capture anything Stevie improvised between official takes and, because Stevie couldn't remember all the words, Malcolm Cecil would sometimes sing them for him a bar ahead. Listen very closely to 'You Are The Sunshine Of My Life' and you might just hear him.

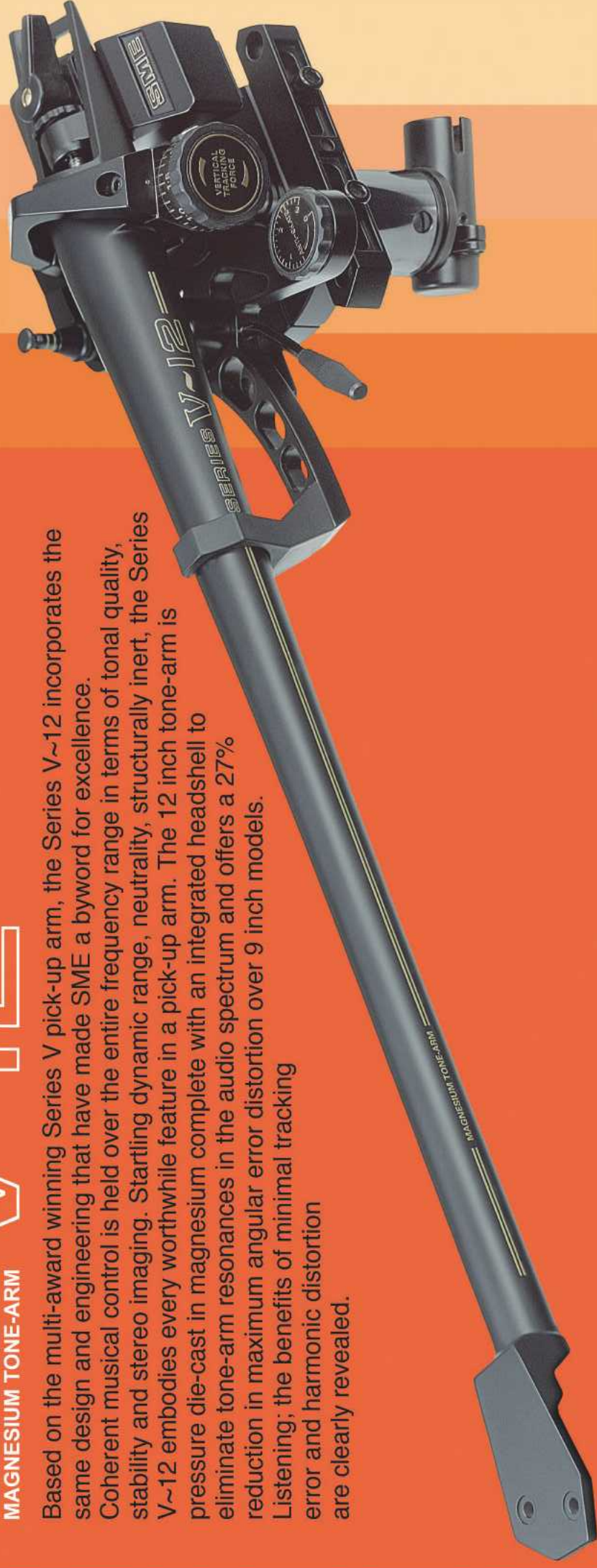




# SERIES V~12

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# SME

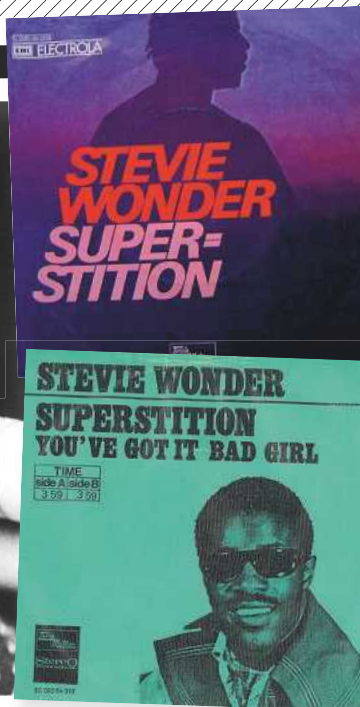
*“The best pick-up arm in the world”*

➔ Motown promo shot of the singer from the mid '70s

➔ Picture sleeve issues of 'Superstition' from Germany on the EMI Electrola label (top) and in Motown sleeve

➔ Jeff Beck playing in 1973. It was Motown's decision to overrule Wonder and release 'Superstition' as a single, which caused a rift between the two musicians

➔ Wonder at the 10th Annual Lady of Soul Awards on September the 7th, 2005, in Pasadena, California



track, 'Looking For Another Pure Love', which Wonder later declared to be one of his personal favourites on the album, along with 'You've Got It Bad, Girl'.

One of the last tracks recorded was 'Big Brother', named for the sinister character in George Orwell's dystopian novel 1984. A bitter attack on the Nixon regime, it was inspired, said Wonder, by 'watching a certain kind of person, black people in the ghettos, people who don't have too much; and about force against force.'

It was also Stevie's first choice for single from *Talking Book*. 'The tune I wanted to release was "Big Brother" but that was done too late to come out as a single. And Motown decided they wanted to release "Superstition".'

## ARE YOU CRAZY?

Despite his re-negotiated contract, Motown still held the final veto on singles. 'I told Motown, "Don't release 'Superstition".' And they said "Man, are you crazy?"'

Beck, understandably, felt betrayed, especially when 'Superstition' gave Wonder his first US No 1 single since 'Fingertips' in 1963. Asked about the conflict, Wonder later admitted, 'I did promise him the song, and I'm sorry it happened.'

The album's other standout track, 'You Are The Sunshine Of My Life', did not appear as a single until 1973 because, although he had written it two years previously when he was married to Syreeta Wright, it

who Stevie had befriended when they played a show together earlier that month in Detroit. Wonder had promised Beck a song in return for his participation in the album. As Beck's keyboardist Max Middleton remembers it, 'When we got to the studio, Stevie was already there with Malcolm Cecil. They literally had over 250 of Stevie's compositions on tape and they started playing them back for us.'

Beck immediately took a shine to 'Maybe Your Baby', and saw it as potentially his next single. However, Stevie

states Cecil, 'was something I was singing to the track and then Stevie started playing it and next thing you know it's in the song. That was how we worked.'

Max Middleton picks up the story again, saying, 'We came back a couple of hours later and "Superstition", as it was released later by Stevie, was basically done.'

Lyrically, 'Superstition' was a song with a very powerful contemporary message. 'A lot of people, especially black folks, let superstition

rule their lives,' Stevie explained. 'This is crazy. The worst thing is, the more you believe in it, the more bad things happen to you.'

## A CONFLICT

As Middleton remembers, 'We went back to the studio the next day and recorded a version with Stevie on clavinet that has so far never seen the light of day.'

'Some of the chords I wrote Stevie took and used later for brass parts he added to his own version.'

Delighted with the result, Beck revealed he'd like to release it as a single. Despite recognizing it as *Talking Book*'s most obvious single, Wonder agreed to let Beck bring it out first. In return, Beck added some exquisitely lyrical guitar to the lovely

'Beck felt betrayed, especially when "Superstition" gave Wonder a US No 1'

decided he'd rather keep the song for his own album.

So, according to Middleton, 'Jeff just said to Stevie, "Play me something funky." Stevie said, "Go out and have a cup of tea and I'll see what I can do."'

With Beck in mind, Wonder set to work on a piece tentatively titled "Don't Be Superstitious". 'I laid down the drums first, then clavinet and voice,' Wonder has said. 'I was excited about it, especially after I put the horns and the synth-bass on.'

'The main riff on "Superstition",'





# Alternate Format Discography



➔ Pictured in 1985 to promote the single 'Part Time Lover'

was actually about backing vocalist Gloria Barley, so he wisely decided to keep it in the can. In the wrong hands this one could have become MOR, but wafted along on Wonder's chorused and distorted Wurlitzer grooves, it fits perfectly into the album, and became a well-deserved No 1 smash.

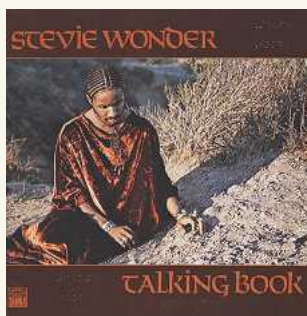
## FOUR GRAMMIES

Released on October the 27th, 1972, *Talking Book* was Stevie Wonder's 15th studio album and his first platinum disc, hailed by *Rolling Stone* magazine as 'The best thing to come out of Motown since Marvin Gaye's *What's Going On*.'

In 1974, the album brought Stevie no fewer than three Grammys, while Margoueff and Cecil won a fourth for their production work.

Since then it has gone on to be recognised not just as great music, not just a forerunner of virtually every electronic funk and pop development that has come in its wake, but also an influence on people in every walk of life.

'Stevie Wonder,' said no less a fan than President Barack Obama when asked to name his musical heroes, going on to chose the album *Talking Book* as a particular favourite. 'It's fair to say that had I not been a Stevie Wonder fan, Michelle might not have dated me.' ☺



## ORIGINAL RELEASE (1972)

The first edition of *Talking Book* [T 319L] appeared in the USA on Tamla Records in a gatefold sleeve, with the title printed in Braille on the album cover. In terms of sound quality it was warm and sweet, but clarity and separation of individual elements in the mix could have been better. Debate continues to this day as to whether it was mastered by George Marino of New York's Sterling Sound, as stated on the cover, or by Kendun in Los Angeles, as indicated in the run-out groove. Nevertheless, it was the music that made the album special.

The UK edition appeared on our domestic Tamla-Motown label [STMA 8007]. As *Melody Maker* journalist Chris Welch discovered when he interviewed Stevie in London, much to the singer's chagrin the cover of the UK release bore the title mistakenly printed in Braille as 'Picture Book'.

The album was also issued simultaneously as a cassette [USA 3746303194/ UK TC-STMA 800] on which the track order was completely banjaxed.

Bizarrely, it seems as though the UK got an 8-track version [8X - STMA 8007] in 1972 on which 'Big Brother' was annoyingly split across two tracks, but Stevie's US devotees had to wait until 1973 (T-319 BT) to be ticked off by the clunky mechanism and the audible click caused by 'You've Got It Bad Girl' being divided between two



tracks. The reason the two nations decided to split different tracks is lost in the mists of time.

## JAPANESE PRESSING (1977)

Probably because of his innate distrust of Motown, Stevie Wonder held onto the original master tape, which he never let out of his possession. Instead, he made a flat copy from his master, and that has been used for every subsequent re-issue whether on vinyl or CD.

This late '70s Japanese pressing [VIP 6003], boasted a thick, leather-textured jacket, plus the mastering is very faithful to the original. This is still widely regarded as the best vinyl edition of *Talking Book*, with the Motown original close behind.

## 180g VINYL (1978)

A 180g edition, still in the gatefold sleeve [USA, 2C 066-93880].

## FIRST CD VERSION (1991)

The first CD version showed up in 1991 [USA, 3746303192; UK 530 036-2]. Although trumpeted as being digitally remastered, it was hardly a game-changer.

## DIGIPAK (2000)

Digitally re-mastered by Kevin Reeves, this US digipak [012 157 579-2] is not highly thought of, being criticised for a tendency towards brightness and harshness.

## JAPANESE SHMCD CD-SIZED ALBUM REPLICA (2009)

The Land Of The Rising Sun produced this very decent-sounding CD-sized album replica [UICY-93933]. It is beautifully presented and it takes up less shelf space than a regular CD. What's not to like?

## AUDIO FIDELITY GOLD DISC (2010)

This numbered limited edition HDCD [AFZ 076] is generally



considered a little better than the original Motown CD, but the packaging was criticised as cheap and shoddy-looking with badly reproduced cover art.

## MOBILE FIDELITY VINYL LP (2010)

Given that MoFi's mastering engineer Paul Stubblebine, like everyone before him, had to work with a second generation tape courtesy of Stevie, this edition [MOFI 1-009] has little to differentiate it from Motown's original 1972 vinyl. This could be why MoFi decided to release it as part of its less expensive Silver Label series pressed at RTI in California on 140g instead of 180g vinyl.

At around the same time, Motown issued a coloured vinyl edition [T6-319S1] which is perhaps best considered as something for the obsessive collector rather than the music lover or the audiophile.

## HDTRACKS DOWNLOADS (2012)

For those of us who don't consider downloads to be sacrilege, HDtracks is now offering *Talking Book* as a set of ten FLAC, 192kHz/24-bit high-quality downloads ([www.hdtracks.com](http://www.hdtracks.com)).

And finally, a special word of commendation to Stevie Wonder for never having watered down his original creation with outtakes, alternate versions or previously unheard tracks. To this day, *Talking Book* remains precisely the same album that he recorded four decades ago.

# The Roxy, *London WC2*

Its doors were open for just 18 months yet it fast became the home of UK punk while its low stage gave birth to 'the pogo'. **Steve Sutherland** takes you to the heart of the live music experience, this month with the story of The Roxy Club in Covent Garden

There are a couple of very good reasons why, alone among all the great British punk groups, The Sex Pistols never played The Roxy. Firstly, their manager and Svengali Malcolm McLaren wanted the world to think that his guttersnipe group had been blanket banned by the GLC from playing anywhere in the capital, so when the invite came he quietly turned it down. Secondly, Malcolm wasn't much one for competition and he considered Andy Czezwowski, the geezer who ran The Roxy, a rival.

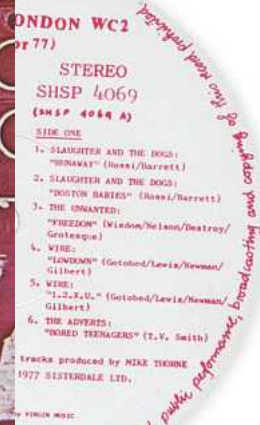
Andy had once done a stint attempting to manage the books at Sex, the retro-pervy clothing store McLaren ran with Vivienne Westwood, while Malcy was away trying his hand in the Big Apple managing The New York Dolls. He'd then peeled off to open his own retro haberdashery, Acme Attractions, just down the Kings Road from Sex in the Antiquarius Antiques Market, and had also entered the music biz managing the early knockings of The Damned.

It was Gene October, soon to be of second division punksters Chelsea, who alerted Andy to The Roxy – or Chaguaramas as it was then known – a gay disco housed in an old warehouse building at 41 Neal Street in Covent Garden. This

➔ *The Roxy London WC2 [Harvest – SHSP 4069] – commonly known as Live At The Roxy – was released in 1977. It has been described as 'one of the most important (and poorest sounding) live albums ever made'*

➔ Roxy regular Siouxsie Sioux (second from right)

➔ *The building at 41 Neal Street in London's Covent Garden as it is today. It is a Speedo shop*



was at the tail end of 1976, the area pretty run down since the flower and fruit market had shipped out to a new location at Nine Elms, Vauxhall, a year earlier.

The club itself, run by a Swiss barrister called Rene Albert, was on its uppers, not making much cash and in danger of being closed down because the neighbours, such as they were, were up in arms about the noise the punters made exiting the venue in the early hours.

## QUIDS IN

Andy saw his chance. He was aware of the punk or new wave scene emerging in the suburbs and, through his Damned experience, understood how hard it was for these rudimentary talents to find a gig. So he sought out Mr Albert and offered him a deal. He'd take over the space on the gay scene's quietest nights, Tuesdays and Wednesdays initially, for a small down payment. Mr Albert nearly snatched his hand off sealing the deal and with the cash from a mate's hocked guitar, the renamed Roxy was born.



It was a quid to get in, the bar stayed open until 1am and the drinks, it was claimed, were to be 'reasonably priced'. Alan Edwards, the new club's PR, told this to the press: 'There is nowhere to play for new wave bands in London at the moment and The Roxy fulfils a need. As for the violent reputation of the audiences – I have seen 50 shows of this type over the last six months and I've seen just one fight.'

'Obviously there has always been violence at rock concerts because it is essentially male and aggressive. But punk violence has been exaggerated out of all proportion. Unfortunately, because of the irresponsible behaviour of the mass media in blowing up certain aspects of concerts, the club may attract people looking for a fight. Punk is



EMANUEL BERGLUND





not about violence. It is about music and, maybe, fashion.'

With all that cleared up, the official opening was planned for New Year's day 1977 but the debut action actually took place on the 21st of December 1976 when a band who had unceremoniously just dumped the aforementioned Gene October, took to what passed for a stage. They were a bunch of whippersnappers who'd hung around with what history has become accustomed to crowning the Bromley Contingent. They featured a baby-faced sneering peroxide egomaniac on vocals name of Billy Idol, a scheming mover and shaker called Tony James on bass and they announced themselves as Generation X.

### PAINT IT BLACK

What the punters found when they first showed up, dressed flamboyantly in the emerging mode of torn shirts held together with safety pins, laddered fishnets and hair spiked up with gunk, was a dark, low-ceiling basement with a stage less than a foot high. The original décor had been pretty tacky – fake red leather and all that – but Andy had the place sprayed black, kept the full length mirrors in place and encouraged graffiti.

There was a small upstairs reception room and bar, with the stage and dance floor downstairs, the punters entertained pre, post and between bands by a DJ Andy had brought with him from his Acme enterprise, a dreadlocked young punk called Don Letts who mostly played the latest hot dub reggae imports from Jamaica not just because they were great but, as he explained later, because there were simply so few punk records released at the time.

The official opening event on January the 1st featured The Clash headlining: an occasion



↖ The Roxy hosted new wave bands too, like Penetration with Pauline Murray

↗ The Monday night residency by The Damned became a huge draw

↗ The Adverts' debut single 'One Chord Wonders'

↗ Roxy flyer showing Tony James and Billy Idol of Generation X

↓ Badge shows Gaye Advert



upon which the audience's reaction set a trend in motion forever enshrined in rock history. Because the stage was so low, kids at the back of the tiny, packed dance floor had to jump up and down to see, and that – along with the fact that they liked what they saw once they caught sight of themselves doing it in the big mirrors all around the room – gave birth to the pogo.

The publicity this generated was a real boon to the club as the press eagerly seized upon this new phenomenon but it came at a cost. The aforementioned ceiling was so low that the bands

could hardly help smashing it with their guitar machine heads and the pogoing audience delighted in punching out the overhead polystyrene tiles along with the result that Andy had to shell out for the ceiling to be rebuilt after almost every show. And then there was the additional small



but niggling expense of having to repeatedly replace the bog chains because punters were nicking them to model as neckwear according to the prevalent new punk vogue.

A week after The Clash, it was Woking's nouveau Mod wonders The Jam's turn to headline, with

quirky local lads Wire in support. Next up, visiting from the States, were chic junkie heroes Johnny Thunders & The Heartbreakers, followed by

popular local pogo merchants The Vibrators, then the infamous Eater, a bunch of schoolboys from Finchley featuring the 14-year-old Dee Generate on drums.

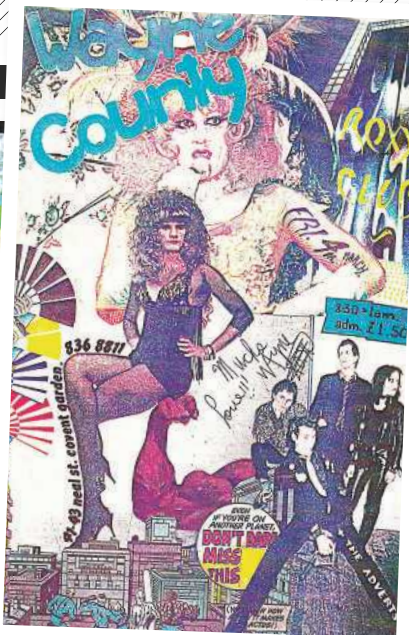
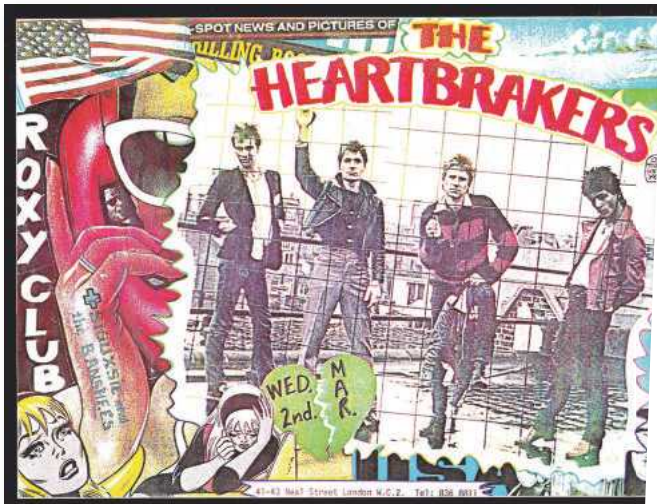
'Totally devoid of musical ideas,' according to Mark P, editor of premier punk fanzine *Sniffin' Glue*, Eater bashed through a set of ☞

'Punters would nick the bog chains to model as neckwear'





## CLASSIC VENUES



originals like 'Youth Youth Youth', which they wrote in a chemistry class, and covers like Alice Cooper's '18', which they reworked into '15'. Brilliantly awful, they surely deserve to go down in the annals for happily declaring Johnny Rotten and the Pistols as 'too old!'

### ONE CHORD WONDERS

Another new band who found the publicity they sought playing The Roxy were The Adverts from Devon, fronted by a would-be spokesperson for his generation – a smart young bloke called TV Smith. They were particularly beloved of the music press because they boasted a statuesque bass player in the fabulous Gaye Advert. Their second-ever gig was at The Roxy in January 1977 and their debut single was called 'One Chord Wonders', which just about says it all.

The venue really took off when The Damned first headlined on

'No band sound-checked and the drums were never mic-ed up'

January the 17th. The band owed Andy money from his management stint and agreed to play for free on the proviso that he booked them on a 50/50 profit share for a month's Monday night residency – a series of shows which saw a nightly audience of 400 eager pogo-ers rammed into a venue designed to hold 100!

Now officially the home of UK punk, The Roxy gave live opportunities to a host of new wave hopefuls including The Cortinas

from Bristol, The Lurkers from Uxbridge, The Stranglers from Guildford and The Buzzcocks from Manchester, the latter of whom

contributed 'Breakdown' and 'Love Battery' alongside fellow Mancs Slaughter & The Dogs' 'Runaway' and 'Boston Babies' to an album released in mid '77 on the Harvest label called *Live At The Roxy*. Despite the fact that no bands ever sound-checked and the drums were never mic-ed up in the sweaty cellar, the album was a pretty good 'un.

Also featuring on this precious piece of vinyl ephemera were the aforementioned Wire, The Adverts, and Eater along with Croydon's Johnny Moped and X-Ray Spex whose charismatic vocalist Poly Styrene does her best banshee wail on 'Oh Bondage – Up Yours!'. Talking of Banshees, Siouxsie

and her crew were also club regulars along with the earliest incarnation of Adam & The

Ants, all-girl experimentalists The Slits, Aussie imports The Saints and loads of 'ere-today-gorn-tomorrow merchants like Ed Banger & The Nosebleeds.

There was a short American season too – Noo Yawk punkette Cherry Vanilla utilising The Police both as her support and backing band while cross-dresser Wayne County & his Electric Chairs strutted their exhibitionist stuff.

### RENT DUE...

Heady times but all was not well behind the scenes and Mr Albert, looking for more dosh and less hassle, eventually ousted Andy Czezowski on the 23rd of April 1977 for non-payment of rent. Siouxsie & The Banshees were playing that night and Sioux announced from the stage: 'Andy's been kicked out of this club [and] the people who actually own the lease here are taking advantage of the fact that he made the place famous. I want every single one of you in the audience tonight to promise that you're never going to show up here again. This place is closing.'

It didn't... quite. It limped on under new management until the 24th of April 1978 but the original spirit was gone. A few diehards protested outside when the doors finally shut but, a mere 18 months since opening, the punk movement was over and done with.

The building which housed The Roxy in Covent Garden is now the flagship store for the swimwear brand Speedo. ☺

Original posters and flyers advertise performances by both US and UK acts. Legend has it that the Roxy was the first club in the UK to use colour Xerox flyers

New wave hopefuls, Slaughter & The Dogs

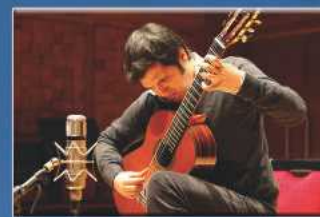
Siouxsie Sioux pictured in 2012



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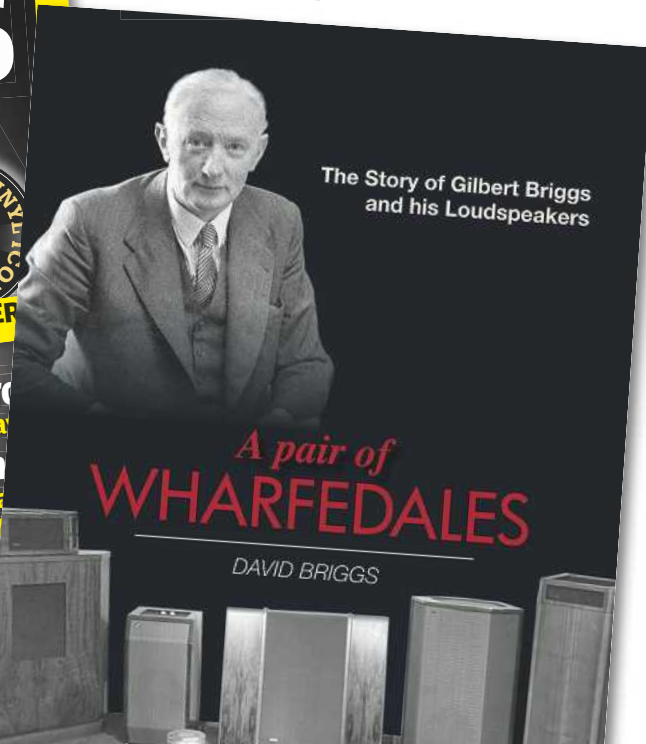


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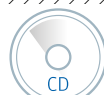
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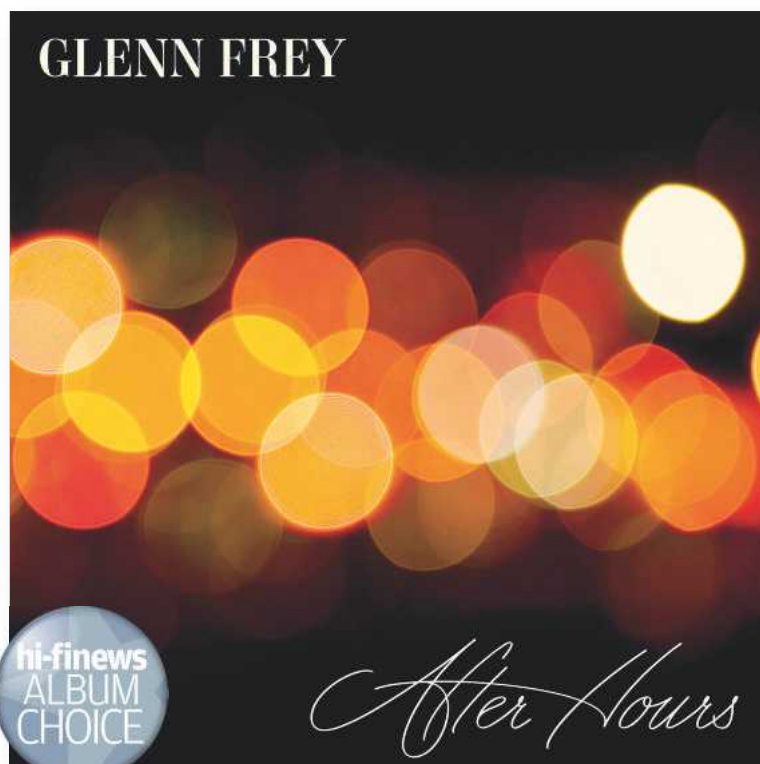
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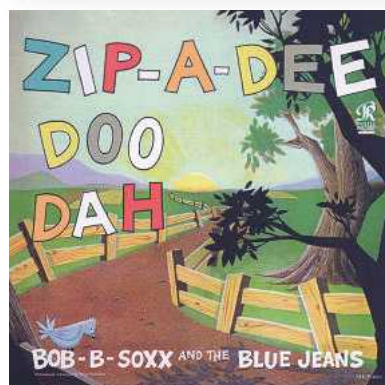
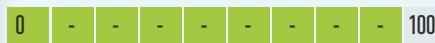
### GLENN FREY

After Hours

UM/Hip-O/Music Direct 003 (180g vinyl)

This might seem a strange choice for LP of the Month: some reviews have been lukewarm, and there's a backlash, too, against ageing rockers covering material which their parents spooned to. But it goes back to Ringo Starr over 40 years ago, followed by Bryan Ferry, Nilsson, Linda Ronstadt, Carly Simon, Jeff Lynne's dire effort – many have covered the standards, while Rod Stewart's made a (fourth) career out of it. But Frey brings something to the table that will surprise you. On 'Route 66', he sounds a bit like Chet Baker, there's more than a hint of Mel Tormé in there, and – like Rachael MacFarlane – he adds some post-1960 signatures, too. His 'Caroline, No', the Beach Boys classic, is simply gorgeous. **KK**

Sound Quality: 90%



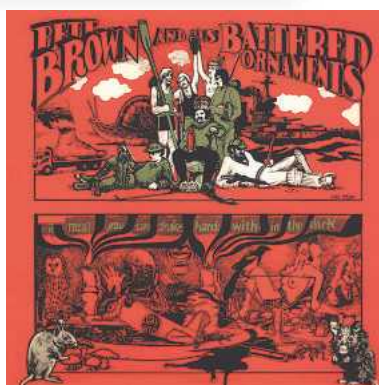
### BOB-B-SOXX & THE BLUE JEANS

Zip-A-Dee-Do-Dah

Sundazed LP5410 Mono (180g vinyl)

Although not the best remembered of Phil Spector's stable – The Ronettes and The Crystals have that honour – this trio delivered a wild update of the title track from the now deemed politically-incorrect Disney cartoon, *Song Of The South*. Bizarrely, it charted in 1962, but then the rest of this, their only LP, contained a few odd covers. On the up side, it featured two more chart hits, 'Baby (I Love You)' and 'Why Do Lovers Break Each Other's Heart?', while the strange choices include 'This Land Is Your Land' and 'White Cliffs of Dover'. Spector girl-group genius, Bob B had a secondary role. Note that one of the two girls was the inimitable Darlene Love. **KK**

Sound Quality: 86%



### PETE BROWN AND HIS BATTERED ORNAMENTS

A Meal You Can Shake Hands With In the Dark

Pure Pleasure/Harvest SHVL752 (two discs, 180g vinyl)

The Harvest label had a certain innate hipness in the late '60s, while Pete Brown's debut LP also enjoyed instant credibility because he was a lyricist for Cream and, especially, for Jack Bruce. This album would have found shelf space with Soft Machine thanks to its jazziness, with Graham Bond or Groundhogs LPs for its blues content. But the real appeal is the Cream connection. 'Station Song' sounds like it could have been on *Disraeli Gears* or *Wheels of Fire* without any modification. Brown's group included prominent members of the UK prog/art/jazz rock scene; this LP also had an early sighting of Chris Spedding. **KK**

Sound Quality: 87%



### BOB DYLAN

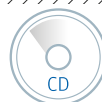
The Freewheelin' Bob Dylan

Mobile Fidelity MFSL 2-378 (two 45rpm discs, 180g vinyl)

February's SACD earned as high a score as one could give a digital reissue in *HFN/RR*: 95%; for many of you, though, this killer 45rpm double will be the definitive. One wonders what it would take to reinstate, or add as bonuses, the four tracks dropped from the initial version, but MoFi has not tampered with it. Instead, it has joined the 45rpm LP movement for superior sonics and the results are intimate, realistic and – I have to admit – more immediate than my US mono copy. Again, what can you say about an LP that gave us 'Girl From The North Country', 'Don't Think Twice, It's Alright', 'Blowin' In The Wind', 'Masters of War' and 'A Hard Rain's A-Gonna Fall'? **KK**

Sound Quality: 95%





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### GRAM PARSONS

Grievous Angel

Mobile Fidelity UDSACD 2059 (two-channel SACD)

Given the treatment rock mags have shown Parsons of late, it's impossible to criticise the World's Most Overrated Cult Artist. Those who should know better still credit him with single-handedly inventing country rock, when rock as a genre started out as an amalgam of C&W and R&B. As for rock, this is by any definition a straight country album, the difference being that Gram wasn't a shorthaired redneck. Some deem this the lesser of his solo LPs, but it does contain two of his finest compositions – 'Brass Buttons' and 'In My Hour of Darkness' – as well as the sublime 'Love Hurts'. Don't get me wrong: this album is splendid. But it is not The Book of Genesis. *KK*

Sound Quality: 90%



### HUMBLE PIE

Smokin'

Analogue Productions CAPP 4243SA (SACD)

One day, someone like Paul Gambaccini will do a radio show about Brit-bands that were huge Stateside but did damn-all back home. Humble Pie could serve as the poster child, while 1972's *Smokin'* will be seen as both their breakthrough album and proof of the schizophrenia: it reached No 6 in the US charts, but only managed No 28 in the UK. Which is odd, as it's not the tedious stadium rock that limited the UK appeal of so many be-mulleted 1970s bands who owned the US airwaves. This is genuine hard rock, its roots clearly in The Small Faces and a testament to Steve Marriott's gutsy delivery. Play it loud – and just try not to do a *Wayne's World* impression. *KK*

Sound Quality: 87%



### ELVIS PRESLEY

Prince From Another Planet

Sony/RCA/Legacy 88691953882 (two CDs + DVD, Region 0)

While Elvis's other post movie-career live sightings seem to have acquired prominence over the concert captured here, the essays in this set present a strong case for his 1972 return to New York as being of greater import. Certainly, he was in astonishing form, though the original LPs proved that. This time, the CDs contain the whole of the afternoon and evening shows from the 10th of June, while the DVD with PCM sound offers a fresh documentary, press conference footage and, by some miracle, an audience member's 20-minute 8mm film, from the days before phones could record high-def footage, synched to the new mixes. An amazing souvenir. *KK*

Sound Quality: 88%



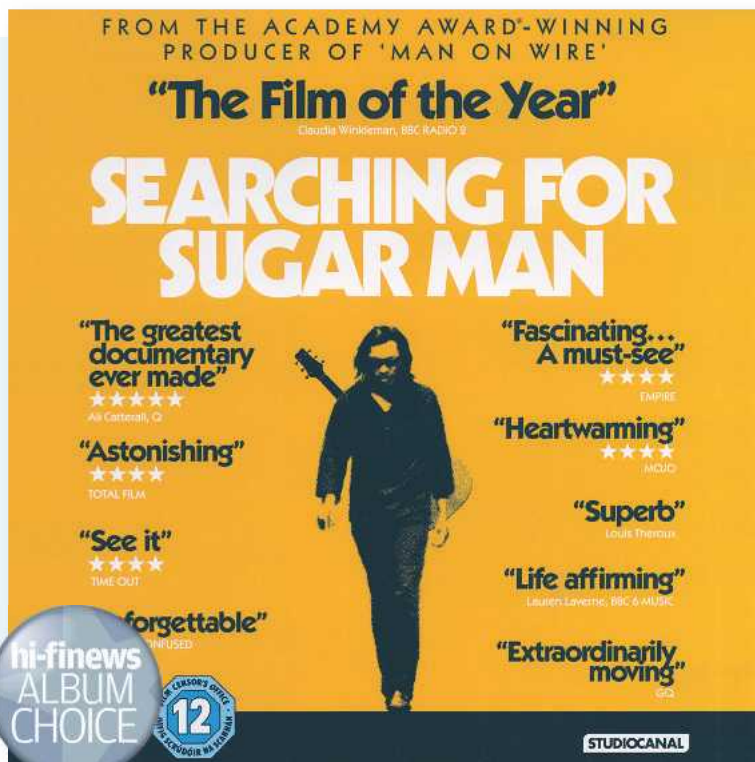
### VARIOUS

Searching For Sugar Man

Studio Canal OPTBD2480 (Blu-ray video, DTS-HD, Region B)

Of all the heartbreaking/heartwarming stories in music – finding Howard Tate, the posthumous success of Eva Cassidy, Susan Boyle's triumph – this one is the most improbable and delightful. Anglo-Hispanic singer-songwriter records two amazing LPs in early 1970s. Both flop in USA; they become cult LPs in South Africa. Rumours suggest he committed suicide on stage. In 1997 a South African journalist and a fan find him working as a labourer in Detroit, unaware of his superstar status in South Africa. The saga has been turned into a documentary – a deserved smash hit at Sundance. If you like the idea of music that sounds like Tim Hardin-via-Don McLean, and you crave a happy ending, don't miss it. *KK*

Sound Quality: 90%





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### CHAPTER 1: A BOX OR A WALL?

#### Distortion

Well over 99% of all loudspeakers are developed and sold as boxes. However, Newton's Laws state: "action and reaction are equal and opposite", which means that as much sound energy is produced from the rear of the speaker cone as the front. The question is, what happens to the rear energy? In a box, it can react with the speaker cone in a negative way, and this creates distortion. Some energy also escapes through the sides of the box, causing 'boxy colouration'

If a loudspeaker is mounted in a cavity wall, the rear energy escapes into the cavity, without affecting the speaker cone at all. It can also be demonstrated that a cavity wall, unlike a speaker box, causes no resistance to the movement of the cone, creating very deep bass. In short, the speaker reacts precisely to the signal fed to it – the perfect loudspeaker.

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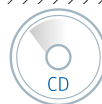
#### Efficiency

A loudspeaker in a box loses efficiency because of diffraction. This is the tendency of low frequencies to radiate through 360 degrees, losing low frequency energy behind the speaker. This means more amplifier power is needed (+6db, or x 4) together with an increase in distortion

Mounting a speaker in a wall means that all low frequency energy has to project forward, meaning higher efficiency, and lower distortion.



Alan Sircom, *HiFi+* Jul-Aug 2012



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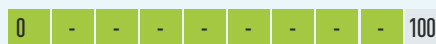
Celebration Day (48kHz/24-bit; FLAC)

[www.hdtracks.com](http://www.hdtracks.com); Rhino Atlantic/Warner Music

The 2007 reunion gig is available in many formats, here reviewed as a 24-bit/48kHz download at 2304kbps. Glorious it sounds in simple stereo, undiluted by visual distraction (however thrilling); the sonics are rich and powerful in all the ways that the 40-years-gone 'The Song Remains The Same' wasn't. Jimmy Page is back on form, scotching fears of unrecoverable dexterity loss; Plant was always a sure hand, constricted only by his own reluctance, while young Jason Bonham outdoes himself

as the anchor point for it all, just like his dear ol' Da. As for John Paul Jones, he is clearly more capable, agile and o'erflowing with invention than ever. 'Where's the bass coming from when he's on piano?' asked a friend. The answer is an octave of bass pedals under his piano, one more astounding skill from Zep's secret weapon. If this was their final show, they went out on a blinder. *JF*

Sound Quality: 85%



### NILS LANDGREN

Sentimental Journey (96kHz/24-bit; ALAC/FLAC)\*

[www.hi-resaudio.com](http://www.hi-resaudio.com); ACT 9802-2

This 2002 album leaves Landgren's trademark funk in favour of softer songcraft, with strings to the fore alongside a jazz quartet of piano, bass, drums and his own renowned red trombone. Landgren leads with Chet Baker gentleness to both his voice and haunting muted trombone, maintaining the mood through a surprising set that includes Kurt Weill's 'Speak Low', Sting's 'Fragile' and unexpected tunes like 'This Masquerade' and, lawks, 'I Will Survive' (not entirely unexpected from a man who released an album of ABBA covers). It's all gloriously lush but with undercurrents of unease from Swedish compatriots FleshQuartet. No sweet swelling strings from this five-piece but fascinating, scratchy Pärtian beds augmented by brass, and strange effects you'd attribute to guitar, except that none is credited. Beautiful stuff, despite the sampling issues (below). *JF*

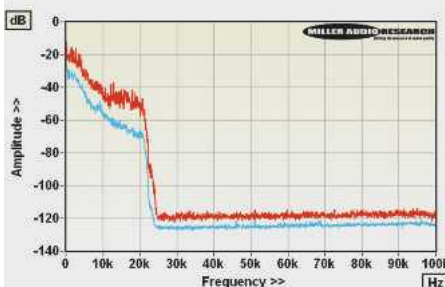
Sound Quality: 80%



### OUR PROMISE

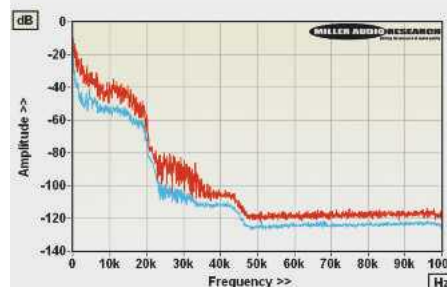
Following our Investigation feature [*HFN*, Jun '11] where we examined the claimed quality of high-resolution downloads, *Hi-Fi News & Record Review* is now measuring the true sample rate and bit-depth of the HD music downloads reviewed on these pages. These unique reviews will be a regular source of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

### LAB REPORT



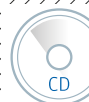
While the potential of its 24-bit dynamic range is rarely acknowledged, there's no escaping the raw energy of this live 48kHz recording. As 'A Whole Lotta Love' illustrates [Graph], there's content right up to ~23kHz and clean thereafter. *PM*

### LAB REPORT



Although this download will light the '96kHz' LED on your DAC, spectral analysis suggests that its content is upsampled from a lower-rate file. The sharp 20kHz cut-off implies this is an asymmetric upsample from 44.1kHz. *PM*





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## IIRO RANTALA

My History Of Jazz (88.2kHz/24-bit; ALAC/FLAC)\*

[www.hiresaudio.com](http://www.hiresaudio.com); ACT 9531-2

Lab results [below] shouldn't overshadow Rantala's rollicking ride through his formative jazz influences, presented part as solo piano but mostly in quartet with violin, bass/cello and drums. He mixes original compositions with interpretations of Gershwin, Monk, Ellington: highlights include a piano-rolling 'Liza', a cabaret-style 'September Song', and an uplifting take on 'Eronel' which captures both Monk's melodic delights and his unique unbending fingerstyle. But also Bach, with five Aria-bookended 'Goldberg Improvisations' scattered so as to disrupt the journey somewhat (they play perfectly pleasantly if programmed separately). There's also variety of piano tone, for example on the Ellington standard 'Caravan', where a softer Bösendorfer sound allows space between Iiro's flying fingers for some frenetic fiddle work from Adam Baldych. Delightful. *JF*

Sound Quality: 70%



## BACH AND BEYOND VOL 1

Jennifer Koh (96kHz/24-bit; FLAC)

[www.cedilrecords.org](http://www.cedilrecords.org); Cedille CDR 90000 134

Described in *The Strad* as 'a risk-taking, high octane player', Chicago born violinist Jennifer Koh won joint second prize in the 1994 Moscow Competition. She's embarked on a project to record Bach's six solo Sonatas and Partitas; this first volume has works alluding, directly or indirectly, to Bach. The Second and Third Partitas bookend Ysaÿe's large-scale Sonata 2 and two contemporary works (a Koh speciality) – Saariaho's short *Nocturne* dedicated to Lutoslawski and a Los Angeles Philharmonic commission, Missy Mazzoli's *Dissolve, O My Heart*, premiered by Koh in 2011. (This talented young composer/pianist was hailed in one NY journal as 'Brooklyn's post-millennial Mozart'...) *Nocturne* exemplifies Ms Koh's fastidious attention to sound; her Bach – less extreme than Faust's or Ibragimova's – has an unvarying intensity which I found somewhat exhausting. *CB*

Sound Quality: 70%



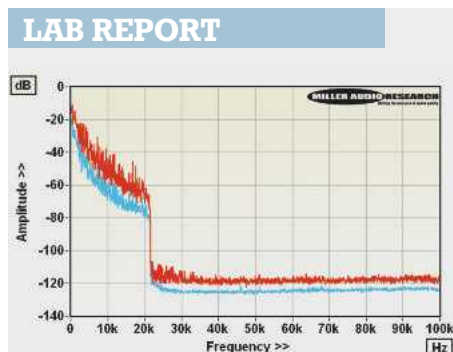
## AN ENGLISH FANCY

Trio Settecento (96kHz/24-bit; FLAC)

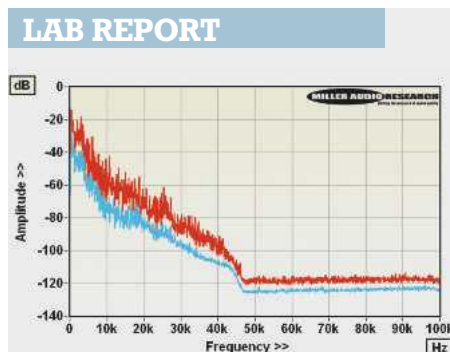
[www.cedilrecords.org](http://www.cedilrecords.org); Cedille CDR 90000 135

Having recorded programmes of early French, German and Italian music, Trio Settecento turns to eight 16th/17th century English composers – Baltzar, Lawes, Locke, Purcell, *et al.* For this conspectus, baroque violinist Rachel Barton Pine had to master the completely different technique required for a gut-stringed renaissance violin replica. She is partnered by John Mark Rozendaal, who has a 1650 bass viola da gamba, and David Schrader, harpsichord or positiv organ. The trio has a lively approach and intonation is beyond impeachment. Their recordings were made last August in the resonant (but never overwhelming) acoustic of Chicago's Nichols Hall. Unsurprisingly, it is the selection of five 'Ayres for the Theatre' by Purcell that stands out. One of two hornpipes from his *Abdelazer* has slowly evolving variations contrived by Trio Settecento to end the collection. *CB*

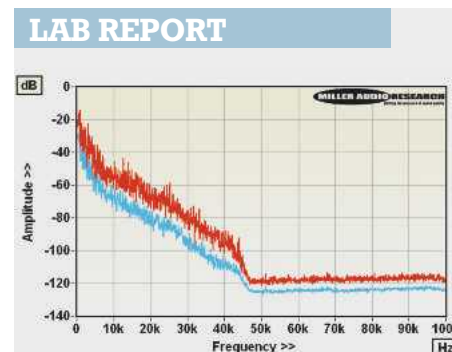
Sound Quality: 80%



Don't be fooled by the glowing 88.2kHz LED on your DAC or media player, for spectral analysis clearly indicates this is an upscaled 44.1kHz file. I am unable to reliably determine whether the original was 16-bit (CD) or 24-bit. PM



Another sensitive Cedille recording with a native 96kHz sample rate that perfectly captures the extended harmonic range of Koh's violin, played with gusto. There's no compression here with occasional peak levels at a mere -6dBfs. PM



Yet another example of a specialist label, with tight control over its own recording and mastering processes, delivering a genuine 96kHz/24-bit file. The range of harmonics from the harpsichord extends well beyond the range of CD. PM



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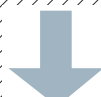
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# HOLLIS BROWN RIDE ON THE TRAIN



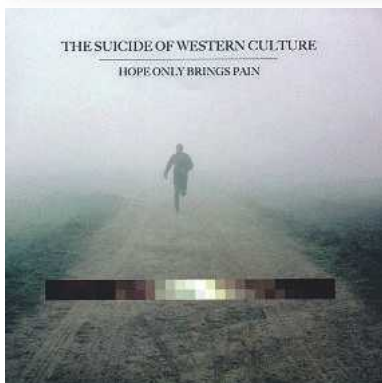
## HOLLIS BROWN

Ride On The Train

Alive Records ALIVE 0140-2

If naming themselves after a Dylan song doesn't put you off, this New York quartet is well worth investigating. Largely because of frontman Mike Montali's microgrit sandpaper voice, they sound a lot like the wonderful Delta Spirit, but whereas that band has moved towards a more contemporary sound, this lot brandish their unreconstructed country-blues roots like a banner for good ol' boys to rally around. Produced in Nashville by the estimable Adam Landry, the album is virtually live in the studio, giving it a rare immediacy in an age of over-produced country-rock. Hollis Brown are refreshingly rough-edged and Jon Bonilla keeps his fiery guitar solos to a minimum, so the songs themselves become the focus of attention. **JBk**

Sound Quality: 93%



## THE SUICIDE OF WESTERN CULTURE

Hope Only Brings Pain

Irregular Records B-27821-2012

Barcelona-based electronic terrorists TSOWC are back with another awesome assemblage of lo-fi retro electronica anthems powered along on jagged, distorted beats. The nearest comparison I can offer is OMD meeting YMO in DAF's sub-basement with all the lights turned off. Neither their name nor the title of their second album is particularly cheery, but their music remains invigoratingly uplifting in a curiously aggressive, industrial wasteland sort of a way. As a reviewer, wading through interminable piles of dross suddenly becomes worthwhile if, once in a blue moon, something as gloriously, mind-warpingly odd as this pops up. **JBk**

Sound Quality: 89%



## ALESSI'S ARK

The Still Life

Bella Union 2532

Although she's just 22, this is the third album by London singer-songwriter Alessi Laurent-Marke. She has rightly enjoyed critical acclaim from the start, but this one pole-vaults her into another league. Largely eschewing the acoustic guitar vibe of previous releases, she has sought out a variety of new textures and ambiances in which to clothe her new songs. Recorded in just three weeks last summer in Athens (Georgia), with producer Andy LeMaster, known for his work with Bright Eyes, Azure Ray and others, *The Still Life* is rich in lyrical innocence, unpredictable melodies and chilled grooves that take a little getting used to, but are well worth the effort. **JBk**

Sound Quality: 92%



## HAUSCHKA

Salon Des Amateurs (Remixes)

Fatcat Records FATCD88

You may recall my enthusing about enigmatic avant-garde German pianist-composer Hauschka's collaboration with the violinist Hilary Hahn [*HFN Yearbook 2012*]. This time, the project is a series of re-mixes of his 2011 prepared piano album *Salon Des Amateurs*, for which he attached everyday objects including gaffa tape, tinfoil, bottle tops, ping-pong balls and vibrators across the piano's strings to add unpredictable and intriguing sonic effects to his compositions. If anything, the re-mixers (including Michael Mayer, Steve Bicknell and Vainqueur) have improved on Hauschka's originals, making the work more coherent and hauntingly hypnotic. **JBk**

Sound Quality: 95%





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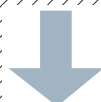
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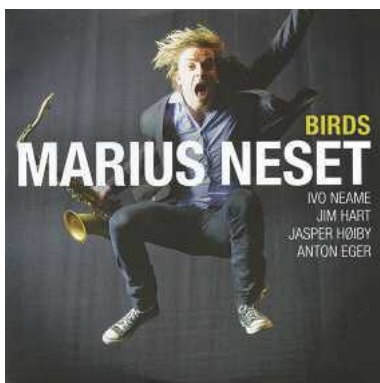
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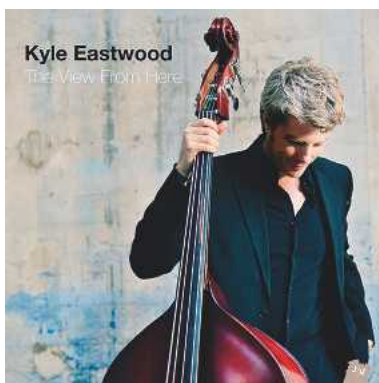
### MARIUS NESET

*Birds*

Edition records EDN1040

Launched just as Edition Records celebrates its fifth birthday, this is a triumphant new showcase for the brilliant Norwegian saxophonist, who burst on to the scene with *Golden Xplosion* in 2011. Here he's fronting a quintet including Jasper Hoiby, Ivo Neame and Anton Eger (who are of course Phronesis) plus Jim Hart on vibes. But the scoring calls for an additional five-piece horn section, with further colours added by Bjarke Mogensen's folksy accordion and some fabulous flute from Marius's sister Ingrid. For *Birds*, Neset has composed 11 pieces that gel as a coherent extended work, and with his boundless energy and soaring imagination really take flight. *SH*

Sound Quality: 90%



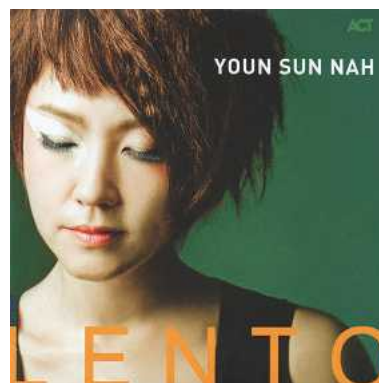
### KYLE EASTWOOD

*The View From Here*

Jazz Village SP 570020

Being the son of Hollywood's biggest jazz fan shaped Kyle's musical tastes long before he formed his own quartet and made his first album in 1998. The next few years saw him recording for *Rendezvous* and *Candid*, culminating in 2011's atmospheric *Songs From The Chateau*. This time, he's on a different label, but still recording in France and still with the same excellent British musicians: Graeme Flowers, trumpet; Graeme Blevins, saxophone; Andrew McCormack, piano/keyboards; and Martin Kaine, drums. A lot of the tunes are grooves, where you might wish they had a few more chords to chew on. But these players know how to sound like they're partying. *SH*

Sound Quality: 80%



### YOUN SUN NAH

*Lento*

ACT 9030-2

After studying and recording in France, the Korean singer broke through with the German ACT label and her 2009 album *Voyage*, following up with *Same Girl*. This time the format, if not the formula, is pretty much the same again, with guitarist Ulf Wakenius, bassist Lars Danielsson, and Xavier Desandre-Navarre on percussion. Nah's choice of material is eclectic, to put it mildly, as while the album title refers to a Scriabin prelude, she takes on the mantle of Johnny Cash with 'Ghost Riders In The Sky.' Yet even this one just about works. Nah can tackle even wild western music without sounding mannered or imitative, and her own songs are direct and appealing. *SH*

Sound Quality: 85%



### JOE LOVANO US FIVE

*Cross Culture*

Blue Note 509996 38761 2 3

For his outstanding *Us Five* quintet, first heard on *Folk Art* in 2009, Lovano brought in two drummers, Otis Brown III and Francisco Mela, to join stalwart pianist James Weidman and soon-to-be-stellar bassist Esperanza Spalding. Now, because of the demands of her schedule, Lovano has drafted in Peter Slavov, who plays on more than half the tracks here. You hear the two duetting on one track as *Us Five* becomes a sextet with two bassists and two drummers. A sixth player on six other tracks is guest guitarist Lionel Loueke, brilliantly counterpointing Lovano's various saxes even if he never sounds like an integral part of this intensely focused group. And Lovano's own playing is more vital and forceful than ever. *SH*

Sound Quality: 90%







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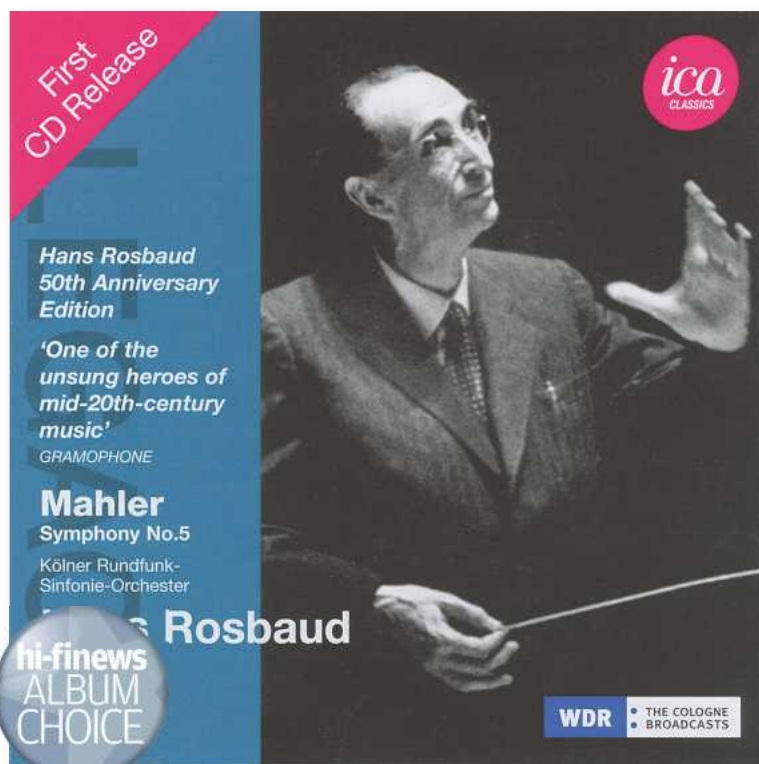
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**MAHLER****Symphony 5**

Köln RSO/Hans Rosbaud

ICA Classics ICAC 5091 (mono)

The Austrian conductor Hans Rosbaud worked mostly with German radio orchestras, where ample preparation time allowed new music to be performed. This Mahler 5 dates from 1951, at which time only the Bruno Walter 78s existed. Rosbaud's performance has transparency in terms of both interpretation and balance: no strand of orchestration gets submerged. It's especially gripping in the outer movements – terrors unleashed in (i), the rondo finale unstoppable – while the *Adagietto* is expressive in a pure way but never mawkish. Rosbaud shows too how the symphony fits perfectly with the neighbouring *Wunderhorn* Fourth and 'Tragic' Sixth. Revelatory! **CB**

Sound Quality: 85%

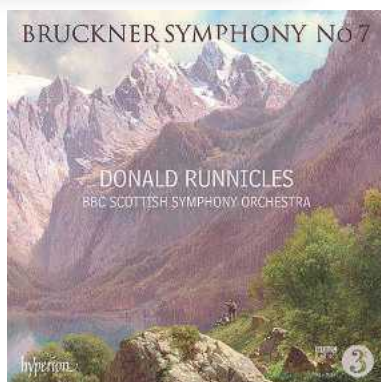
**BERLIOZ****7 Overtures**

Bergen PO/Sir Andrew Davis

Chandos CHSA 5118 (SACD hybrid, 5.0)

Since Andrew Litton became music director, the Bergen Philharmonic has proved a valuable recording orchestra and (notably on BIS) at its Grieghallen venue good sound is a given. Beecham, Münch, Sir Andrew's namesake Sir Colin and André Previn have made memorable overture compilations and this one has similar excellence, with spirited direction and much variety of tone and tension. The opening *Le Corsair* tingles with energy while *Les Francs-Juges* emerges almost as a symphonic poem; *Le Carnaval romain* is subtler than usual. In all, the level of musicianship, both from Sir Andrew and the Norwegian orchestra, is exceptional. **CB**

Sound Quality: 90%

**BRUCKNER****Symphony 7**

BBC Scottish SO/Donald Runnicles

Hyperion CDA67916; up to 96kHz/24-bit FLAC

Recorded a few days after a concert performance early last May, also at Glasgow City Halls, this is a very straightforward Bruckner Seventh – Haas Edition, apparently, but with the much debated cymbal crash in (ii). The sound is admirably clean and the orchestral playing very good. Although repeated playings have lessened my reservations, I still find Runnicles faintly dispassionate: he tends to elide the Brucknerian non-sequiturs (Beecham noted 'six pregnancies and at least four miscarriages') and the language is not addressed, I think, as idiomatically as with Karajan, in his various versions. **CB**

Sound Quality: 75%

**VALENTINA LISITSA**

Piano works by Beethoven, Liszt, Schumann and Thalberg

Naxos 8.572491

To my 2010 Yearbook description 'A sort of Ukrainian Gwyneth Paltrow' should be appended 'with the power of a Julius Katchen'. She's the YouTube phenomenon signed to Decca last year after her Royal Albert Hall recital. Her playing in this 2008 Hannover studio recital suggests reversion to an earlier Romantic style of piano playing and it works extremely well for the *Appassionata* Sonata, less so for Schumann's intimate *Kinderszenen*, where Lisitsa trowels on the expression. I enjoyed Thalberg's grand fantasy based on themes from *The Barber of Seville* rather more than the 15m onslaught of Liszt's *Totentanz*! **CB**

Sound Quality: 70%








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 ROKSAN CASPIAN M2

**WHAT HI-FI? SOUND AND VISION AWARDS 2012**  
 CD PLAYERS  
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**WHAT HI-FI? SOUND AND VISION AWARDS 2012**  
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PMC DB1



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**WHAT HI-FI? SOUND AND VISION AWARDS 2012**  
PRODUCT OF THE YEAR  
AUDIOQUEST DRAGONFLY

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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

# When digital is analogue

It's tempting to think that digital information exists in its own private vacuum, untouched by the hardware through which it passes. **Paul Miller** thinks otherwise, and has the graphs to prove it...

I've been meaning to return to the subject of digital interconnects for quite some time. In fact, ever since *HFN* published the first measurements showing the impact of auxiliary devices (HDDs, etc) sharing a hub with a USB DAC [*HFN* Dec '10]. And then we followed this up with a graph illustrating the impact of two different USB cables on recovered jitter performance [*HFN* Jan '11]. Peter Wood's very thoughtful letter [see p107] made me realise how much time had passed. And good timing, of course, is at the root of the best that digital audio has to offer.

### DIGITAL DEBATE

Since the turn of 2011, computer audio enthusiasts have typically shifted their online discussions about the sound of USB cables to debates about the sound of their preferred media software. *HFN*'s ongoing analysis of high resolution music downloads [see p88] remains the elephant in this particular forum room but the divide that still separates the 'bits are bits' brigade from the expert digiphile who has experienced otherwise remains as wide as ever. Nevertheless, whatever the focus of these discussions

'These analogue waveforms represent a digital (audio) code'

over the 'sound' of digital audio – and the transmission of digital audio in particular – there are certain, fundamental considerations common to all.

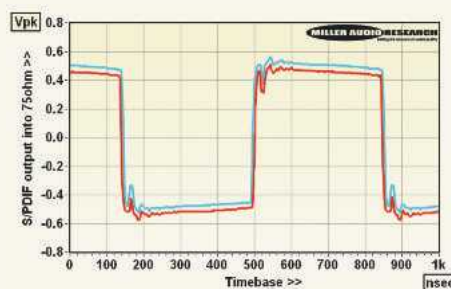
Peter's letter refers specifically to the traditional S/PDIF digital output of CD/DVD and other transports. This format was hamstrung at its inception as the receiver (the DAC) has no control over the timing of data from the source (the transport). Typically, a PLL is used to establish a lock on the highest frequency of the incoming data and the audio clock is recovered from here. Asynchronous USB has a distinct advantage as the DAC may send a synchronising clock back to the source. Based on this feedback, the source adjusts the timing and number of samples that it sends over to the DAC.

Whatever the format, the digital data passing between source and DAC can be likened to a series of very high frequency pulses. These pulses take the form of a squarewave whose leading edges are interpreted as either a logical 'one' or 'zero' by the DAC. At some point in the chain a data-slicer determines that a transition – an edge – has occurred, and any 'uncertainty' or interference here may manifest as jitter and exert some influence on sound quality.

### DIGITAL OR ANALOGUE

The graphs on this page illustrate a couple of 'cycles' of this data. They look very different but they are supposed to represent exactly the same information. I have used the persistence (envelope) averaging suggested by Peter, showing the maximum (blue) and minimum (red) deviation over one million transitions. As you can see, the max/min variation is rather less significant than the relative difference in waveshapes.

Because these two digital sources have different bandwidths (frequency

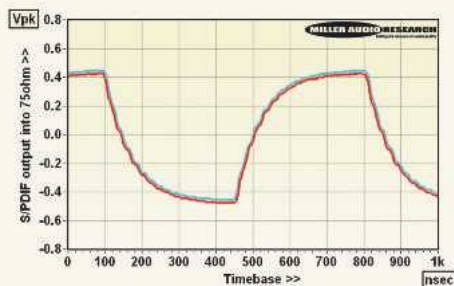


ABOVE: Digital waveform from a transport using an active, buffered line-driver output

responses), one looks a lot 'squarer' than the other and has a much better defined edge shape. The graph [below left] shows a digital output with inbuilt low frequency filtering. It's free of any ringing or circulating RF interference but the risetime is poor and the 'edge' more of a curve. Using an active line driver to supply the digital output yields fast risetimes but brings the possibility of ringing or overshoot [graph, above].

What we are seeing here is an analogue waveform that represents a digital (audio) code. And as with any Radio Frequency (RF) signal, it is important to ensure the output impedance of the source, the characteristic impedance of the digital interconnect and the input impedance of the DAC all match one another. Only then will the data be transferred with maximum efficiency and integrity.

The IEC60958 specification for domestic digital gear suggests a characteristic impedance of 75ohm while that for USB's twisted data pair is closer to 90ohm ( $\pm 15\%$ ). In practice, this is not always the case and mismatches in impedance, deliberate or otherwise, may influence the risetime of the digital edge and cause a percentage of the waveform to be reflected back and forth between source and DAC. So, do these two 'identical' digital outputs sound the same. What do *you* think? ☺



ABOVE: Digital waveform from a transport using a filtered, transformer-coupled output





## 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

# Hungry for hi-fi

**Barry Fox** takes you to a place where live music thrives, yet audio hardware is hard to find and access to music outside its borders risks prosecution – unless you await a change in the weather

There are not many places left on Planet Earth where people seldom hear foreign musicians, or their records, and can't have modern audio equipment. Think North Korea and Cuba.

I didn't fancy North Korea, so took a trip to Cuba. After Fidel Castro overthrew the government of hated dictator Batista in 1959, and grabbed all American property in Cuba, the USA bodged an invasion in the Bay of Pigs in 1961, triggered the Missile Crisis of 1962, tried to kill Fidel with poisoned cigars and started a trade and travel blockade that still persists.

### COUNTRY OF PARADOXES

Fidel banned luxuries but subsidises education and culture. Children learn to play musical instruments from an early age and continue through college. All for free. So the country is teeming with fine musicians playing for low wages or tips in just about every bar and café. Most are selling their own CDs, usually made at the EGREM studio in Havana which Castro grabbed from RCA.

This is the studio where in 1996 American guitarist Ry Cooder recorded a bunch of ageing Cuban musicians under the name *Buena Vista Social Club*.

Cooder had to travel to Cuba via Mexico to avoid the trade ban. Although he had pioneered digital recording (making *Bop 'Til You Drop* in Los Angeles in 1979, with a 32-track 3M machine) Cooder preferred the 1950s gear, which is still used by EGREM.

*Buena Vista* was, of course, a huge success, but you don't see the CD or documentary DVD on sale in Cuba because it was an American recording. When the *Buena Vista* musicians tour in



**ABOVE:** A shop in Havana sells CDs and DVDs alongside acoustic musical instruments (left) while another displays TVs and mini systems from Sony and Samsung, most of which are grey market



the USA, they can only be paid expenses. But Cuba is a country of paradoxes. The famous Hotel Nacional in Havana stages regular concerts by a *Buena Vista* band with younger Cuban musicians replacing the oldsters who have died since recording for Ry Cooder. The Nacional bar has a full size statue of Nat King Cole and a 1946 Wurlitzer juke box, modified to play CDs, that pumps out Frank Sinatra tracks.

The only way for locals to hear American music is to wait for weather propagation quirks to bring in FM signals from Key West or New Orleans, or (like one taxi driver I met) risk prosecution and get a Sirius XM satellite car radio, with the subscription paid for by a friend or relation living in the USA.

His neighbour, the driver told me, had got a DirecTV digital radio and TV satellite box from the USA and camouflaged the roof dish it needed. Again the subscription was paid for in the USA.

The Cuban owner was splitting the audio and video output feeds with his neighbours. They all have to watch and listen to the same programme, but it sure beats the five Cuban TV and dozen FM stations which churn out only Cuban fare.

Finding a shop that sells audio and video hardware was hard enough;

finding anything resembling hi-fi proved impossible. The only consumer electronics worth having come in as grey imports. One shop was proudly demonstrating how a budget 4.1 Home Theatre in a Box, costing the equivalent of \$140, boomed loud and unpleasantly. Another shop was offering 1000W 'DJ Effect' systems from Sony and Samsung for around \$1000.

### APPLE BARRED

The CD and DVD are still very much alive and well in Cuba because the digital revolution has not yet arrived. The only MP3 player I saw was a Sanyo CD/MP3 disc portable for around \$100.

I spotted only one person, a tourist, listening to an iPod. But I did see several youths wielding boomboxes.

Fixed-line internet access is expensive, around £10 an hour, and slower than old-fashioned dial-up. Mobile internet is £8 per megabyte. So downloading just one iTunes track would cost £50.

Apple is, of course, barred from selling anything in Cuba, except to the American soldiers who are holed up inside the Guantanamo prison camp.

Sooner or later – after the ageing Castro brothers Fidel and Raul have died – the US trade embargo will be lifted and Cuba will relax its own trade barriers. Given the country's love of music, Cuba will then quickly discover hi-fi. ☺

'Mobile internet is so expensive that to download one iTunes track would cost £50'

# Take Centre Stage



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\*August 2012 Issue





## 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

# Insult and injury

Visited a hi-fi shop recently? While most battle on valiantly, emphasising service before sales, there are those who seem to put their own needs above those of their customers, says **Barry Willis**

**T**wenty-something years ago I worked as a service manager at a high-end audio store, an enterprise that had been saved from extinction by an airline pilot who acquired it in a bankruptcy sale.

When 'Gene' wasn't flying – commercial pilots have lots of time off – he was in the store, presiding over his little empire, interfering with every transaction and generally making a pest of himself. One of his favourite gambits was to throw new customers off their guard by insulting them:

Gene: What do you have now?

New Customer: Er, a Pioneer SX-780.

Gene: Oh my god! That's a piece of c\*\*p! How can you possibly listen to something like that?

**RIGHT: 'While we'd love to sell you one of our products, we'd hate to sell you the wrong one.' First pages of a Sony brochure from 1974 – one year into the first recession to hit the West after the post-World War II economic boom**



g into a well-stocked hi-fi shop could in any normal man. e things sit there staring at you. on row of speakers in every conceivable rs, tuners, tuner amps, and decoders. es, record changers, pick-up arms and ets and showcards so technical as to to explain themselves. you make the right choice? ut yourself in the hands of the salesman, uff. est way is to gen yourself up before of you taking the latter course, Sony this little booklet. f glossary of technical terms. ogue of almost every product that nces explained. ove to sell you one of our products, the wrong one. **SONY**

## ALL TOO COMMON

I never knew where Gene got his people skills – perhaps in one of the ultra-high-end salons he liked to visit during stopovers in New York – but it was the exact opposite of establishing rapport and providing help, and one that sent 99% of new visitors right out the door. His disdainful attitude was comically extreme, but unfortunately all

too common in the several such places where I worked – or visited, which until recently, was something I hadn't done in a very long time.

A project with a friend required us to spend a couple hours one afternoon in an upscale A/V emporium owned by two partners who vie with each other to be as nasty as possible to everyone who enters their shop.

While there, an older German couple came in and asked Partner No 1 about a video projector. They didn't want a screen; they wanted to project onto

a blank wall. Rather than recommend a projector (several of which were in stock) and the right kind of paint for such a purpose, Partner No 1 told them that what they wanted to do was impossible. He

turned away earnest customers because he didn't want to be bothered by what he saw as their small-scale intentions – never mind the potential for profits to come had he befriended them and helped them realise

their goal. What he wanted was to sell projector and screen, audio system and installation. In short, everything or nothing.

Less than 20 minutes after the older couple departed, a fellow in his mid-40s came in and asked Partner No 2 about a particular Sony receiver – why it was several hundred dollars more than a similar model with almost identical specifications. Without getting up from his desk, Partner No 2 barked something about 'putting out more current', which provoked several technical-neophyte questions about watts and ohms and power ratings. Annoyed,

Partner No 2 said he didn't have time for such a discussion. There was no one else in the store.

The earnest older couple and the guy with the questions both left without buying anything. If they really understood the message from the store's owners – that they were beneath contempt – they will never return.

## HEAR MY PLEA

Later I overheard the two partners commiserating about the beating they have taken during the recession. In the United States, standalone audio specialty stores have almost disappeared. Inexcusably boorish behavior is at least as much to blame as competitive pricing on the internet.

Retailers, hear my plea: your mission is to take care of everyone who enters your place of business, regardless of the smallness of their budgets or the limitations of their knowledge. Be nice. Treat them with the utmost respect; they are the natural resources upon which you depend. If you have grown so jaded that this no longer makes sense, then closing time has finally come. ☺

'They turned away customers because of their small-scale intentions'

# Objects of Desire



Oracle – Paris Mk V Turntable



Oracle – CD 2500 MKIII Player



TAD – Evolution One Speakers



Cabasse – L'Ocean Speakers



Cabasse – Eole 2 Speakers



TAD – D600 CD Player/DAC Streamer





## 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

# Radio activity

Could a tiny USB device spell the end for conventional FM tuners? **Jim Lesurf** reckons so, after spending time experimenting with software-defined radio. Owners of classic tuners take note!

Say the words 'computer' and 'radio' together and chances are that your first thoughts will be of the many internet radio stations that are now available. However, when it comes to sound quality, audiophiles tend to regard internet radio with some suspicion, preferring to stay with traditional FM and VHF broadcasts.

In recent years a number of TV tuners have appeared in the form of computer cards or USB attachments (cutely called 'dongles'). I bought one of these – a Hauppauge 290e – in the summer of last year. Its intended use is to let you watch or record Digital TV on your PC. So I can connect it to my computer, run the free cross-platform multimedia player VLC [see [www.videolan.org](http://www.videolan.org)] and watch SD and HD TV on my PC monitor.

### THE SOFT APPROACH

But the real reason I bought the Hauppauge was that it enables me to record the transmitted data streams for analysis. And it has proved very useful in this regard. Which set me wondering. What other uses could devices such as the Hauppauge support? The 290e seems to be limited to receiving terrestrial UHF digital TV. But what about other kinds of radio signals, broadcast over a wider range of frequencies?

This led me to discover the new world of software-defined radio or SDR. Some readers may recall Arcam experimenting a few years ago with a new tuner that demodulated and processed the FM signal using digital methods. This didn't catch on at the time, perhaps because the technology wasn't ready, or perhaps because audiophiles simply preferred their trusted all-analogue FM tuners. But I suspect that may soon change.

'It provides a level of performance that can shame tuners of the past'



**ABOVE:** The Newsky TV28T TV tuner (left), which the author is using as a software-defined radio receiver, can be had for as little as £10 while the FUNcube Pro Plus (right) costs close to £200



Now there is a growing range of USB SDR dongles, costing from just over a tenner (eg, the Newsky TV28T) to nearer £200 (the FUNcube Pro Plus). The cheaper examples tend to suffer from poor sensitivity and are prone to interference. The expensive ones can incorporate far better circuitry, being designed with an eye on achieving good performance.

Various programmers have been developing open source software to control these devices and process their output in all kinds of ways. Up to now, the emphasis has tended to be on amateur radio enthusiasts. The attraction is that a highly affordable USB stick lets them use their computer as a radio that can tune from low frequencies

right up to almost 2GHz and thus receive all kinds of different signals.

The FUNcubes were originally designed for picking up weak transmissions from scientific satellites! However, you can see the writing on the wall for conventional FM tuners when you look at the specs of these new devices and consider the sheer processing power of a modern computer. Given the FUNcube and its sophisticated

filtering, etc, I can easily imagine something like it making the basis for a truly superb FM radio tuner. With all the IF filtering, stereo demodulation done in software. It provides a level of optimisation and performance that shames the tuners of past decades, and at a fraction of the cost.

### UP FOR GRABS

Maybe one or two commercial manufacturers will now grab this opportunity and use the technology to produce tuners that work superbly rather than cheaply and cheerfully. If not, a cluster of computer programmers and radio enthusiasts may beat them to it!

Whatever the outcome, I've already bought a TV28T and a FUNcube Pro Plus to experiment with further. I'll see if I can contribute to the open-source software, if only in a small way.

I still have my Yamaha CT-7000, and a Leak Troughline. Though the Troughline is favoured by many, my personal vote for the best ever FM tuner goes to the CT-7000 [HFN Aug '12]. But I wonder if SDR might well change my opinion on that over the next five years or so.

If you're holding on to a 'classic' old tuner, take note. Their secondhand values can go down as well as up! ☺



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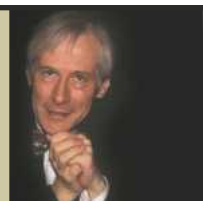
"This emotional range is one of the last great frontiers in hi-fi -- and the C1.1s break new ground. At a time when systems in general and loudspeakers in particular seem to play things ever safer, opting for flat frequency response, resolution or some other technical parameter, at the expense of musical expression and involvement, the C1.1s are a welcome breath of fresh air. The challenge they represent for listeners comes in the form of a question, "Do you want to play it safe or are you feeling adventurous; do you want music to confirm what you already know or become a voyage of discovery?" Think carefully, because the wrong answer will generally prove expensive -- even if it might have seemed like the "safe" solution at the time. If it's adventure you want (or need), look no further than the C1.1s. Believe me, they'll take you on quite a trip!" **Audio Beat Jan 09 2012 an article by Roy Gregory**

"But for me the real star of the Show was the revised Raidho C1.1 bookshelf loudspeaker. There are subtle changes between this model and its C1.0 predecessor, but it took about a nanosecond to realise you were in the presence of greatness, even given the lofty company and its over-achieving predecessor.

**Alan Sircom's CES 2012 Show report issue 86 Hi-fi Plus**

"the C1.1's were simply sensational" .."had these two-way stand-mount speakers fallen within my purview, I would have nominated them for Best Sound of Show" **Jonathan Valin from Absolute Sound at CES 2012.** Who has since awarded the C1.1 **The Absolute Sound's Golden Ear award**





## Christopher Breunig Music Journalist

Christopher Breunig trained as an architect but became won over by music and collecting classical recordings. He was Hi-Fi News' Music Editor from 1986-2000

# Behind closed doors

When classic recordings are remastered, who can tell what techniques have been utilised? **Christopher Breunig** wonders if we should just listen without nostalgia for the past

**T**owards the end of last year, Somerset House exhibited ten black and white, silver gelatin prints made in the 1970s by the great Henri Cartier-Bresson, juxtaposed with colour work by 14 other, international photographers.

Unsurprisingly, those 'pure analogue' images stood out, for one reason or another. Some of the colour prints were also from film negatives – although whether the enlargements were from digital processing we weren't told.

With music we're now moving towards higher-resolution releases (hopefully, *not* from upsampling) than the CD can offer. But who knows exactly what transpires behind studio doors?

Twice recently – in his February '13 Off the Leash and on his March vinyl reviews page – Ken Kessler has expressed disappointment in finding that EMI's remastered Beatles collection on vinyl [*HFN* News, Dec '12] comes from digital rather than analogue sources.

### MORE THAN A TIDY-UP

We like to think that engineers will seek to retain the character of any recording they are about to remaster for reissue, but anyone with, say a Speakers Corner LP and the equivalent UK Philips or DG

first pressing will hear significant differences – the marvellous Skrowaczewski/Minneapolis SO Prokofiev *Romeo and Juliet* ballet suites comes to mind...

The company evidently tries to 'improve' the sound, even if its transfer ethos is purist: see 'Truly Analogue' at [www.speakerscorner.de](http://www.speakerscorner.de).

### COMING UNSTUCK

But should we be surprised when digital technology has been involved? I have a vivid picture of – some years ago – watching at Abbey Road Studios an EMI classical tape being used for cutting a lacquer for David Wilson's vinyl reissue label. The old audio tapes were stuck together (original editing) with adhesive tape and flew apart from time to time!

I've always understood that, when Herbert von Karajan made his often quoted pronouncement 'All else is gaslight', he was referring to the potential offered by digital *editing* rather than the CD medium itself. (His first digital release for DG, Mozart's *The Magic Flute*, came with a bonus 45rpm disc with both the new and his 1938 Polydor version of the overture.)

So, whereas in the old days engineers needed to find suitable places in the score (pauses, etc) in which to make an edit, now a single off-pitch semiquaver can be cut and pasted from another take.

It's better to enjoy what can result from available technology rather than feeling



**ABOVE:** Obsessed with recording technology: conductor Herbert von Karajan, photographed for DG by Werner Neumeister

robbed of some abstract ideal. The same goes for digital vs film photography.

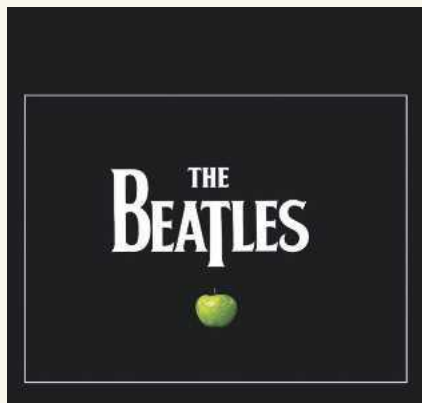
On a related matter, when I wrote an Opinion page about the VPO/Solti

Wagner *Ring* repackaging [*HFN* Nov '12] the press information then to hand mentioned 'tape-hiss reduction', rather suggesting that Decca had gone back to its

'A single off-pitch semiquaver can be cut and pasted from a different take'

analogue masters. Later, however, it was stated that the re-editing was done using a 1997 digital version, as the originals had deteriorated too badly for re-use. Also, the Blu-ray in the set is from a 24-bit/48kHz submaster.

Now, it appears from internet exchanges, enthusiasts are seeking to rip tracks from the Blu-ray disc, although HDtracks offers the set inexpensively, in the four constituent operas, at this same specified resolution. ☺



**ABOVE:** The 2012 Beatles 16LP set on 180g vinyl was transferred from digital masters

## 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.

## OUT OF PORTS WHEN HI-FI HOGS YOUR ROUTER...

I noted with interest the extensive connectivity options offered by the Oppo BDP-105EU universal player [*HFN* Jan '13]. But there is one connectivity option which could be better specified, not only on the Oppo but many other players. That is, Ethernet connectivity.

The problem isn't immediately apparent, because the Oppo player, like an increasingly large number of products from other manufacturers, includes an Ethernet socket – but therein lies the problem. Most routers only offer four Ethernet ports and, given the increasing number of items using them, these are soon filled.

Ideally, products should have not one, but two Ethernet ports, so that they could each act as an Ethernet switch. This would allow the connection of a further Ethernet-connected product to the network via that extra port. This would be very useful for hi-fi components located some distance from the router, with each Ethernet-connected unit requiring a cable run back to that router.

Ideally, all that would be needed would be a single long cable run to the hi-fi stack and then shorter cable runs between components. At present, the only way to achieve this is by purchasing an Ethernet

switch, which must then be located near to your hi-fi rack.

One alternative would be for components to fully implement HDMI 1.4, which provides for Ethernet over HDMI, so Ethernet connectivity could, in theory, be handled this way. But I don't know of any hi-fi manufacturers that do so. I asked Oppo if it offered this facility with the BDP-95EU [*HFN* May '12] and it said that it didn't.

One can, of course, always use wireless Ethernet. But this is always likely to be inferior to a wired connection.

*Chris Naylor, via email*

Paul Miller replies: Unless you are using a Blu-ray player and need an internet connection for BD Live functionality, for example, I would always recommend that audiophiles use a dedicated PC/Mac or NAS drive with a local router to best realise high resolution 'virtual' music files. Specialist manufacturers cannot build in ethernet switching any cheaper than the cost of a separate box from one of the mass market PC suppliers. Similarly, the cost of HDMI licensing is generally prohibitive for all but the largest AV receiver manufacturers, which is why we don't see HDMI on audio gear. NAD's M51 amplifier [*HFN* Jul '12] is a very rare exception.



**ABOVE:** Rear of the BDP-105EU universal player, as pictured in our Jan '13 issue. Inputs include HDMI, two USB and coax/optical S/PDIF plus Ethernet (no eSata).

Send in your views to:  
Sound Off, Hi-Fi News, AVTech Media Ltd,  
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e-mail your views to: letters@hifinews.com –  
please use 'Sound Off' in your subject field

## New pre/power for sub £4k?

### REPLACEMENT FOR LINN LK1 PREAMP SOUGHT

I am in the position of having to buy a new preamp and power amp to replace my Linn LK1. There's now no output to the speakers whatever source I select and I have been told it is beyond repair. Therefore, I was wondering if your reviewers might be able to recommend some amplifiers costing £3k-£4k (possibly a little more) that offer the same facilities as the LK1?

*Mark Warner, via email*

Ken Kessler replies: 'Where to start? There are so many sublime products in this price category, but I would advise considering an integrated amp rather than separate pre/power units for the best value for money. I simply love the Marantz PM-11S3, a stunning solid-state integrated within the price category, while I would look to Copland's CTA-405 for a nice valve equivalent. Unfortunately, Mr Warner hasn't indicated which speakers he's driving, so I can't advise *vis à vis* specific power requirements, but I would add to the list the latest PrimaLuna and Unison Research all-valve models within the price band. And if you told me to buy something for my own use, it would have to be the Audio Research VS160.



**ABOVE:** The Leema Tucana II integrated would make a fine replacement for a cherished Linn pre/power duo

Steve Harris replies: Matching the facilities of the LK1 could be a tall order, as this was one of Linn's more feature-laden efforts in the late 1980s. You won't find too many preamps today that give you balanced line inputs and two tape monitors as well as MM and MC phono inputs. Still, most come with remote as standard, rather than as an option like the LK1's.

I agree with Ken that you'd be best advised to consider an integrated at this price level. One that I could add to his list is the beefy and capable Leema Tucana II, at around £3600. This is a thoroughly revised and upgraded version of one of Leema's original breakthrough amplifier products from 2006, and inside it's completely dual-mono, with a massive toroidal transformer for each channel.

You'd need to add a phono stage, such as Leema's own Elements model, but the Tucana would give you one set of balanced inputs, plus one really useful feature that was unheard of in the LK1's day – a front panel input for your MP3 player.



## On testing CD transports...

READER'S SUGGESTS APPLYING METHOD USED TO EVALUATE USB COMPLIANCE

I was reading the February issue of *HFN* over breakfast and came across your test of the Metronome T3A Signature CD transport. Your lab report is a sort of 'what do I test?' question as it's, well, a CD transport, so what's to test? You capture a shot of an individual S/PDIF bit to show rise and fall times, and leave it at that.

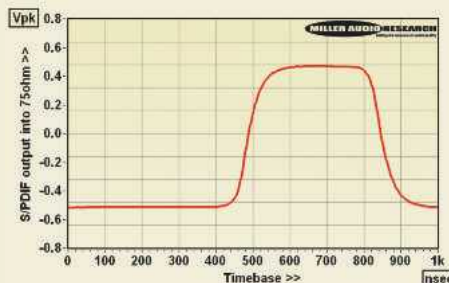
Can I make a suggestion? Why not do an eye diagram? You clearly have a 'scope (or 'scope-ish type thing') hooked up to your test rig picking up the S/PDIF output, so set it to trigger on a rising edge towards the left hand side of the screen, set the timebase for two or three bits across the bottom of the screen, turn on persistence, and let it capture a few thousand bits.

In theory, the bits should all overlay each other. In practice, of course, they won't and the way that they fail to do so may be 'interesting' in terms of investigating differences between transports. Which, of course, shouldn't happen.

It's a standard test for USB compliance and for radio transmission modulation testing. I see no reason why it shouldn't be applied to S/PDIF. I assume it's an absolutely steady bit rate with a data block structure superimposed on it?

*Pete Wood, via email*

Paul Miller replies: Audiophiles the world over are discovering that a hearty breakfast supplemented by a copy of *Hi-Fi News* magazine provides the ideal start to the day. Frankly I'm surprised it's not the sixth item on everyone's five-a-day. But back to the topic at hand and S/PDIF



**ABOVE: S/PDIF digital output waveform from Metronome T3A Signature transport**

(the Sony/Philips Digital Interface Format) in particular. S/PDIF is a serial, bi-phase mark encoded data stream transmitted as sequences of frames that comprise the specific user/channel and parity bits plus 4-bits of auxiliary data and 20-bits of audio data (the last two blocks may be combined to support 24-bit audio).

The digital output data rate for 44.1kHz CD is 2.8224MHz but to ensure a decently square 'edge' for the transitions that define the 1s and 0s the S/PDIF transmitter really needs a bandwidth comfortably in excess of this value.

Pete has raised an interesting topic by suggesting the use of persistence or envelope averaging to capture any 'uncertainty' in the timing of the S/PDIF waveform but, as I elaborate in my column this month [see p98], the clock stability of most (decent) high-end hi-fi S/PDIF outputs is rather better than we might imagine. In practice, and all else being equal, the wave 'shape' (and characteristic impedance of the hardware) can tell us far more about any likely incompatibilities. I should also add that *HFN*'s digital domain tests include confidence checks plus monitoring for any CS- or Q-CRC error flags.



**ABOVE: The Metronome T3A Signature transport boasts a Philips CDM12 Pro 2 v6.8 mechanism plus individual transformers for its laser pick-up, servo and control functions**

## Lanes On Your Entertainment Superhighway



**RJ/E Forest**



**RJ/E Cinnamon**



**RJ/E Vodka**



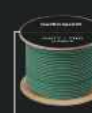
**RJ/E Diamond**



**Cat 600 Pearl**



**Cat 700 Pearl**



**Cat 700 Forest**



**Cat 700 Carbon**

Since its origins in the early 1980's, Ethernet, and the Local Area Network (LAN) systems it enables, has become the copper plumbing of the digital age. Originally deployed only over coaxial cable, the Ethernet protocols (IEEE 802.3) now also apply to fibre-optic and "Category" (Cat 5, 5e, 6, 6e, 7) cables. These 8-conductor (4 twisted pairs) Cat cables are the 8 lanes which stream or transport your digital entertainment to equipment a foot away or several rooms away.

AudioQuest refers to its pre-terminated leading-edge Cat 7 cables as the RJ/E Series ... RJ for the RJ45 connector standard to the application, and E for Ethernet. For AudioQuest, the highest Cat 7 standard (with all 4 pairs using correctly differentiated twist rates and individually shielded) is only the solid foundation to which AQ then adds better materials and unique-to-AQ additional technologies.

The particulars of the RJ45 connectors have also received extreme attention. The plugs used on the Vodka and Diamond models (and available for use with bulk Cat 700 models), feature a unique patented transition-compensating system which reduces reflections caused by the impedance mismatch where 4 twisted pairs meet a straight line of 8 plug contacts.

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# Core questions on cables

READER'S QUESTIONS ON THE CONCLUSION THAT CABLES DO SOUND DIFFERENT

Thanks for a very interesting magazine that strikes the right balance between education and reviews. Paul Miller's piece on cables in the January issue – 'The colour of wire' – was also enlightening. As far as I know, no electrical measurements have correlated to aural results.

I have two questions. How are the terminations modelled/set up under test? The amplifier/preamp inputs are certainly not purely resistive so are you listening to the 'best' sound that translates to the least interactive cable? Could this explain why particular cables sound better in certain set-ups?

The second is a query. Has anyone measured the phase shift of a complex signal through the cable with a more reasonable input than a resistor? I would imagine shifts in phase of the harmonics would greatly affect the sound. Also are these shifts (if present) frequency dependent with regards to the cable? I would envisage a piano 'chord' to be a good input to test this.

*Jake Haskell, USA*

Paul Miller replies: Jake makes some interesting suggestions although the idea of using 'real music' signals to attempt a better correlation between what we measure and what we hear is an enduring one. However, whether we are attempting to characterise the performance of a DAC, an amplifier, loudspeaker or, as in this case, a length of speaker cable, then a flurry of musical notes is not necessarily the ideal tool. This may seem counterintuitive but audiophiles of a certain age may well remember such a test being unveiled in an overseas publication in the 1980s.

If memory serves, the magazine published waveform plots (oscillograms) and compared the same snapshot of music taken from a series of different CD players. Differences in the perceived levels of subjective detail were then correlated with minute variations in the visible appearance of these waveforms. I remember the terminology being somewhat more grandiose at the time, but what escaped the pseudo-science was the fact that any differences in the fine



ABOVE: PM's column, *HFN* Jan '13

structure of the waveforms was indicative of nothing more than the relative high frequency responses of the CD players.

Far better, in practice, to generate 'synthetic' musical multitone where we have control over the relative frequency, magnitude and phase of the components. I have looked at this approach in the past and not come up with anything terribly significant as far as cables are concerned. Most cables are typically widebandwidth low-pass filters and as low-pass roll-offs are rather better behaved in respect of phase distortion than high-pass filters, the impact this has on cable 'sound' may be less intrusive than we might first imagine.

Our subjective testing involves the use of an amplifier with a vanishingly low output impedance so, by inserting lengths of cable, we can effectively compare the sound of 'no cable' with 'some cable'. The 'lumped parameters' of each cable – their resistance, capacitance and inductance – act as an additional component to the loudspeaker network which typically exerts far greater swings in phase and associated group delay.

Ironically perhaps, it is our decades of 'controlled' subjective experience that best informs any prediction of cable sound. Having auditioned almost every type and thickness of conductor with every permutation of dielectric in a host of different geometries means we are rarely surprised by the sound of a 'new' cable.

## WIRELESS FRONTIER?



Not only are wires still very much the lowest-distortion highest-performance way to send both analog and digital audio information, but when it comes to sending power, "wireless" is just a nifty science project, not part of a home entertainment rig.

The challenge of not adding distortion as AC power goes from the wall to the electronics, and the challenge of not adding distortion as audio power is sent to a loudspeaker, are almost the same. The amount of energy transferred through these cables, and the size of the associated magnetic fields, puts them in a different class from all other audio and video cables.

Speaker cables need to maintain perfect integrity across the audio band and then some, while AC cables only have to try to be perfect in a narrower band. AC cable design is therefore a subset of speaker cable design because AC cables are subject to almost all the same distortion mechanisms, and benefit from almost all the same damage minimizing techniques.

For the most sophisticated power-transfer cables, for the best sound and video, please visit [audioquest.com](http://audioquest.com) for more details.

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# Why don't you measure bass?

THE SIMPLE ANSWER IS THAT WE DO, AS SPEAKER-MEASUREMENT MAESTRO KEITH HOWARD EXPLAINS...

I am a regular reader of *Hi-Fi News* and certainly appreciate the in-depth lab tests that accompany the product reviews. However, there is one aspect of the loudspeaker lab reports that irks. Why is it that you only measure to 200Hz? Other titles regularly publish measurements below this and, after all, bass is one of the most important factors when it comes to sound quality.

*Alan Holden, via email*

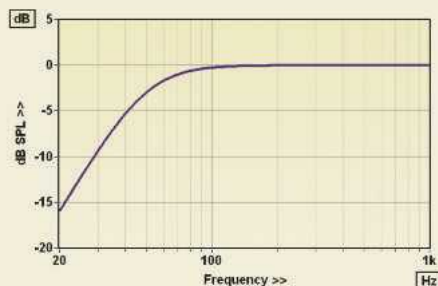
Keith Howard replies: We don't just measure down to 200Hz in *HFN's* speaker tests: we do measure bass response, which is how we are able to quote the frequency at which output falls to -6dB relative to 200Hz. What we do not do is tack that bass response, measured using the near-field measurement method, on to the far-field response measured at 1m on-axis. Mr Holden's letter gives me the opportunity to explain why.

First let's address the issue of why the 1m on-axis response graph is curtailed at 200Hz. This response is measured in a normal, reverberant room using a 'quasi anechoic' method in which the measured impulse response from the speaker is time windowed such as to include only that portion which arrives before the first room reflection, which typically reaches the measurement mic around 5ms (5 milliseconds) after the direct sound from the loudspeaker.

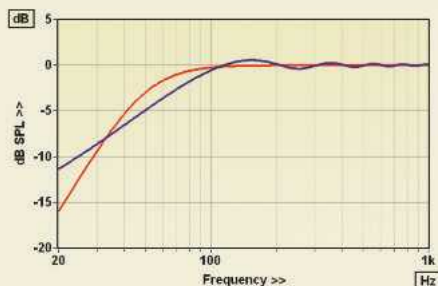
When this time-windowed impulse response is converted into an equivalent frequency response, the 5ms time window restricts the frequency resolution to 200Hz. This means not only that the response below 200Hz is inaccurate; it also means that the resolution of the measurement remains poor until, say, 1kHz. Luckily, loudspeakers are generally well behaved at these lower frequencies, reducing the likelihood that we will miss any narrowband response features as a result.

It would be gratifying to be able to say that, apart from the smoothing imposed by the 200Hz frequency resolution, the far-field responses that we publish are entirely accurate representations of the speaker's frequency domain performance from 200Hz up. But they are not because another effect of the time windowing is to add ripples to the lower end of the frequency response.

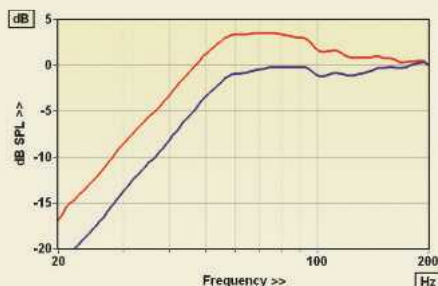
The graphs included here illustrate my point. If we simulate the impulse response of a closed box loudspeaker with a fundamental resonance frequency of 50Hz



**ABOVE: Fig 1, Simulated resp. (red) is identical to measured resp. (blue) with 256ms window**



**ABOVE: Fig 2, measured response with shorter 5ms window adds ripples (blue)**



**ABOVE: Fig 3, measured nearfield response with (blue) and without (red) correction**

and a maximally flat frequency response ( $Q=0.707$ ) and we use a long time window (256ms) to generate the frequency response, we obtain the result in Fig 1 where the red trace shows the theoretical frequency response and the blue trace the measured response – the agreement between the two is so good that they overlap. Whereas if we reduce the time window to 5ms (Fig 2) we don't just screw up the result at bass frequencies, we also introduce ripples where the response ought to be flat.

These ripples vary in character according to the speaker being measured and the time window used so they are not readily removed, and things can be worse than shown here as a result of low frequency ambient noise being present in the measurement. This is the first factor that

makes tacking a near-field bass response on to a far-field response less than ideal. Because of the ripples there is guesswork involved in choosing the appropriate frequency to perform the merge, and it is easy to end up with the bass level incorrectly represented relative to the far-field response.

'Less than ideal' becomes 'ludicrous' when the far-field response is combined with a near-field bass response that has not been diffraction corrected. The point of the near-field measurement method is that the microphone is placed so close to the diaphragm(s) of the bass driver(s) and to the reflex port(s) or passive radiator(s) that the microphone does not 'hear' the effect of the room in which the measurement is performed. Unfortunately this also means that the microphone does not 'see' the loudspeaker cabinet and how sound diffracts around it in a frequency-dependent way. As a result, a non-diffraction-corrected near-field bass response is highly misleading.

Figure 3 shows an example. Here the red trace shows an uncorrected near-field response and the blue trace the same response after diffraction correction using the KHF tool from LspCAD. The red trace is clearly not what you'd expect of a competently designed loudspeaker; the blue trace is much more plausible; the difference between them amounts to 4.3dB at 60Hz. To tack the former on to a far-field response really is madness, and yet it is done.

We could choose, of course, to tack on the diffraction-corrected near-field response instead but there are additional reasons for not doing that. First, the near-field measurement process itself involves uncertainties: the radiating area of drive unit(s) and port(s) has to be estimated so that their relative contributions can be correctly weighted but that involves some potential error particularly in the case of the flared reflex ports widely used today. Second, there are different diffraction correction tools available, each of which gives somewhat different results.

Given these uncertainties, we content ourselves with quoting a frequency at which the bass response falls to -6dB ref 200Hz in the diffraction-corrected measurement, sometimes with a comment on the nature of the bass roll-off. But as we like to have high confidence in the accuracy of our measurements we do not publish the near-field response itself – whether tacked on to the far-field response or not.



## Romance of vinyl...

ANOTHER TURNTABLE TRAVESTY SPOTTED

I remember enjoying a number of letters published in *Hi-Fi News* last year where readers had sent in photographs they had taken on their travels of adverts featuring turntables. Turntables, shall we say, not quite as the readers of *HFN* might know them.

In particular I remember the picture sent in of the huge advert that had been seen on the Cote d'Azur for the Monte Carlo Orchestre Philharmonique [see *HFN* Jun '12]. This showed a turntable with the arm mounted on the wrong side of the deck.

Now I've spotted one myself, which is currently to be seen at various stations on the London Underground. Nice ad, lovely deck, but what a shame the tonearm is missing its counterweight! Quite what our suitor would have heard as the needle settled into the groove is anyone's guess, though sweet music it surely wasn't.

*Louis Johnson, via email*

HFN replies: Thanks for sharing that with us, Louis. If other readers have snaps of audio-related ads that have made them smile, send them in.



**ABOVE:** Needle match – advertisement for match.com seen on the Underground

## Weighty matters...

PLEASE TELL US HOW MUCH KIT WEIGHS!

I am a newcomer to *Hi-Fi News* having picked up the March issue in my local shopping mall here in Spain. While I enjoy all the technical information in the magazine, one thing puzzles me. Why do you not include the weight of the components you test in the tables at the end of the Lab Reports? Other readers may disagree, but I think this information is of real interest if you are thinking of buying a component reviewed.

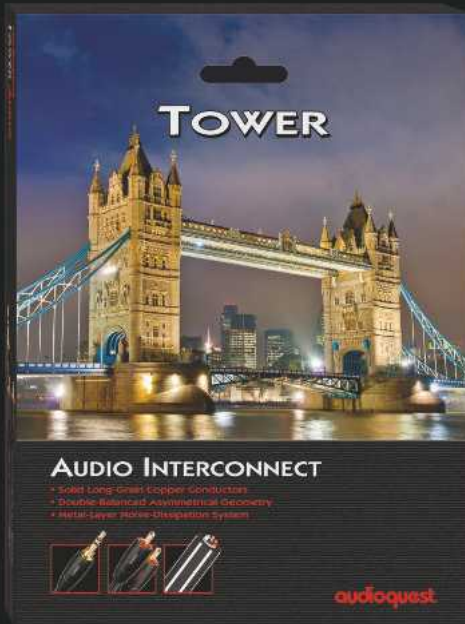
Also, the March edition carries an advert for The Bristol Show, which takes place between the 22nd and 24th of February. Now, if I lived in the UK and bought the March edition in early March – which logic tells me would be the sensible thing to do – I would have missed the show altogether.

In short, why do the editions appear so early in the month, before the date on the cover? Why not follow the example of *Motor Sport* magazine and release each issue on the 1st of the month that actually appears on the cover?

*J A Ribot, Barcelona*

Paul Miller replies: We have a saying at *Hi-Fi News* along the lines that 'if you have to ask, then you're unlikely to be able to lift it!' Nevertheless we do try to mention the weight of the amplifiers and loudspeakers in our reviews and especially where the numbers go north of 25kg or so. It seems that high-end hi-fi is getting heavier by the week – my back is still aching from our review of the 100kg Magico S8s [*HFN* Dec '12].

Your other point about the magazine coverdates is well put, but the reasons are part historical, part practical. Along with many other periodicals, *Hi-Fi News* is not published every month but every four weeks so that we can accommodate 13 issues a year. As the year progresses the relationship between the coverdate and month of publication slowly widens until they are 're-sync'd' around the time of our Yearbook in Oct/Nov. Thus, our March issue was on the newsstands in plenty of time for the February Bristol Show.



## We've Got Your Back ...

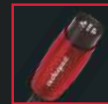
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Music is our Passion

# Rogers Cadet III amplifier

Does this little valve integrated from 1965 make the perfect starter vintage amp? Time to take it to the test bench and find out how it measures up today...

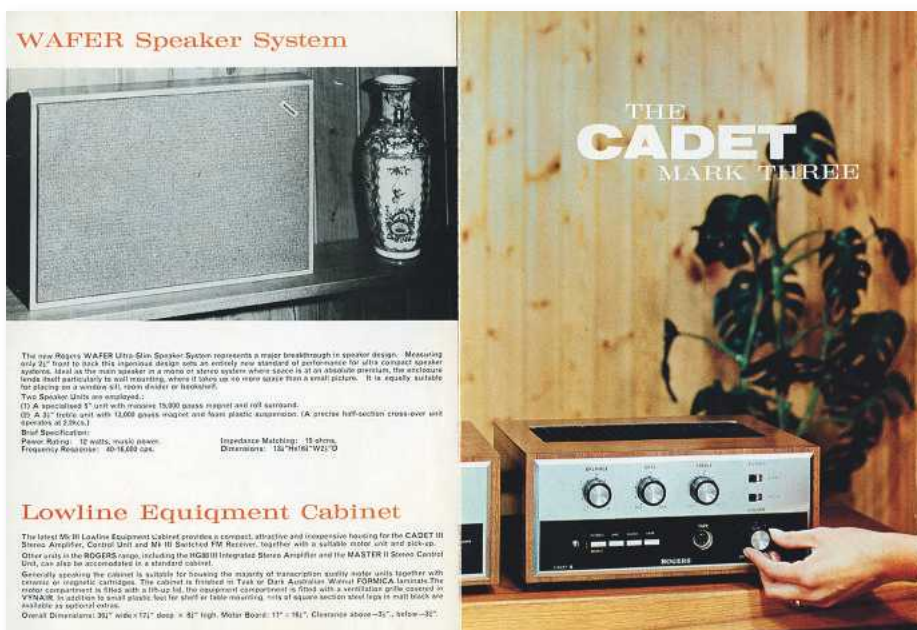
Review: **Tim Jarman** Lab: **Paul Miller**

**W**hen it comes to vintage hi-fi, it's not always the largest and most expensive units that are the most fondly remembered. Cheaper offerings that have touched the lives of a far greater number of listeners over the years often inspire stronger feelings of affection and remain in demand long after their more expensive rivals have been forgotten. Such is the case with the Rogers Cadet III amplifier, a 10W design from the final years of the valve era.

The original Rogers Cadet appeared in 1958 as an amplifier and control unit combination for mounting in a cabinet along with a record deck – as was the fashion at the time. The arrival of stereo saw Rogers release a two-channel version of the control unit, which could be used with a pair of the original amplifiers. These models sold in comparatively small quantities, and are now seldom to be seen.

## STEREO FROM THE START

The big step forward came in 1962 when the Cadet II was announced. This also came packaged as an amplifier and control unit pairing but was built for stereo from the start, with two channels of amplification assembled onto each chassis. The valves used in the amplifier were two pairs of ECL86s, a Philips design which combined an output pentode that was essentially a



**ABOVE:** Original Rogers brochure shows the Cadet III flanked by a matching FM tuner, the Cadet, plus the WAFER speaker, which could be hung on a wall. All components sported wooden enclosures

de-rated EL84 with a small triode whose characteristics closely mirrored one half of an ECC83. This valve was designed to give good audio quality at moderate power levels. The integration of these two functions into one slim glass envelope made it possible to construct a reasonable

record player using only one valve, a good one with two and a complete tape recorder with just three. The Cadet II control unit housed a further two ECC83s and was optimised to function with the high quality ceramic cartridges that were available at the time, notably those from Decca and Philips. It also offered a DIN-type socket on its front panel for tape recording and replay – an unusual fitment to British equipment during this period.

## A REVAMP

The Cadet II was a very popular amplifier, being a good performer that was also keenly priced. It neatly straddled the gap between the better class of portable record player (such as the famous Hacker Gondolier, which was also based around a pair of ECL86s) and the larger and more expensive hi-fi components of the day,

**LEFT:** Four ECL86 valves hide behind a small sheet of painted steel. The pink-coloured sleeve over the capacitor on the right of the chassis is vital for safe operation of the amplifier







like Rogers' own HG88 amp. Despite its popularity, the model was revamped in early 1965 and renamed the Cadet III.

Outwardly, the styling of the control unit was made tidier and revised to match the tastes of the day. But, alas, the amp chassis lost its neatness and symmetry. Not that this was an issue since it was designed to be hidden away.

As well as the styling, two important changes were made to the circuit. Firstly, the control unit's gain was increased in order that magnetic cartridges like the Shure M44 and M75 series could be used – something that was only possible with the Cadet II if an extra preamplifier containing two EF86 pentodes was added. This was achieved in the new design by the use of special ECC807 valves and an extra stage, meaning that the

*'The Cadet III is possessed of quite exceptional midrange clarity'*

Cadet III control unit became slightly wider than its predecessor.

To enable users to optimise the control unit to their choice of cartridge, six matching networks were offered, each housed in a small metal can with a plug-in base. The two most popular ones

(magnetic and low output ceramic) were included as standard in the package, with the others available to special order.

The other big change concerned the amplifier, whose output was raised from six watts to ten. Since the ECL86 valves stayed the same, the old trick of simply raising the HT voltage was used to achieve this, by virtue of a voltage doubling circuit in the power supply, which employed modern silicon diodes in place of the original selenium rectifier. Tests

**ABOVE:** A restyled aluminium fascia gave the Cadet III a more modern look when compared to the previous Cadet II model. The DIN socket for a tape recorder was an unusual addition

conducted at the time showed a marked increase in distortion at all frequencies above about seven watts [see Lab Report, p118], so in practice this was still a small, low powered unit.

### NEGATIVE FEEDBACK

The amplifier circuit was otherwise conventional, using traditional auto-bias for the output stages and a moderate amount of negative feedback taken from the 10-15ohm loudspeaker output to suppress distortion and flatten the response.

Just as with the Cadet II, the control unit and amplifier were sold as a pair and were not available separately, the control unit being powered from the amplifier via an umbilical cable which also carried the left and right audio signals along with mains power to and from the on/off switch.

The two control units are not interchangeable, incidentally, not least because the Cadet II used an octal plug to connect it to the power amplifier while the Cadet III used a much smaller B9A one.

Various cabinets were offered, including one which could house both the units together. Later, a single-chassis version was offered with all the components mounted on one unit, although the circuit remained largely unaltered.

Setting up a system today brings with it the traditional old hi-fi nuisance of non-standard connectors, in particular the screw terminals for the loudspeakers. As ever, the correct solution is to have ☞

**LEFT:** Brochure shot shows how a complete Rogers system blends with a stylish mid-'60s interior. Loudspeaker positioning is hardly ideal, but who could argue with the chair and rug?



The Cadet Mk. II Stereo Amplifier, introduced at the 1962 London Audio Fair, was the first amplifier to exploit the potential of the then new high quality ceramic cartridges, and made possible for the first time the assembly of a complete stereo system of true high fidelity quality at a new low price. The new amplifier was enthusiastically received and soon became established as the most popular medium priced stereo amplifier on the British High Fidelity market.

With the introduction of the latest Mk. III Cadet this reputation is further consolidated and, feature for feature, the new amplifier is unmatched by any other unit of comparable or even higher price. Major improvements comprise: greater power output, increased pick-up sensitivity and entirely new styling. New detail design features include pick-up matching by Plug-in Adaptors, High and Low Pass Filters, Silicon Rectifiers in the power supply, Tape Monitoring and improved Output Transformers. A feature common to all ROGERS equipment has been modest price in relation to performance: this feature has never been more apparent than with the new Cadet

Mk. III. A number of factors contribute to this policy. Initially the design is tailored to essentials, gimmicks and 'sales features' are studiously avoided. Efficient production is achieved in a modern well equipped factory, including a complete metal work shop where all chassis are made under our own control. No attempt is made at mass production the aim being individual construction to a very high standard. The unique methods of construction and wiring employed in themselves contribute to a consistently high standard of workmanship. A number of ingenious aids to production are also employed including recently introduced component forming tools. Rigid quality-control is maintained and every unit is thoroughly tested by skilled engineers. Every input and control facility is checked and no unit is passed that does not equal or better the published performance figures. A high level of production is ensured by the consistent demand for our products both in this country and in all major overseas markets.

Matching components in the Cadet III System include the new Lowline Equipment Cabinet, the Switched FM Receiver and two entirely new Speaker Systems.

1000 0000 0000 0000 0000 0000

## VINTAGE HI-FI

**RIGHT:** A view of our review sample from underneath shows the neat layout. Many of the components have been replaced as some of the original types were not especially durable

adapters made up rather than to start drilling holes in the gear. The same applies to the inputs; the sockets are a bit too close together to use modern cables with their often bulky plugs so some short adaptors may be necessary.

### TIM LISTENS

With 10W on tap, sensitive loudspeakers are a must – forget any ideas of Rogers LS3/5As! Many years ago I used a pair of AR Red Boxes (92dB/W/1m sensitivity) with a Cadet II power amplifier to good effect but for this review my standard set-up of a pair of Monitor Audio PL100 loudspeakers and a Cyrus CD8 SE2 CD player was employed.

The choice of output impedances is 3-5ohm or 10-15ohm so it's unfortunate that most modern loudspeakers fall between these two ranges. This being the case, the 3-5ohm output seemed to give the best results in my tests, but it is always worth experimenting [see Lab Report].

The track 'Fascination' by Everything But The Girl [Blanco Y Negro 4509 92319 2] showed that the Cadet III is possessed of quite exceptional midrange clarity when used to play uncluttered types of music such as this. At moderate listening levels, appropriate for a pleasant evening's entertainment, it would be hard to ask for much more in this department.

The treble is vivid and clean too, although I did feel that some of the usual sparkle was missing from the top end of many of the recordings that I tried.

One real problem though was the bass, which lacked any real sense of control and would often boom and swell, obscuring any musical detail that was present further up the register. I generally like to avoid tone

controls on amplifiers, but in the case of the Cadet III I found the 60Hz rumble filter to be a really useful feature for combating bass waywardness. It does not solve the problem completely, but at least reduces it to a far more acceptable level.

Surprisingly, the Cadet III will play loudly quite easily but I did notice that the sound became compressed and lost some of its fine midrange detail at a point somewhat short of the hard limit where rapidly

increasing distortion was encountered. This little amplifier is surely a private pleasure, not a party animal.

All the same, the sense of scale which the Rogers could lend to Dvorak's Slavonic Dance in A flat,

Op72 [Deutsche Grammophon 477-056-2] was creditable for an amplifier of this size. Here the overly fulsome bass was less of a hindrance giving the piece a rich and luxurious flavour which made it especially easy to enjoy.

Imaging was perhaps a little blurred but the string and the brass sections of the orchestra were still easy to place in a soundstage which, while not being particularly three-dimensional, did fill the area between the loudspeakers.

Another surprise came in the form of an impressively quiet background. From my listening position the performance was marred by neither hiss nor hum, which is a fine result for a valve amplifier of this topology and generation. This isn't a modern sounding amplifier, its 'period' looks are matched by a 'period' sound, which is something that goes a long way to explain why it is still such a popular model among lovers of vintage components.

### SAFETY FIRST

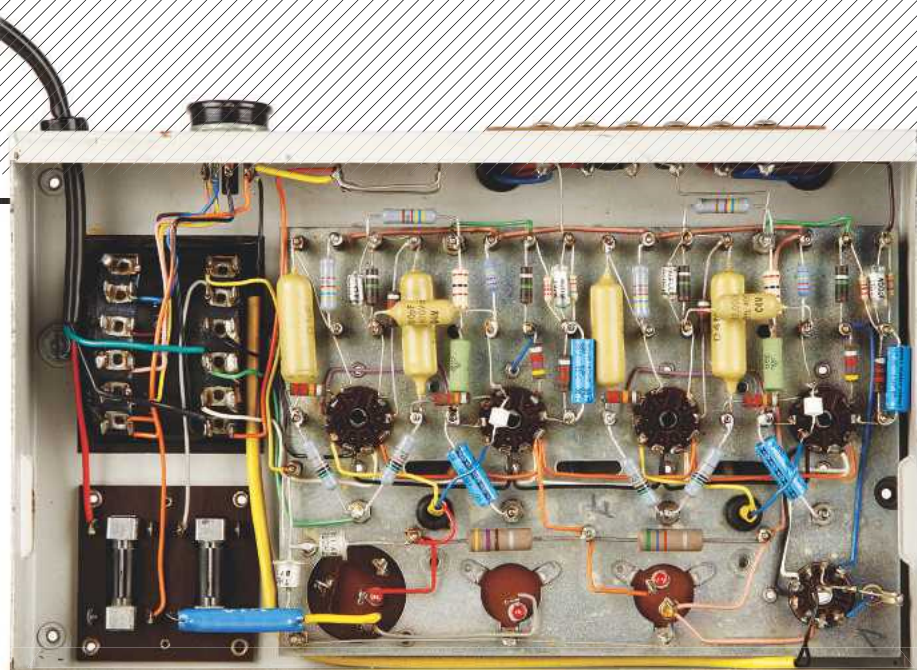
If you fancy a Cadet III, the first thing to consider is safety. The amplifier unit usually comes with no baseboard, so unless you plan to house it where it cannot be reached one must be constructed.

Another issue is that due to the voltage-doubler circuit used, the can of the large capacitor on the right of the chassis (sleeved in pink plastic in the case of our example) has 150V DC on it. This is a severe hazard if either the sleeve or the cap on the top are missing or damaged.

Finally, there are two unlabelled two-pin sockets to the rear of the chassis that are a mains outlet. Disconnect them before they cause an accident!

Safety aside, when inspecting one of these amplifiers as a prospective buyer an important thing to check is the condition of the output transformers. These had a high failure rate even when the units were quite young, meaning that all stocks of replacements were exhausted years ago. Modern replicas are now available however, but at a price, so factor this in before making an offer on a defective unit.

The usual cause of failure is that one half of the primary winding becomes open circuit, leaving the anode of the relevant



*'This little amp is a private pleasure, not a party animal'*



**LEFT:** Shot of the rear of the control unit showing the closely spaced RCA-type sockets and the cartridge-matching unit. The latter is positioned to the side, top right



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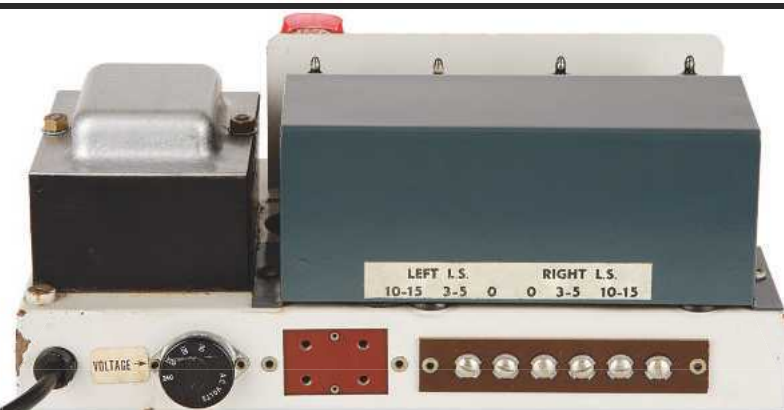
## VINTAGE HI-FI

## LAB REPORT

### ROGERS CADET III (Vintage)

This classic amplifier, from John Howes' vintage collection, required some slight repair but was otherwise beautifully presented. Rogers' original specification has the Cadet III offering a maximum 2x10W while distortion is rated at 0.25% up to 5W and 0.8% THD at 10W. In practice this performance was only hinted at by the 10-15ohm taps into a nominal 8ohm load where some 2x3.5W was achieved at 1% THD. The 3-5ohm taps proved more capable, delivering 2x7W/8ohm and 2x9W/4ohm (precisely what was measured in *HFN* May 1965), albeit with no appreciable dynamic headroom [see Graph 1, below]. As this graph also illustrates, distortion increases with power output from 0.1% at 0.5W to 0.24% at 2W and 2% at 8W into 8ohm through the midrange. At 1W output, distortion is <0.6% from 100Hz-20kHz but increases to 4.5% at low bass frequencies as the small transformer cores quickly saturate.

With the bass and treble controls at 12 o'clock, the Cadet III's response showed a +2dB bass lift, a flat midrange and presence and a gently rolled-off treble amounting to -1dB/20kHz [see black trace, Graph 2 below]. The impact of the 10dB/octave 60Hz 'rumble' and 6.3kHz 'hiss' filters is revealed by the red traces. Unfortunately our sample was rather noisy, with residual hum at -45dBV (5.6mV) and the A-wtd S/N ratio some 20dB behind the modern 'average' at 65dB (re. 0dBW). Crosstalk was also weak, but well within Rogers' own 42dB/1kHz and 26dB/20kHz specification at 42dB/23dB, respectively. Readers may download a full QC Suite test report for the Rogers Cadet III Control and Main amplifier by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'Download' button. **PM**



**ABOVE:** The unlabelled mains outlet between the voltage selector and the speaker terminals is best disconnected. Loudspeaker output impedances are non-standard

valve disconnected. Surprisingly, this does not have an immediately obvious effect on the sound, especially at low listening levels, so either check each transformer with a meter or have a look inside the ECL86s to see if the screen grids are glowing, something that happens if there is a transformer problem.

### PROTECT TO SURVIVE

Assuming the transformers are OK, they are best protected by ensuring that the ECL86s are replaced if they become gassy or leaky and that their cathode bias resistors haven't changed value.

The coupling capacitors, the usual *bête noire* of old valve amplifiers, are not really an issue with the Cadet III since excellent quality Philips polyester types were commonly fitted. Unless they are physically damaged it is best to leave them alone. They cannot be usefully improved upon.

Intermittent ear-splitting crackles are another common fault, normally curable with a new set of ECL86s. Moving to the control unit, one potential issue is that the ECC807 is quite a special valve and not easy to find a substitute for if faulty.

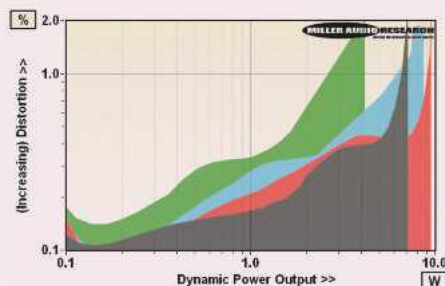
Small signal valves such as these lead a much gentler life than large output types but occasionally a slight leak can develop between the heater and the cathode which results in a strong background hum that disappears when the volume is turned right down.

Of the various cartridge matching units that were available the gold-coloured one is by far the most useful as it still suits most modern MM pick-ups. The others don't really work with anything that is currently on the market.

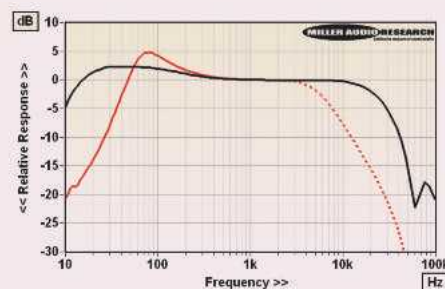
The Cadet III is one of the cheapest of the well-known valve amps and working examples should be plentiful at around the £250 mark. Just steer clear of anything that has been greatly modified. **Ⓜ**



**ABOVE:** The Rogers Cadet III amplifier was last reviewed in *HFN* May 1965



**ABOVE:** Dynamic power output vs. distortion (3-5ohm taps) into 8ohm up to 2% (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads



**ABOVE:** Frequency response at 1W/8ohm (60Hz filter, red; 6.3kHz filter, red dashed)

### HI-FI NEWS VERDICT

Despite its 10W power output and loose bass, the Cadet III is an enjoyable unit to listen to, provided, that is, you're not a head-banger and are able to partner the amp with the right speakers. Bought wisely, it can be an excellent introduction to classic valve amplification. Incidentally, the Cadet V is still available new, but aside from the name it has little in common with the original designs.

Sound Quality: 70%

0 - - - - - 100

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	7W / 9W
Dynamic power (<2% THD, 8/4/2/1ohm)	7.1W / 9.4W / 8.7W / 4.2W
Output impedance (20Hz-20kHz)	1.06-2.50ohm
Frequency resp. (20Hz-100kHz, 0dBW)	+2.1dB to -21.0dB
Input sensitivity (for 0dBW/8W)	70mV / 200mV
A-wtd S/N ratio (re. 0dBW/8W)	64.8dB / 73.8dB
Distortion (20Hz-20kHz, 1W/8ohm)	0.11-4.3%
Power consumption (idle/rated output)	65W/75W
Dimensions (WHD, Control/Main)	298x133x279/254x102x165mm





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## AUDIO MILESTONES

NYTECH CTA 252 • RECEIVER • NYTRONICS LIMITED • UK

# Nytech CTA 252

To some it was 'the poor man's Naim' while to others used to the big silver-knobbed Japanese amps of the time it didn't even look like 'real' hi-fi. Yet the CTA 252 receiver was not only innovative, its DNA lives on to this day. **Steve Harris** has the story...

It was with classic British understatement that reviewer Gordon J King described the Nytech CTA 252 in *Hi-Fi News*, June 1975. 'The styling differs significantly from what we have come to expect of hi-fi receivers,' he wrote. 'At first glance one could be forgiven for mistaking the receiver for a compact cassette deck or even a desk-top calculator.'

And that's how the Nytech is always remembered. In the eyes of many British buyers, it seemed like a piece of hi-fi from another planet. Or perhaps from an office equipment catalogue. In reality, there was a good reason for the Nytech's unusual form factor, and it was an innovative product in many ways. It was designed originally to complete an all-in-one music-centre product for the Nordic countries. Only later did it find a niche in the UK specialist audio market.

The man behind the Nytech was Richard Hay, who recalled the story of the CTA 252 for us in an extended interview last summer. Sadly, Richard passed away in the autumn of 2012,

**RIGHT:** Nytech's 'Calculator Tuner Amplifier' in its original form. It would become available with wood, white or black trim, while later versions had squarer-shaped buttons

**BELOW:** At work on one of Nytech's three PC board stuffing stations. Kits of parts were picked from a carousel



for a chief engineer.

'I joined Arthur Radford and I was chief engineer with him for three and a half years,' Richard recalled. 'I worked on the STA30MkII, which was a derivative of the earlier – and notoriously unreliable – Mk I.

'And the STA30Mk II was effectively a sort of transistor amplifier built around valve amplifier topology, it was still using output transformers. Prototype amplifiers had been done that used output capacitors, and we spent a long time searching for the right grade of capacitors because they were pretty thin on the ground at that time.

'We felt that an output capacitor was more desirable than an output transformer, and also meant that it sounded better than DC-coupled amplifiers, which were just beginning to appear at that time.'

Richard left in 1972, to form a new company in Bristol called Nytronics Ltd, with two partners who had also just left Radford. David Alner became the technical director

so this 'Milestone' must now serve as a tribute to him, as well as a memoir of his most distinctive product.

### APPRENTICE TO CHIEF

After attending technical college, Richard went on to take an external university degree, meanwhile entering the electronics industry as an apprentice with Thermionic Products in Southampton, which was under the same ownership as Truvox. Then he joined the Truvox development team and worked on the UK's first integrated-circuit tuner, the Truvox FM200IC.

In 1969 he was approached by Frank Hummel, a supplier of tuner heads to Truvox and also to Radford, who told him Radford was looking







**ABOVE LEFT:** Richard Hay (left) in the Nytech 'lab' room at Chew Magna, with a youthful Russ Andrews (right)



**ABOVE RIGHT:** Richard works on a connector in the listening room at Nytech's HQ

while Paul Hamblin was in charge of production. Their first project was a design for guitar amp specialist Thomas Laney.

Next, they were approached by a consortium of Scandinavian distributors, who covered all the Nordic countries for Dual. This group wanted to create a music centre based on a Dual turntable.

'At the time, when we were discussing it with the guys in Scandinavia, there was a Philips unit out there, which had a flat top with sliders and things on. And that was the one they wanted to compete with. They also distributed Ruwido components – potentiometers and sliders and things.'

## DROP-IN UNIT

It was this that provided the link, because the Nytech partners had been involved in importing Ruwido parts to the UK. Today, Ruwido of Austria is known as a supplier of remote controls and keyboards, having given up making other parts in the face of Far East competition.

**BELOW:** Review of CTA 252 by Gordon J King from *Hi-Fi News*, June 1975; with measurements of course!

'The Scandinavians had engineered a plastic, foam-moulded outer casing with a lid, made in Sweden, and they wanted a unit that would drop in on the right-hand side. So we designed the thing.'

It was this drop-in unit, of course, that took on a standalone life as the Nytech CTA 252.

'Basically, the letters CTA stood for Calculator Tuner Amplifier. At

the time, I had a very nice Canon calculator, which had a sloping panel, and I looked at it and I thought, "That could make quite a neat sort of

construction." And I sat down and started pencilling various ideas around it, so that the front area had the sliders as you know, and then the buttons down on the left, and then the sliding flap with the rolling pots for setting up the FM tuner.

'And then for the display, because we didn't have liquid crystal or LED displays then, we used three meters. One was the signal strength, one was centre-tune, and the third one was for the frequency.

## PLUG 'N' PLAY

'I set about designing the engineering for the unit. The main concept was that there would be very little wire. It would be a bunch of printed circuits with Molex connectors. The whole thing would just plug together into a chassis.'

With the Nytech, Richard Hay put his early experience of tuner design to good use. Unlike most other

small companies, Nytech designed virtually the whole of the FM tuner section in-house, including the front-end. Apart from anything else, this saved the cost of paying royalties on a third-party design.

As Gordon King described it, 'The front-end adopts two dual-gate field-effect transistors and three variable-tuned circuits up to the mixer. Each tuned circuit is resonated by a back-

to-back type, close tolerance capacitor-diode assembly... The intermediate-frequency channel employs a pair of phase-linear

ceramic filters for selectivity, along with circuit artifices for accurate matching and response symmetry. The gain is provided by an integrated circuit, and a phase-lock-loop IC is used for stereo decoding.'

Generous in the context of its original unit-audio application, the power output of the original CTA 252 was unspectacular in a hi-fi terms, even for 1975, being rated at 25W per channel into 4ohm. Gordon King found that it could meet this specification at 1kHz, while into an 8ohm load, for a distortion limit of 1%, it delivered 15W continuous per channel at 1kHz. It couldn't quite manage this at the extreme bottom end, so the figure for 20Hz to 20kHz, 8ohm, was only 11W. However, distortion at mid frequencies was held below 0.1%.

Although the CTA 252 measured only 210x117x345mm (whd), Nytech crammed in a lot of facilities. It even had two headphone jacks. On the back panel, there were two pairs of switched DIN speaker outlets, plus a third pair for optional



## AUDIO MILESTONES

connection of out-of-phase rear speakers in a Hafler array, with a 'blend' control to adjust their level.

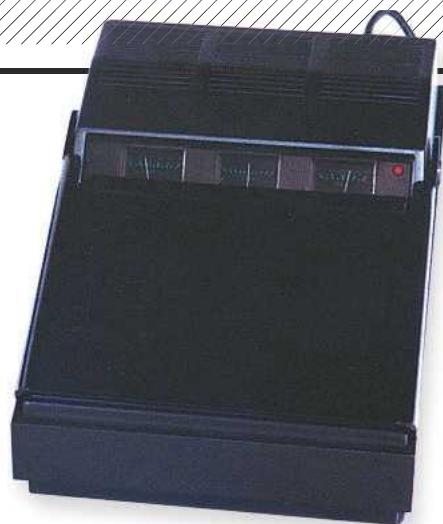
In the fashion of the time, the CTA 252 had sliders for bass, middle and treble tone controls, instead of just the usual bass and treble. To the left and right of these, the remaining two sliders provided channel balance and volume.

### SLIDING COVER

Although it was the push buttons that made the Nytech look like a calculator, only the top four of the left-hand column carry numbers, these being the FM preset selectors. Logically enough, the two below these were for FM and phono source selection. The main tuning control thumbwheel is located in a horizontal slot just in front of the slider controls, and in front of this is the sliding cover that conceals four similar adjusters for the presets.

Three larger buttons were provided for power on/off and speaker selection, and a further six small ones provided AFC on/off, tape input selection, mono, 'Contour' or loudness, and 'Hi' and 'Lo' filters.

Nytech's Scandinavian deal got the CTA 252 off to a good start. For the UK market, Nytech put together a similar all-in-one unit with a Garrard turntable and Shure cartridge, which was called the



**ABOVE:** A later CTA 252 with cover and without. Aimed at audiophiles on a budget, the final CTA 252 XD2 version gave an increased power output of 25W per channel into 8ohm

**BELOW:** Once boards had been populated with parts they were put into racks on wheels, ready for flow soldering



1252. In 1977, the 1252 music centre retailed at a few pence under £242 while the CTA 252 on its own now sold for just over £152, which seems quite a hike from the £93 or so that had been announced in 1975. The products were now distributed to the trade through the wholesaler A C Farnell.

But the 1252 wasn't too successful, and Farnell's distribution wasn't really right for the CTA 252. In 1977, David Alner and Paul Hamblin left to set up Alner Hamblin, which still thrives today as a contract manufacturer.

As Richard Hay put it, 'Commercially, in the large scheme of things, the product was a little bit too high-end for a general sort of operation. We ended up re-formatting the company, and we relocated it in Chew Magna and we brought out the CTA 252MkII, and then the XD.'

### AFFORDABLE HIGH-END

By this time Nytech Audio, as the company itself was now called, was aiming wholeheartedly at audiophiles on a budget. 'XD' stood for Extra Definition, and with this version you got a better phono stage as well as the direct, non-switching speaker connection and a few other tweaks. Instead of a Hafler circuit, the third pair of speaker sockets now provided a 'Direct' connection, bypassing the switching for the two other speaker sets in the interests of sound quality.

Then came the CTA 252XDII, upgraded with a new toroidal transformer and with a rated power

output of 25W into 8ohm instead of 15, and the direct speaker outlets were now 4mm sockets instead of the old-fashioned DIN type. Flat, square buttons gave the XD2 a smarter, more modern look too.

### A MATCH WITH REGA

Nytech would go on to sell more than 30,000 CTA 252s altogether. The little receiver was received into the hierarchy of UK-made products that were favoured by the coterie of Linn dealers, where it was often presented as a natural partner for a Rega turntable.

That association applied overseas too. Richard Hay remembers how the Nytech receiver got started in France, with Rega's distributor there, Tony McCombie. 'Roy Gandy brought him into our room at the Heathrow hi-fi

**'Nytech would go on to sell more than 30,000 '252s'**

show. We had it covered with a cloth, and he just demonstrated the sound. Tony said, "That sounds absolutely great. What is it?". We pulled the cover back, and that was it! Tony placed an order straight away. "Le Neetech" proved to be very popular in France because it looked different.'

Soon Nytech introduced new models derived from the CTA 252. The first integrated amplifier, the metal-cased, 25W-per-channel CA 202, was joined by the CA 252, rated at 30W and offering interchangeable moving-magnet and moving-coil phono input cards, and then by the 35W CA 302. Eventually, there was a separate pre/power combo in the form of the CPA 112 pre and 60W-per-channel ➔





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## AUDIO MILESTONES

CA 602 power amp. Finally, there was a 'Calculator Tuner Preamplifier,' a CTA 252 minus the power amp sections, the CTP 252.

### BUILT-IN CROSSOVER

Nytech was an advocate of active systems and worked with ARC, the speaker company set up by Alistair Clarke and involving Russ Andrews. Nytech's EXO 102/3 was a box that could accept plug-in electronic crossover parts to suit different speakers including the Linn Sara as well as ARC designs.

Along with Linn, Meridian and Naim, Nytech was a member of ALSO, the Active Loudspeaker Standards Organisation. The idea was to set interface standards that would make

it simpler to put together active systems with multiple amplification channels, crossovers and speakers, from different manufacturers.

Built to ALSO's standards was Nytech's CXA 252, essentially a CA 252 amplifier with an electronic crossover built in. This could be connected directly to a CA 252 or CTA 252XDII to create a bi-amp active system.

However, the mid-1980s saw the company facing some challenges. Nytech wanted to expand its premises in Chew Magna but was up against planning obstacles, and was meanwhile finding it harder to retain staff because Hewlett-Packard was offering higher wages than any small company in the area could afford. But then Nytech was approached by the Mid-Wales development board

with the offer of what was, in effect, a free factory.

'So we decided to up sticks and move,' explained Richard. 'But the factory we moved into had been badly built. The heating system had been built in the roof and they hadn't lagged it. And that winter, all the pipes froze and burst, and the heating system collapsed onto our production line and flooded the place. And we had five months of trials and tribulations.'

'On top of which, the company that we'd moved all our tooling to, damaged the tooling and we had

a very difficult financial situation. In the end we had to liquidate the company. We re-formed it as Ion Systems. That was in 1986. Then we moved

into a different factory which was much better. We built the Obelisk amplifier, and the whole Obelisk series came to fruition.'

### MULTI-ROOM AND HEED

Ion Systems ran on into the 1990s, until eventually there was a falling out between Richard and his Ion business partner, and Richard decided to leave the company. Ion continued briefly after that, but eventually foundered.

By that time a strong relationship had been established with Zsolt Audio of Hungary, the predecessor of the Heed company, which built the Obelisk amplifier for Ion and also supplied large numbers to its own home market.

After Ion, Richard Hay left the industry for a while before setting

'The heating system collapsed onto our production line'



**ABOVE:** Heed Obelisk si integrated amp [HFN Sept '12] – a half-width minimalist amp in the Nytech tradition

up The Multi-Room Company, which now imports and distributes products for the custom install market. But more recently, he had returned to the enthusiast audio scene, becoming active in Heed UK.

In Hungary, Heed had already revived the Obelisk amplifier design as its own Obelisk Pro. But today, there is a new Heed Obelisk, the first of a range of products built in an Anglo-Hungarian arrangement where Heed UK ships over high-quality metalwork to be populated with electronics in Hungary. Essentially, the Heed Obelisk is still an updated version of the Ion Obelisk, which itself was based on the Nytech CA 202.

This, in turn, was of course based on the Nytech CTA 252. And although Richard Hay is no longer with us, it is nice to know that with his blessing, the spirit of his best-known product lives on. ☺

**BELOW LEFT:** Still using slider controls but built into a chunky metal case, the Nytech CA 252 integrated amplifier was essentially derived from the CTA 252 receiver



### NYTECH TIMELINE

- 1967 At Truvox, Richard Hay designs the FM200 stereo tuner
- 1969 Richard Hay joins Radford as chief engineer
- 1973 Richard Hay and partners form Nytronics Ltd, later to become Nytech Audio
- 1974 Nytech CTA 252 receiver supplied to Scandinavia
- 1975 Nytech CTA 252 announced in UK
- 1977 Nytech 1252 compact system launched in UK with Garrard turntable
- 1978 CTA 252 XD, with improved phono stage
- 1981 The CTA 252XDII is launched with higher power output
- 1984 Both the CA 202 and CA 252 integrated amplifiers introduced
- 1986 CA302 integrated amplifier introduced
- 1985 The CXA 252 amplifier with crossover for active systems
- 1986 Nytech closes and Ion Systems formed



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Steve Dickenson, Hi Fi Plus 2010

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Noel Keywood, Editor, HiFi World 2012

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Paul Rigby, HiFi World 2012



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**Who designed the M1?** It was designed in our advanced research centre in Canada and manufactured in our Toronto facility. No off-the-shelf elements, the M1 is completely proprietary.

**Myth Buster!** The M1 is not a digital amp, there are no A/D or D/A converters in the signal path.

**Never judge an amp by its cover.** Even though it weighs only 9 kg and is slim enough to fit into a standard A/V rack the M1 can deliver 9,750 watts of peak power.

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For full details on the M1 visit [www.anthemavs.co.uk](http://www.anthemavs.co.uk).

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IsoTek EV03 Premier, Hi-Fi Choice, March 2013

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Early production photos. Showing PS3 upgraded version with JJ and Treasure valves, and Jensen Copper foil in paper and oil caps. Icon Audio MC transformers



*designed by David Shaw*

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This year marks the first major update we have made in order to make some improvements to the power supply and circuit whilst updating the looks to match our other products.

The brilliantly conceived 1950's RIAA equalisation for LP reproduction calls for a simple low noise valve stage which attenuates treble according to frequency. This may be done easily with three valves preserving the minute musical details recorded in the groove giving a “warmer” satisfying sound without emphasising surface noise and scratches that older vinyl is prone to have. Whilst technically speaking modern solid state designs work well, their more complex design “loses” something in comparison and can sound cold, clinical and uninteresting, lacking the passion and emotion in the music whether it be Vivaldi or the Verve.

As has been often been stated; whilst the Compact Disc is stuck with its 1977 software. With vinyl new stylus shapes new tone arms keep pushing the boundary on what can be recovered from an LP groove. At Icon Audio we too are striving to this end. As the definition of equipment improves we have refined our designs to maintain the focus and presentation to be without any “mechanical” or contrived quality.

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MK I version: “5 Globes £” Hi Fi World 2010.08

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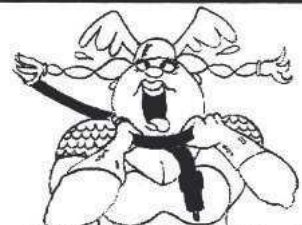
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## LAST WORD

# OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

This month **Ken Kessler** pays tribute to audio industry figures who have recently passed away...



I believe firmly in paying one's respects to those who put us here. We have lost a number of audio luminaries over the past 12 months, and I cannot let their passing go by without comment. Some you will know, some not, but each contributed to what we care about so passionately.

Last year, Enzo Natali, one of the godfathers of Italian high-end audio passed away. At the end of 2012, his old amico, Aldo Baietti died, thus robbing us of two of the distributors who helped to make Italy one of the most sophisticated markets in the world for high-end consumption.

Although not directly involved with hi-fi, Swiss music maven Claude Nobs was an audiophile with a dream life: he founded the Montreux Jazz Festival, which provided music lovers with some of the best live gigs in history. I don't believe that there can have been any individual who befriended so many musicians, none to equal his 45-year-career as an entrepreneur. Claude died after a skiing incident, on the 10th of January.

Thanks to Claude, we have a panoply of great musical moments, from live Miles Davis, to the discovery of Roberta Flack, to his role as 'Funky Claude' in Deep Purple's 'Smoke On the Water'. I was privileged to meet Claude in the company of Dave Chesky, and heard stories (unprintable) about

most of the greatest names in jazz and rock from the past half-century. A gentleman who will be missed.

### SWISS GIANT

By heartbreaking coincidence, another Swiss giant passed away on the 28th of January, a man whose company supported Claude's Montreux Jazz Festival. You know Stefan Kudelski as the founder of Nagra. In 1951, he invented the first portable professional recorder, which would revolutionise

everything from the recording of movie dialogue on location to spying on undesirables.

A member of the Hall of Fame of Motion Picture and Television and recipient of the John Grierson

International Gold Medal, Kudelski joined the luminaries of the Society of Motion Picture and Television Engineers including Thomas Edison, George Eastman, Walt Disney and Ray Dolby. And there aren't too many audio equipment makers who also received four Oscars and two Emmys.

Jim Bongiorno was one of the industry's most entertaining eccentrics, but his penchant for hot-pink suits, green ties and pork pie hats hid a masterful talent for designing ground-breaking amplifiers. Jim passed away on the 10th of January while we attended CES, and I swear you could feel a chill through the Venetian.

*'Only Jim had enough humour to rattle the po-faced audio industry'*

Many of us there had direct experience of Jim's work, for his resumé included either designing or contributing to the design of Marantz's Model 15, the Dynaco Stereo 400, assorted SAE power amps and, of course, the products from GAS, aka The Great American Sound Co. For the latter alone, Jim, we salute you.

Only you had enough of a sense of humour to rattle the po-faced audio industry with products named Ampzilla and Son of Ampzilla. Then there was the best hoot of all for Yanks of a certain age – 'Charlie' the Tuner. Thanks for all the laughs, Jim, and terrific sound, too.

Another recent loss is David Manley. He and I never got on too well, but that mustn't stand in the way of a proper farewell. He arrived here from South Africa, made a splash with VTL during the height of the valve revival, and wrote a fun book about tubes, bursting with valuable information, before leaving for the USA. While the two of us shared mutual antipathy, I wish to thank David profusely for providing the industry with his son Luke, and his ex-wife Eveanna who, respectively, manufacture the estimable VTL and Manley amplifiers.

### PERSONAL LOSS

Lastly, and most personally, a friend named Billy Chaplin passed away in January. I knew him at university as the drummer for Zoggy's Doggies, a band with the habit of stopping whatever they were playing at late-night gigs when 12 o'clock hit, moving right into 'Midnight Rambler'. I only found out after he died that he also drummed with many rock and blues legends, including the Doobie Brothers, Robert Hunter, Carlos Santana, Big Brother & The Holding Co, Michael MacDonald and Taj Mahal.

Although I lost touch with Billy, I always valued his contribution to my musical education. If not for him, I might never have heard Wilson Pickett's 'Don't Let The Green Grass Fool You' or King Floyd's 'Groove Me'. It is with unbearable poignancy, though, that I would also thank him for playing for me his 7in single of Bob Williams' 'My Goose Is Cooked'. I spent 40 years looking for a copy and only found one six months ago. Sadly, I never got to tell him about it. ☹

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